NORTH WEST SHELF PROJECT EXTENSION

Environmental Review Document
– Response to Submissions

EPA Assessment No. 2186
EPBC 2018/8335

NOVEMBER 2021

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1. INTRODUCTION

1.1 Overview

The North West Shelf (NWS) Project is one of the world's largest liquefied natural gas (LNG) producers, supplying oil and gas to Australian and international markets from offshore gas, oil, and condensate fields in the Carnarvon Basin off the north-west coast of Australia. For more than 30 years, it has been Western Australia's (WA) largest producer of domestic gas.

Woodside Energy Ltd (Woodside), as operator for and on behalf of the North West Shelf Joint Venture (NWSJV), is (subject to approval of this Proposal) proposing to extend the operating life of the NWS Project through opening the NWS Project facilities for the long-term processing of third-party gas and fluids.

As described in the NWS Project Extension referral and ERD, the Existing NWS Project in its current configuration will operate up until the date of the approval of this Proposal. This includes implementing changes that are already approved or may be approved through separate processes. These existing operations of the Existing NWS Project are outside the scope of this Proposal. The Existing NWS Project (and any already approved changes) will continue to operate under the current environmental assessment framework during the assessment of the Proposal and until approval of this Proposal.

The addition of third-party gas and fluids to NWSJV field resources will see the NWS Project facilities transition to an LNG Facility which is commercially capable of accepting gas for processing from other resource owners. This will allow the NWS Project to operate until around 2070, and will provide an ongoing supply of natural gas, LNG, liquefied petroleum gas (LPG), and condensate to domestic and international markets. The Proposal also provides Woodside with the opportunity to contemporise aspects of the Karratha Gas Plant (KGP) to meet current societal expectations, as well as reducing emissions and discharges. The Proposal is described in its entirety in Section 2 of the North West Shelf Project Extension Environmental Review Document (ERD) (Woodside, 2019a).

1.2 Environmental Assessment Process

The Proposal was referred to the WA Environmental Protection Authority (EPA), under Section 38 of the WA *Environmental Protection Act* 1986 (EP Act) on 14 November 2018. On 4 December 2018, the EPA determined that the Proposal required assessment under Part IV of the EP Act at the level of Environmental Review – Public Environmental Review with the relevant environmental factors being:

- Air Quality
- Social Surroundings (Heritage)
- Marine Environmental Quality

In parallel, the Proposal was referred to the Commonwealth Department of Agriculture, Water and the Environment (DAWE) on 22 November 2018 in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). On 3 May 2019, the DAWE determined the Proposal to be a controlled action with the controlling provision:

- National Heritage (EPBC Act Section 15B and 15C), namely the Dampier Archipelago (including the Burrup Peninsula)

Assessment of the Proposal is being undertaken by the WA EPA on behalf of the DAWE as an accredited assessment.

The Environmental Scoping Document (ESD) for the Proposal was prepared by Woodside and approved by the EPA on 29 August 2019 following public review and comment (Woodside, 2019b). Following this, the Environmental Review Document (ERD) was prepared by Woodside to satisfy the requirements set out in the ESD. The ERD was reviewed by the EPA and approved for release. In December 2019. The public review period for the ERD commenced on 18 December 2019, ending on 12 February 2020, 8 weeks in total, this included an additional 2 weeks to the required 6 week public comment period to accommodate for the Christmas holiday period.

1.3 Purpose and Structure of this Document

This document has been prepared to provide responses to public and government agency submissions made on the NWS Project Extension ERD, as required under Section 40 of the EP Act. The document has been structured in accordance with the summary of submissions received and additional advice and direction provided by the EPA.

The submissions received during the public review period have initially been grouped according to the EPA's environmental factors with submissions further groups according to the issues or topics raised. Responses to the submissions are provided under the following environmental factors and topics:

- Air Quality – Section 3.1
- Greenhouse Gas Emissions – Section 3.2
- Social Surroundings – Section 3.3
- Marine Environmental Quality – Section 3.4
- Other Issues – Section 3.5.

The Air Quality Management Plan, Greenhouse Gas Management Plan, Cultural Heritage Management Plan and Marine Environmental Quality Management Plan provided with the NWS Project Extension ERD have been revised in response to the submissions received. A summary of the changes is provided in **Section 4** of this document and the revised Environmental Management Plans are provided as appendices.

2. SUMMARY OF SUBMISSIONS

2.1 Government Agencies

2.1.1 WA Environment Protection Authority

On 6 March 2020, EPA Services raised a number of matters regarding the NWS Project Extension ERD. EPA Services considered that the key issues for the proposal include:

- Greenhouse gas management and the proposal's contribution to the aspirational target supported in the State Greenhouse Gas Emissions Policy for Major Projects.
- Emissions to air and risks to human health, and the Murujuga Rock Art.
- Management of potential marine impacts from waste discharges.

EPA Services comments on the ERD and Woodside's responses are presented in **Section 3**.

2.1.2 Commonwealth Department of Agriculture, Water and the Environment

A summary of the key issues raised by DAWE in relation to the proposal are summarised as follows;

DAWE considered that Woodside need to clarify if:

- *the damage assessed in IHS audit only relates to physical condition (e.g. movement of rock art) rather than condition from emissions. Woodside should provide the 2019 audit as part of the ERD.*
- *they have considered only heritage on site, or does this include heritage adjacent to the Woodside site.*

DAWE considered that Woodside need to clearly outline and commit to implement the management strategies to:

- *measure the long-term cumulative impacts of emissions on the National Heritage Place*
- *indicate the potential impacts of an additional 50-year exposure of the same levels of emissions*
- *mitigate the risk of damage to the rock art from extended exposure to industrial emissions in line with findings of Murujuga Rock Art Strategy and Murujuga rock art monitoring program*
- *demonstrate how they will implement the Murujuga Rock Art Strategy/adapt the Proposal to the findings of the monitoring program, including the findings of the 5 yearly reviews and achieve the outcome of emissions being below that which lead to unacceptable levels of impacts to the rock art.*
- *Prevent / adaptively manage emissions. This may include uptake of technology to minimise emissions over the operating life of the proposal. Woodside to clarify if/how/how much the proposed NW Shelf extension will result in emissions reductions from the facility. If no reductions are expected, further explanation is required as to why this is not the case*

Woodside's responses to DAWE's comments are presented in 3.3.1.

2.2 Public submissions

A total of 19,869 public submissions were received in response to the NWS Project Extension ERD. These comprised:

- Five proforma submissions with a total number received of 19,789 from 15,754 submitters. Within these submissions, 473 submitters made additional comment to the standard proforma text. A number of these covered topics pertaining to environmental factors that expanded beyond the original proforma submission.
- 80 individual public submissions comprising:
  - 65 individual submissions made through the EPA consultation hub including 28 uploaded documents and seven submissions in support of the proposal. Each of these comments has been assigned an anonymous identifier by the EPA, listed against the comments within this response.
  - 15 individual submissions via other pathways. No anonymous identifier was provided by EPA, so Woodside has assigned anonymous identification tags.

The principle issues raised in the submissions included environmental and social issues as well as issues focussed on questions of fact and technical aspects of the proposal. While not all of the issues raised in the submissions are directly related to environmental concerns, EPA Services has asked Woodside to address all issues, comments and questions, as they are relevant to the Proposal.

EPA Services summarised the key issues raised by submitters for each environmental factor, along with other issues raised which did not fit under any of the environmental factors. Full details of the key issues identified are provided in the relevant sections of this document. Broadly, the key issues identified were:

Air Quality

- *The proposal's Air Quality Impact Assessment raises queries in relation to the data and assessment of air emissions between 2020 and 2070 relating to predictions and cumulative impacts in the context of the National Environment Protection Measures for Ambient Air Quality and Air Toxins associated with CO, SOx, Pb, NOx, NO_2, NH_3, O_3, VOCs, benzene, toluene and xylene (BTX), PM_{10}, and $PM_{2.5}$ on the Burrup Peninsula.*
- *The proponent's air quality emissions should be made public and previously have been retained confidentially.*
- *Ongoing air quality monitoring should be conducted for the life of the project in keeping with the most up to date National Environment Protection Measures for Ambient Air quality and Air Toxics.*
- *The proponent should be required to use 'Best Available Technologies'.*
- *Further clarity should be provided on the composition of the third party gas.*
- *An Environmental Quality Management Framework for air quality should be prepared and should include management, mitigation and contingency actions.*

Greenhouse Gas Emissions

- *How the Proposal addresses State, National and International policies and commitments.*
- *Best practice efforts should be implemented to minimise GHG emissions and residual GHG emissions be 100% offset.*
- *Cumulative impact of the Woodside Burrup projects (including transport and fugitive emissions) and how the proponent proposing to manage Scope 3 GHG emissions.*
- *Clarify statements made in the ERD that refer to LNG being cleaner than coal and displacing coal to reduce domestic and global GHG generation.*
- *Comment on how the proposal responds to potential risks outlined in the IPCC Special Report on Global Warming of 1.5°C and IEA 1.5°C Sustainable Development Goals based carbon budget showing that between 2025 and 2040 global natural gas production must decline and reduce in emissions intensity and address the latest World Energy Outlook report by the International Energy Agency.*
- *Consider the impacts of the proposal emissions and climate change on human health.*

Social Surroundings

- *The proposal places Rock Art and the world heritage listing nomination at an unacceptable risk due to proposed air quality emissions.*
- *The proponent should develop an Environmental Quality Management Framework for the key environmental factor of Social Surroundings including relevant interim environmental quality criteria in line with the findings of the Murujuga Rock Art Strategy.*
- *The proposal's development envelope passes through past islands of the Dampier Archipelago, and continue offshore which are especially critical because these islands likely contain early Aboriginal engravings made when sea level was lower, and therefore represent extra-significant cultural heritage sites, which have yet to be documented.*
- *The ERD assessment of air quality risks to the Rock Art should include relevant technical reports*
- *The Cultural Heritage Management Plan is deficient regarding stakeholders identified, incident reporting required, cultural awareness training committed, transparency of application processes to gain access to cultural heritage sites and reference group membership and associated reporting.*

Marine Environmental Quality

- *The proponent is requested to consult with Traditional Owner groups to consider potential impacts on marine fauna of cultural and spiritual significance to local Indigenous peoples.*

- *The proponent must develop an Environmental Quality Plan with locally relevant and scientifically justifiable Environmental Quality Objectives and Criteria for all impacts described in the ERD. A clear description of, and management provisions for, cumulative impacts on Marine Environment Quality associated with the proposal.*

Other Issues

- *How the Proposal addresses the Principles of Environmentally Sustainable Development.*
- *The proposal's technology is aged and not carbon efficient and is not to be considered as a transitional fuel for the 50-year project life. Renewables energy technology is now available and are now the lowest-cost source of new power generation and could also be price-competitive for many applications by 2030.*
- *The proponent should set targets for Traditional Owner outcomes associated with community participation and employment in the State Agreement.*
- *As the location of the future gas sources are not identified there is some concern gas could be provided by fracking.*

2.2.1 Submissions Received in Support of the Project

Letters confirming support for and/or no objection to the NWS Project Extension Proposal were received from a number of submitters and are included in Section 3.5. Woodside, on behalf of the NWSJV, thanks all submitters for their interest in the Project.

3. RESPONSE TO SUBMISSIONS

3.1 Air Quality

3.1.1 Agency Comments

The EPA provided a number of comments regarding the Proposal and Air Quality. The comments provided by the EPA and Woodside's response to these are detailed in Table 3-1. No comments relating to Air Quality were received from other agencies.

Table 3-1: Response to Agency Comments relating to Air Quality

No.	Agency	Comment	Response to Comment
AQ-EPA-1	EPA Services	NWS Project Extension Air Quality Management Plan (AQMP) Table 4.1: Management Action (MA) 1: Implement a facility emissions testing and verification program – this management action does not specify the parameters that will be monitored for the point source emissions testing program. It is assumed that as a minimum, NOx emissions will be monitored quarterly as currently required under L5491/1984/18. However, the Department of Water and Environmental Regulation (DWER) notes that although emission rates of SOx, CO and VOCs may be considered negligible in terms of ambient air criteria, it is important that the concentrations of these pollutants continue to be periodically monitored from relevant emission sources to validate assumptions based on historical modelling / monitoring. As the presence of CO and VOCs can contribute to the production of ozone (O_3) in the presence of UV light at moderately high concentrations, the potential for contribution of CO and VOC's as a result of the proposal is important to be accurately quantified; the local air-shed for all modelled scenarios in relation to the proposal (maximum ground level concentrations	Woodside has updated Management Action (MA) 1 in the Air Quality Management Plan (AQMP) (Appendix B) to specify the substances that will be periodically monitored from relevant emissions points as part of the facility emissions testing and verification program. Specifically, the AQMP has been updated to incorporate SOx, CO and VOCs into the facility emissions testing and verification program. Woodside notes the comment from DWER that there may be changes to the Karratha Gas Plant (KGP) operational licence in the future. Woodside has also updated the AQMP (Appendix B) to note that as part of the emissions testing program, relevant VOCs will be measured from all acid gas removal unit vents on a quarterly basis. VOCs to be measured will include photo-reactive species of benzene, toluene, ethylbenzene and xylene (BTEX), as well as hydrocarbons species including methane, ethane, propane and butane. VOC emissions from the acid gas removal and compressor seal oil vent sources account for over 90% of VOCs emitted on site. VOC emission concentrations are not measured in gas turbine stacks, as a high percentage of VOCs are destroyed by the high temperatures at which combustion occurs within these machines. Currently, annual VOC emissions are reported from the NWS Project using NPI compliant estimation techniques. This reporting indicates that VOC emissions from all gas turbines and furnaces account for less than 2% of total facility VOC emissions.

No.	Agency	Comment	Response to Comment
		(GLCs) at around 60% of the 1 hour National Environmental Protection Measure (NEPM) and around 70% of the 4 hourly NEPM criteria). This is also an important consideration with respect to the proposal to process additional gas resources from third parties, as the composition of the gas feed may vary over time and may result in changes to combustion by-products emitted from the process. DWER recommends Woodside provide further clarity on the parameters to be monitored under the facility emissions testing and verification program. In addition, the parameters SOx, CO and VOCs be tested periodically to ensure the risk assessment, derived from assumptions made based on previous modelling / monitoring, remains valid. Woodside states in the AQMP Table 4.1 that the emission target for point source emissions will be to meet Part V licence L5491/1984/18 limits. DWER notes the emission limits on the licence relate to NOx emissions only. Future changes to plant or equipment as a result of Woodside's planned emissions reduction targets may result in a revision of the emission limit(s) imposed on L5491/1984/18. Limits are usually based on a number of factors, such as plant emission design specifications and risk to the local environment / public health from cumulative sources and it is likely that this limit may be reviewed in time as part of the proposed changes and proponent commitments associated with the proposal.	As per MA3 in the AQMP, monitoring of ground level concentrations of ozone at three locations in the region is currently, and will continue to be undertaken as part of the Ambient Air Monitoring Program. The majority of air emissions of relevance to the Proposal are emitted directly (NOx, SO_2) or form indirectly (O_3) from the combustion of natural gas. The majority of gas fired equipment at the KGP does not combust raw (unprocessed) gas, but rather gas that has already been processed on site to remove potential contaminants (e.g. hydrogen sulfide, CO_2, water and mercury). For this reason and due to other relevant mitigations, the impact assessment within the ERD demonstrated that it was highly unlikely that the composition of exhaust emissions from combustion sources will materially change as a result of the Proposal, the assessment which included consideration of possible future changes to feed gas composition, a factor which is a part of the Proposal. To manage this residual risk and ensure impacts remain consistent with the ERD, the composition of all gas and fluids to be processed by the NWS Extension Proposal will be monitored, to ensure they remain within the current design parameters of the processing plant. These risks are inherently managed by the processing plant design, as incomplete removal of these contaminants could impact the gas processing system or produce LNG that does not meet customer specifications. Woodside notes the comment that plant limits may change over time, however reiterates that compliance with the currently established limits ensure risk to the environment and human health are of an acceptable level, as outlined in the ERD.
AQ-EPA-2	EPA Services	The Air Quality Management Plan Table 4.1 does not specify any actions to be taken by Woodside in the event of a NOx limit exceedance specified in licence L5491/1984/18. DWER expects any exceedance should trigger a response or action aimed at identifying and addressing the cause of the exceedance, and further information on any response to emission limit exceedances should be outlined in the AQMP.	Woodside has updated the AQMP to specify that if a NOx limit is exceeded, an investigation will be conducted to determine the root cause of the action. Corrective actions will be identified and implemented if required. The results of any investigation will be reported to the WA Department of Water and Environmental Regulation (DWER). Details of any exceedance as well as investigation results and corrective actions will be reported to DWER, as they are currently, in accordance with the KGP Operational Licence L591/1984/18.
AQ-EPA-3	EPA Services	Management of Dark Smoke from flaring – the AQMP mentions monitoring and reporting of dark smoke as required under L5491/1984/18 and provides very little additional information on how dark smoke / emissions from flaring will be managed. DWER notes management measures related to flaring is briefly discussed in the proposal Environmental Review Document (sections 6.3.4 and 6.3.5), however it is recommended Woodside provide further detail in the AQMP on how emissions from flares will be managed	Dark smoke events typically occur as result of a sequence of multiple unplanned events. Typically, routine and non-routine planned events can be successfully managed to mitigate the occurrence of any dark smoke. Figure 2-4 in the ERD shows the incidence of reportable dark smoke events between 2002 and 2018, and shows the improvements made in dark smoke incidence over that time. In 2006, there were 11 reportable dark smoke events, none in 2018, and only 1 in 2019.

No.	Agency	Comment	Response to Comment
		and summarise any continuous improvement strategies that will be implemented to ensure dark smoke emissions are minimised. This is important with regard to the proposal to process third party gas and fluids which may result in additional periods of start-up/shut down/upset conditions than is currently being experienced at the Karratha Gas Plant (KGP), requiring a higher incidence of flaring.	Dark smoke mitigation commitments are made in Section 6.3.5 of the ERD including: • Implement the Woodside management system which includes procedures to assess changes in feed gas sources. • Use of assist gas during periods where dark smoke may be released, to facilitate complete combustion of heavy hydrocarbons. • Continue facility emissions testing and verification programs. • Emissions performance monitoring and reporting. • Regularly inspect and maintain flare tips to ensure adequate combustion and minimise dark smoke. • Implement a public complaints process and incident investigation procedure for reports of odour or dark smoke. Flaring is required for safe operation of the plant, including during train start ups, shut downs, or upsets. The plant is already designed to safely dispose of a wide range of products including the range of components expected to be delivered from third-party gas. The AQMP commits to implementing an adaptive management process, including requirements to review the management plan should any changes to processes occur outside those envisaged in the plan.
AQ-EPA-4	EPA Services	DWER notes on 7 December 2018, relevant government Ministers gave notice of their intention to vary the Ambient Air NEPM standard for O_3, NO_2 and SO_2, reflecting the latest scientific understanding on health risks arising from these pollutants. The variation seeks to establish more stringent reporting standards for ozone, nitrogen dioxide and sulphur dioxide pollution in Australia. While the variation has not yet been processed, it is worth noting that it may come into effect prior to any approvals for the proposal being assessed, and considering Woodside is seeking approval to extend the operation of the KGP out to 2070, it is possible the proposed variation will have a material effect on any assessments performed, and regulatory controls applied under Part V of the EP Act. Such controls may include revised emission limits and / or monitoring regimes. The AQMP and the AQIA may also require revision in line with future variations to the Ambient Air Quality NEPM.	Woodside acknowledges the proposed variations to the Ambient Air NEPM standard for O_3, NO_2 and SO_2. A pre-emptive assessment of current measured emissions limits against the proposed NEPM changes has been completed with results presented in Table 1 below. In summary, the proposed changes to NEPM standards are not predicted to have a material effect on the outcomes presented in the AQIA and subsequently the management measures proposed in the ERD and AQMP to manage air emissions from the NWS Project Extension (Appendix B). Air emissions modelling performed for the ERD, which considers the cumulative impacts of emissions from all relevant emissions sources (including a consideration of future sources) shows that for O_3, NO_2 and SO_2, air quality is well below current and the proposed revised NEPM thresholds. The ambient air quality monitoring program will continue to monitor the ambient ground-level concentrations of relevant gases on the Burrup Peninsula, with comparisons being made against the NEPM standards and reported to DWER. The AQMP includes the requirement to modify the ambient air quality monitoring program in response to changes to NEPM criteria.

No.	Agency	Comment	Response to Comment
			Additionally, Section 5 of the AQMP outlines Woodside's commitment to an adaptive management strategy, which includes a commitment to update the AQMP as required (Appendix B).

Table 1: Assessment of predicted air emissions from Proposal against current and proposed future NEPM (Ambient Air Quality) Standards for NO_2, O_3 and SO_2.

Pollutant	NEPM (Ambient Air Quality) Standards				Proposal emissions compared to NEPM Criteria
	Current Averaging Period	Current Concentration Limit	Proposed Change to NEPM Criteria		
			2020	2025	
NO_2	1-hour	120 ppb	90 ppb	80 ppb	**Below criteria** Predicted maximum ~44 ppb
	1-year	30 ppb	19 ppb	15 ppb	**Below criteria** Predicted maximum ~5.7 ppb
O_3	1-hour	100 ppb	Proposed to be removed from NEPM		N/A (Not applicable)
	4-hour	80 ppb	Proposed to be removed from NEPM		N/A
	8-hour (new)	-	65 ppb	No further change proposed	**Below criteria** Predicted maximum 50 ppb
SO_2	1-hour	200 ppb	100 ppb	75 ppb	**Below criteria** Predicted maximum ~18 ppb
	24-hour	80 ppb	20 ppb	No further change proposed	**Below criteria** Predicted maximum ~7 ppb
	1-year	20 ppb	Proposed to be removed from NEPM		N/A

AQ-EPA-5	EPA Services	Provide information supporting emissions estimations. The ability of air quality models to accurately capture the physics of dispersion rely on accurate meteorology or the emissions estimate. With regards to the estimation of gaseous emissions it is noted that tables containing the estimated emissions rates have been provided for Woodside operated industries (Karratha Gas Plant and Pluto LNG) and also for third party industries. The source of emissions estimates and emissions frequency distributions should be provided.	Air emissions inventories were developed for input to air dispersion modelling for the Burrup Peninsula. Emission inventories were used to model 'current' and 'potential future' ground-level concentrations of key atmospheric pollutants on the Burrup Peninsula. The modelled emissions inventories were based on reasonable yet conservative air emissions estimates for each scenario. The air emissions estimates for the Woodside facilities, including KGP and Pluto LNG facility, used:

No.	Agency	Comment	Response to Comment
			• Existing facility datasets developed since operations commenced at the KGP and Pluto LNG Facility. These datasets include facility design data, equipment manufacturer specifications, operational monitoring and regulatory reporting data. The operational monitoring data includes several years of stack emission testing (e.g. emissions from gas turbines sampled quarterly), laboratory databases, engineering calculations and annual National Pollutant Inventory (NPI) report calculations. • Preliminary design data based on Front End Engineering Design (FEED) concepts and associated engineering calculations were used to determine future emissions profiles for Woodside's proposed developments, including gas received through onshore receipt points and tie-ins. Third-party emissions sources, including from shipping across all port berths (in the region, not just Woodside-operated facilities), were represented in the modelling. Emissions from third-party sources were calculated using publicly available data and where possible, supported by input from consultation with relevant external parties. Potential future third-party development information included: • Details of the proposed urea plant obtained from the proponent Perdaman. The proponent has since commenced an Environmental Review process, which was lodged during March 2020. • A third-party indicative methanol plant with production capacity of 5000 tonnes per day (tpd) was proposed for Site E within the Burrup Strategic Industrial Estate (BSIA) (EPA project notice, 3 December 2018). The estimated air emissions parameters for the methanol proposal were based on a review of the data from a previous, similar Methanex proposal described by Sinclair Knight Merz (SKM) (2002) and EPA (2002). The 2002 Methanex emissions estimates for a production rate of 7000 tpd were scaled down to a nominal 6000 tpd (conservative high), to represent the 2018 Methanol Proposal (EPA, 2018) As outlined within the NWS Project Extension AQIA, air emissions data used in the modelling was continuous for the whole simulated meteorological year, which is conservative (high). In setting out a comprehensive, air quality model for the existing Burrup Peninsula situation, all the main NOx emissions sources were identified: 44 sources for KGP, 11 sources for Pluto LNG, and 39 other sources. The main steps in the analysis were to ensure the model results agreed with ambient air quality monitoring results, then, with the quality of the baseline model assured, extend the modelling investigation to predicting the effects of potential future sources.

No.	Agency	Comment	Response to Comment
			Shipping SO_2 emissions were modelled for ships, which were conservatively assumed to be berthed at all possible berths around the Burrup Peninsula and Cape Lambert. This is conservative as all berths are not used simultaneously and continuously. Modelling outcomes indicated over-estimation when compared to monitoring datasets. While offshore shipping movements would add to the total SO_2 emissions for the region, there are a number of reasons why the effects are expected to be minimal, and would not influence the impact assessment outcomes. It should also be noted that fuel sulphur reductions are now in place that mean SO_2 emissions are expected to reduce from 2020, a reduction not accounted for in modelling. Background SO_2 emissions, including those attributable to shipping, were included in the Air Quality Impact Assessment by including an estimate of non-point source background SO_2 to all modelling scenarios.

3.1.2 Key Issues Identified by the EPA

The EPA identified a number of matters regarding the Proposal and Air Quality that have been raised by multiple submitters. The EPA considered that key issues from the public review associated with Air Quality include use of 'Best Available Technologies', the assessment of air emissions, and the ongoing ambient air quality monitoring program. Detailed responses are provided to each of these issues highlighted by the EPA in Table 3-2.

Table 3-2: Response to Key Issues relating to Air Quality identified by the WA EPA

No.	EPA Key Issues	Response to Key Issues
AQ-KIR-1	The proponent should be required to use 'Best Available Technologies'.	The NWS Project Extension Proposal is for an extension of life of an existing facility. As shown within Section 6.3.6 of the ERD no significant air quality impacts to human health and amenity are expected associated with the ongoing operation of the Proposal. Analysis of seven years of ambient air monitoring data demonstrate long term cumulative ground level emissions rates below NEPM health standards. As specified within the NWS Project Extension ESD, Woodside was required to '*identify and evaluate potential credible opportunities to achieve long-term reductions in air emissions of concern. Where practicable, use air modelling to quantify reductions that are reasonably achievable for future operations under different scenarios*'. In line with the ESD and as outlined in the ERD, Woodside will take reasonable and practicable measures to minimise emissions to air and therefore further minimise the risk of significant impacts to Human Health and Amenity. Woodside proposes to reduce NOx emissions by 40%, and substantially reduce VOCs by 31 December 2030. As part of preparing for the ERD, a comprehensive risk assessment was conducted for the range of gaseous

No.	EPA Key Issues	Response to Key Issues
		emissions that will occur from the continued operation of the KGP. The assessment, which included a review of historic air quality monitoring data available for the Burrup Peninsula, showed that NO_2 and O_3 are the health pollutants of most relevant concern from the Proposal. O_3 is not emitted directly from the Proposal but is formed through anthropogenic sources via chemical reactions between oxides of nitrogen and other pollutants such as VOCs and CO in the presence of ultraviolet light – therefore reductions in VOCs will result in a corresponding reduction to O_3. Results from the air dispersion modelling show that predicted levels of NO_2 and SO_2 are below NEPM (Ambient Air Quality) standards for all current and future cumulative emissions scenarios. Other air toxics of concern, including CO, Pb, $PM_{2.5}$ and PM_{10}, and NH_3 are negligible from the operation of NWS, either in isolation or when considered in the context of other local sources, based on externally reported (i.e. NPI) data. O_3 occasionally exceeds 50% of the NEPM (Ambient Air Quality) standards in the vicinity of the Karratha Gas Plant. As stated in the ERD, a review of ambient air monitoring data between 2010 and 2013 by Golder (2014) identified only four exceedances of the NEPM (Ambient Air Quality) standard for maximum four-hourly average O_3 concentration (80 ppb), which all occurred on 24 and 26 October 2012. A detailed analysis by Golder (2014) could not determine the source of this anomaly. Bush fires are a known contributor to elevated ozone levels. Ozone is not emitted directly from the Proposal, however photo-reactive VOCs from the operation of the KGP primarily arise as by-products vented from operation of the AGRUs. In accordance with the principle of waste minimisation and application of the hierarchy of controls, Woodside will take reasonable and practicable measures to minimise emissions to air and therefore further minimise the risk of significant impacts to Human Health and Amenity. Woodside proposes to reduce NOx emissions by 40%, and substantially reduce VOCs by 31 December 2030. The response is to address the use of Best Available Technology in relation to the environment factor of Human Health and Amenity. Woodside has provided further information as to the use of Best Available Technology for minimisation of emissions of concern to the Murujuga Rock Art – See Environment Factor – Social Surrounds within this document and the ERD.
AQ-KIR-2	Further clarity should be provided on the composition of the third party gas.	The Proposal seeks approval to extend the operating life of the NWS Project by opening the NWS Project facilities for the long-term processing of third-party gas and fluids. This will allow the NWS Project to operate until around 2070 and will provide an ongoing supply of gas and fluids to domestic and international markets. Therefore the Proposal will entail processing certain gases and fluids, for which the specific composition is not known as the origin or source is not yet known. Approximately 90% of all gaseous atmospheric emissions from the KGP arise from the combustion of fuel gas, predominantly used as fuel for the various gas turbines on site, but also used in furnaces and for flaring.

No.	EPA Key Issues	Response to Key Issues
		Although changes to feed gas composition have the potential to vary the make-up of fuel gas and gas conditioning process performance, the subsequent impacts on associated air emissions is limited and/or controlled through existing and established mitigations, as outlined in the ERD. This includes the fact that the majority fuel gas combusted has already been, and will continue to be, processed on site to removed contaminants prior to use as fuel. Potential variations in combustion and gas conditioning process performance, which have the potential to impact emissions performance (such as for CO_2, CO, SO_2, H_2S, methane and VOC [including BTEX]) is inherently limited by integrated facility design envelopes (i.e. there are engineering limitations regarding the range to which the facility design margins can accept and/or process feed gas composition variations). In the case of emissions that predominantly come from post-combustion sources (including CO_2, SO_2, CO and NOx) the concentration of these gases does not materially vary based on feed gas composition, particularly considering any gas processed at KGP must be within the compositional specifications necessitated by the existing operational design envelope. The processing of gas outside of this existing design envelope would require project modifications, which would trigger the need to assess whether environmental impacts from the processing of that gas would exceed existing impact thresholds. Mitigations in place and described in the ERD include intrinsic design limits, mean that any third party gas or fluids must be within the specification that can be processed within the facility design envelope, limiting third party gas/fluids to that which is similar in nature to the North West Shelf gas reserves that KGP has been designed to process. In the specific example of NOx, the formation of thermal NOx greatly depends on temperature, not fuel nitrogen content, as there is already an abundance of nitrogen in the atmosphere. This means changes to nitrogen in third party gas supplied to KGP are not associated with any risk that annual NOx emissions will exceed existing rates. Changes in potential air emission characteristics from the introduction of third-party gas will be managed in line with the AQMP to ensure that the environmental objectives and legislative requirements are met. This plan includes appropriate management and mitigation controls to ensure impacts and risks to air quality from processing third-party gas and fluids are minimised and remain in accordance with the impact thresholds presented in the ERD.
AQ-KIR-3	The proposal's Air Quality Impact Assessment raises queries in relation to the data and assessment of air emissions between 2020 and 2070 relating to predictions and cumulative impacts in the context of the National Environment Protection Measures for Ambient Air Quality and Air Toxins associated with CO, SOx, Pb, NOx, NO_2, NH_3, O_3, VOC's, benzene, toluene and xylene (BTX), PM_{10}, and $PM_{2.5}$ on the Burrup Peninsula.	All relevant atmospheric emissions related to the proposal, including expected emissions from the processing of NWSJV and third party gas and fluids have been compared against the relevant current NEPM criteria. Woodside has reviewed the changes proposed in the draft NEPM revision in relation to the future emissions profile, which is described in AQ-EPA-4. All contributions to ground level emissions concentrations from the NWS Extension Proposal are modelled to remain below thresholds specified in the draft NEPM criteria. Details on assumptions used in the modelling of 'current and 'future potential' emissions scenarios are described in Section 6.3.4.1 of the ERD.

No.	EPA Key Issues	Response to Key Issues
		A revised version of the NWS Project Extension AQMP is included in Appendix B of this document. Management Action 3 of this plan. Section 4.2.3 describes previous air quality monitoring undertaken for the project (including the Burrup Ambient Air Monitoring Program [BAAMP]) and commits to continued air quality monitoring into the future: '*The NWS Project voluntarily established BAAMP in 2008, which continued until 2011. The intent of the program was to gain a better understanding of how operations on the Burrup Peninsula may affect local air quality. Aspects of the program continued to support the Woodside-operated Pluto LNG Development from 2011 through to the end of 2015.*' The BAAMP allowed observed ground-level concentration air emissions to be compared to the Proposal's air quality modelling and validation of approval process risk assessments. Monitoring was undertaken by specialist consultants in line with relevant monitoring and analysis standards. A number of reviews occurred throughout the program, including an independent review process that was coordinated by Woodside using an independent peer reviewer and review methodology endorsed by the Office of the Environmental Protection Authority (OEPA) (now DWER - EPA Services). Reviewer reports accompanied Pluto LNG program compliance reporting to the OEPA. In advance of potential changes to industrial air emissions on the Burrup Peninsula, Woodside voluntarily recommenced ambient air monitoring in 2019 to further understand ambient air quality in the region. The program is expected to extend the historical dataset and complement ambient air quality monitoring proposed under the MRAS. In accordance with the AQMP (Appendix B), Woodside will continue the ambient air monitoring program until its absorption or replacement with the coordinated approach established under the MRAS. Woodside's current ambient air monitoring program uses up to three powered monitoring stations to continuously monitor applicable pollutant gases and meteorological conditions, such as wind speed and direction. The program design draws from historical experience and review outcomes, and considered numerous factors when designing the scope and selecting the locations for these monitoring stations (listed in Table 4-2 and Figure 4-1 of the AQMP) including: • objectives of the monitoring campaign • logistical and environmental issues (e.g. access to electricity; ease of access for routine and non-routine service visits) • site security • applicable standards.

No.	EPA Key Issues	Response to Key Issues
		Air quality monitoring parameters and criteria are presented in Table 4-4 and Table 4-5 of Appendix E of the NWS Project Extension ERD. Woodside submits an Annual Environmental Report to DWER containing the results of the year's air quality monitoring, and comparisons to relevant standards and criteria. In relation to the quality of data used within modelling, the data used during the assessment is detailed in the AQIA, provided as Appendix E of the NWS Project Extension ERD. The report notes a good comparison with monitoring data, demonstrating that there is sufficient data to make accurate conclusions from the modelling. The newest Woodside data were used in the modelling, in addition to estimates for all major (and some minor) air pollution sources around the Burrup Peninsula. Estimates for background air pollutant concentrations were also included. The simulation year (2014) was selected because of the high level of production output by the NWS Project and Pluto LNG facilities in that year and it is considered that 2014 was representative of current industrial operations on the Burrup. Projections for potential future cumulative emissions cases were presented and modelled to conservatively represent potential emissions scenarios on and around the Burrup Peninsula. NOx emissions were estimated based on expected, recent, and current activity (2014–2019+), of Yara's fertiliser and Technical Ammonium Nitrate (TAN) plants. All emissions from Yara's TAN plant were estimated and included in the modelling. Management measures and emissions reductions implemented by Woodside will help reduce the potential for impacts to rock art equally across the entire Burrup Peninsula and the associated National Heritage Listed Place (including nearby islands).
AQ-KIR-4	The proponent's air quality emissions should be made public and previously have been retained confidentially.	Woodside reports annually on the quantity of all GHG emissions and other solid, liquid, and gaseous substances in accordance with the National Greenhouse and Energy Reporting (NGER) and NPI requirements, respectively. Both reporting measures include publicly available inventories of emissions, with relevant quality control measures to ensure the appropriate reporting of data. Within the GHGMP, MA1 includes a commitment to publicly report performance against interim greenhouse gas emissions reduction targets. Emissions will be also be reported as part of NGER requirements and annual compliance reporting against the requirements of the GHGMP. In relation to the results of ambient air quality monitoring, Appendix B to this document is the NWS Project Extension AQIA. The 'existing environment' section of this document presents extensive results from six years of ambient air quality monitoring. This monitoring was undertaken as part of the BAAMP. The NWS Project voluntarily established BAAMP in 2008, which continued until 2011. A modified version of the program continued to support the Woodside-operated Pluto LNG Development from 2011 to the end of 2015. The BAAMP allowed observed ground-level concentration air emissions to be compared to the Proposal's

No.	EPA Key Issues	Response to Key Issues
		air quality modelling and validation of approval process risk assessments. Monitoring was undertaken by specialist consultants in line with relevant monitoring and analysis standards. A number of reviews occurred throughout the program, including an independent review process that was coordinated by Woodside using an independent peer reviewer and review methodology endorsed by the OEPA (now DWER - EPA Services).
AQ-KIR-5	Ongoing air quality monitoring should be conducted for the life of the project in keeping with the most up to date National Environment Protection Measures for Ambient Air quality and Air Toxics. All relevant pollutants should be included (carbon monoxide, nitrogen dioxide, photochemical oxidants, sulfur dioxide, lead, particulates and VOCs).	The AQMP submitted as an attachment to the ERD (Appendix B of this Document), includes a commitment (MA3) to continue to monitor ambient air concentrations of relevant emissions that contribute to human health risk. The pollutant concentrations to be measured include NOx, O_3 and the VOCs/photochemical oxidants BTX. Results will be compared to the most up to date NEPM or Air Toxics thresholds. **Carbon monoxide** The AQIA considered findings from previous studies (see below), as well as facility annual CO emissions rates (from NPI) relative to NEPM criteria (8-hour – 9000 ppb or 11.2 mg/Nm^3). These determined that the CO risk to human health or the environment from the NWS Project Extension was negligible. Woodside has also monitored the concentration of CO within exhaust stack systems and concentrations are typically below 100 mg/Nm^3. Any CO concentrations from point source emissions are readily dispersed from exhaust stacks due to exhaust velocity and plume-rise, thus achieving mixing below the criteria concentration within buoyant plumes. As such, NEPMs are not exceeded and do not pose ground-level risk in the region. This finding is supported by the Pilbara Air Quality Study (DOE 2004), which considered CO monitoring data from 1999 and 2000 (very low relative to NEPM standard) and determined that '*...It is unlikely the carbon monoxide will ever become an ambient pollutant issue. Carbon monoxide levels in the immediate vicinity of industries can be managed by good design and operating practice.*' Previous air quality studies for CO (e.g. Pluto Public Environment Report / Public Environmental Review [PER], 2006) identified that for all scenarios modelled, CO concentrations at ground level on the Burrup were <1% of the NEPM assessment criteria. The KGP was operational at rates equivalent to those predicted to occur as part of the NWS Project Extension and was included in modelling/monitoring relevant to this conclusion. This information supports the assessment presented within the NWS Project Extension ERD that there is only a very low risk of impact on ambient air quality from CO. As such CO was excluded from additional modelling and ambient monitoring programs.

No.	EPA Key Issues	Response to Key Issues
		Sulfur dioxide A review of sulfur dioxide (SO_2) ambient air monitoring results on Burrup Peninsula was undertaken by Air Assessments (Air Assessments, 2010b); these results were used to determine levels of SO_2 in the existing air quality. This report was used because SO_2 was not monitored in the ambient air monitoring programs. To understand SO_2 levels, the ambient air monitoring report applied conservative assumptions to several fixed industrial emissions sources, noting very low sulfur in fuel concentrations. For this reason, estimates for exhaust SO_2 for most sources were assessed as being at or near the limit of detection, thus a reasonable estimate for an annual average was 0.1 ppb (the NEPM [Ambient Air Quality] standard for annual SO_2 is 20 ppb). Maximum hourly average concentrations would not be expected to exceed 10 ppb for most locations away from engine exhausts on ships, the most significant source of SO_2 in the region. The comparable maximum hourly average NEPM (Ambient Air Quality) standard is 200 ppb. SO_2 emissions from shipping are expected to further reduce over time, with international maritime regulations mandating a significant decrease in permissible sulfur content in fuel consumed by ships coming into effect on 1 January 2020. As stated in Section 6.3.5 of the NWS Project Extension ERD, any new third-party gas will be assessed for potential changes (such as variations in sulfur content and any influence on emissions) and assessed against the impact assessment presented in the ERD, to ensure that the environmental objectives and legislative requirements are met. Most fuel gas combusted at KGP has been treated through the AGRU, which is designed to also remove H_2S (the main source of sulfur in natural gas) to 1 ppm. After this high removal efficiency, only a very small residual amount of H_2S remains distributed across product streams and fuel gas. Taken together, the effect is that most SO_2 emissions associated with the Proposal are not directly correlated with feed gas sulfur content and are controlled by existing process controls. Further, SO_2 emissions in the region are expected to reduce, largely due to regulated reductions in allowable sulfur content in shipping fuels. **Particulate Matter** Woodside acknowledges there are exceedances of ambient air quality standards for particulate matter (PM) as PM_{10} and $PM_{2.5}$ on the Burrup Peninsula. However, it is understood that these exceedances are primarily due to smoke from bushfires and controlled burns, raised dust, and other industrial sources. The Proposal's predominant air emissions are due to combustion of natural gas, so particulate emissions are unlikely to cause measurable air quality effects. As described in the ERD, the review of relevant literature and available monitoring data concluded that PM emissions from onshore gas plants were minor when compared with other sources in the region.

No.	EPA Key Issues	Response to Key Issues
		The Pluto LNG Development Cumulative Air Quality Study (SKM, 2006) reviewed monitoring results and previous studies for particulate matter. The study found that that higher PM_{10} concentrations were observed on days of high wind speeds. On these days the $PM_{2.5}/PM_{10}$ fraction was reduced from approximately 50% to approximately 20%, indicating wind-blown dust caused the high PM_{10} concentrations likely associated with wind-raised dust, iron ore handling activities, and bushfires. Influence from combustion-based sources would be expected to be characterised as having a higher small particle fraction (e.g. $PM_{2.5}$). The review by Air Assessments (2010) indicated that measurements of PM_{10} at Dampier tend to be high, and 'exceed the NEPM (Ambient Air Quality) standard'. Air Assessments (2010) indicated the major sources of PM in the Burrup region are: smoke from fires, dust from wind storms and iron ore stockpiling, and ship-loading operations at the ports of Dampier and Cape Lambert. Emissions of PM from the onshore gas plants were recognised as small and of little relevance in comparison with these other sources. **Other Substances (e.g. lead, ammonia)** As per the latest NPI report for the NWS, emissions of all other substances listed in the NEPM Air Toxics criteria are negligible. Therefore, these substances are not relevant to be included in the ambient air monitoring program.
AQ-KIR-6	An Environmental Quality Management Framework for air quality should be prepared and should include management, mitigation and contingency actions.	The NWS Project Extension ERD presents a comprehensive risk assessment for each air emission of concern, including extensive modelling accounting for future emissions profiles, and validates these, where relevant, using an extensive dataset of ambient monitoring results. Despite submissions that challenge the accuracy of Australian Standards for emissions criteria for the protection of health, there are no air emissions from the ongoing operation of the NWS that are expected to occur at sufficient ground-level concentration to exceed relevant existing Australian health criteria. Woodside prepared the ERD in relation to the ESD and the Environment Factor Guideline: Air Quality. There was no requirement to establish an EQMF for this factor or any precedent for Proponents to establish such a framework, particularly noting the absence of any impacts. An AQMP has been prepared and is provided as Appendix A to the ERD; this AQMP has been revised to account for the submission of this Response to Comments.

3.1.3 Public Submissions

The principle issues raised in the submissions from interest groups and individuals generally concern human health, worker safety, industrial emissions and air emission assessment. The issues raised in submissions from interest groups and individuals are listed in detail in Table 3-3. Responses to the issues raised are also provided in Table 3-3. Where additional information was provided via an uploaded document to the EPA's Consultation Hub, or through another consultation pathway (for example, emailed directly to the EPA), a summary of the Key comments raised has been provided in Table 3-3 and the full submission provided in Appendix A. NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA's Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 3-3: Responses to Public Submissions Received in Relation to Air Quality

No.	Submitter	Submission and/or issue	Response
AQ-1.	ANON-TCUY-7GQA-N	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *A major concern about Woodside's proposal is it proposes to continue to use existing emissions management systems and therefore current levels of chemical release into the atmosphere, while understating the damage inflicted on the world-unique Burrup petroglyphs, on public health and the impacts of greenhouse gas release.*	Please refer to these responses that address the other items raised in this submission • AQ-EPA-1 (Air Quality Management Plan).
AQ-2.	ANON-TCUY-7GQA-N	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *There has been ongoing concern from health authorities around the world that there is no safe level of exposure for humans to pollutants such as ozone, nitrogen dioxide or $PM_{2.5}$ particles. Ozone is a product of the Woodside operation emissions. Recent analyses of world data show impacts on human health with concentrations of ozone as low as 31ppb. Ozone concentrations at Karratha and Dampier exceeded or were close to 30 ppb for 10 days in every 100 days.* *Doctors for the Environment in Australia now believe the maximum exposure for nitrogen dioxide should be less than 9 ppb. Nitrogen dioxide concentration in Karratha exceeded 9 ppb at least one day in 100 days and, for some years on Murujuga, exceeded the concentration on 10 days in every 100 days.*	Woodside acknowledges concerns raised by respondents in relation to safe exposure threshold for emissions of substances including nitrous oxides and ozone. In Australia, it is the role of the established regulatory authorities to set appropriate air quality standards in order to minimise health risks to the general population. Within the NWS Project Extension ERD and this Response to Submissions, comparison of expected Proposal emissions against relevant Australian guidelines has been conducted in accordance with EPA Guidelines. **Ozone** Public consultation was recently held by the Australian Government in relation to proposed variations to the NEPM (Ambient Air Quality) Standards. This was supported by a comprehensive Health Risk Assessment and results in a proposed revision to the NEPM (Ambient Air Quality) Standards. The Health Risk Assessment undertaken as part of the NEPM review notes that "*controlled human exposure studies show that O_3 at 60 ppb causes impaired lung function and inflammation of the airways in healthy adults*" and that "*it is expected that effects would occur at lower levels in susceptible groups however controlled exposure studies cannot include these groups.*" (DLA, 2018).

No.	Submitter	Submission and/or issue	Response
			The proposed draft NEPM revision includes a revised maximum concentration standard of 65 ppb as a rolling eight-hour average for ozone. In recommending the adoption of a 65 ppb eight-hour standard for O_3, the Impact Statement for the Review of Ambient Air Quality NEPM (Commonwealth of Australia, 2019) noted that a "*standard of 70 ppb would capture longer-term health impacts of most concern and would generally ensure current one-hour and four-hour standards would not be exceeded" and that "the adoption of a 65 ppb eight-hour O_3 standard would provide additional protection against prolonged O_3 exposures, as well as against shorter-term peaks of concern*". The US EPA is currently reviewing the ozone guideline and has undertaken detailed assessment of the risks of ozone exposure in the draft Integrated Science Assessment for Ozone and Related Photochemical Oxidants (US EPA, 2019a). The US EPA Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards External Review Draft (US EPA, 2019b) recommended "*retaining the current primary standard of 0.070 ppm O_3, as the fourth-highest daily maximum 8-hour concentration averaged across three years, without revision*". This was on the basis that "*the newly available health effects evidence, critically assessed in the draft ISA as part of the full body of evidence, reaffirms conclusions on the respiratory effects recognized for O_3 in the last review. Further, we observe the general consistency of the current evidence with the evidence that was available in the last review with regard to key aspects on which the current standard is based. We additionally note the quantitative exposure and risk estimates for conditions just meeting the current standard that indicate a generally similar level of protection for at-risk populations from respiratory effects, as that described in the last review for the now-current standard. We also recognize limitations and uncertainties associated with the available information, similar to those at the time of the last review.*" **Nitrogen Dioxide** As part of their submission during the public consultation on the proposed variation to the NEPM (Ambient Air Quality) Standards, Doctors for the Environment Australia (DEA) suggested a 9 ppb value for NO_2 as an annual average and 72 ppb as an hourly average, measured as the 99th percentile daily worst hour and averaged over 3 years. The data presented in Figure 4-7, Figure 4-8 and Figure 4-9 of the NWS Project Extension ERD show recorded hourly averages for NO_2, none of which exceed a 72 ppb hourly average.

No.	Submitter	Submission and/or issue	Response
			Some submitters pointed to a yellow discolouration (or "NOx cloud") that is sometimes visible near the KGP exhaust gas emissions points as evidence that NOx criteria are being exceeded. NO_2 may be visible in the initial exhaust plume above the facility as the NOx concentration at the stack is much higher than ground level concentrations, but within licensed limits, as NOx can be visible at concentrations as low as 20 mg/m^3. The plant is designed and operated safely and efficiently to dispose and disperse exhaust stack emissions through large and tall exhaust systems where exhaust gases exit with high energy (velocity) and are hot and buoyant. They then rapidly rise and disperse, such that ground level concentrations are much lower than concentrations at the top of the stacks. Emissions testing and verification studies include testing of in-stack exhaust gas sampling to verify performance was within expected ranges. Between 2008 and 2015, SKM, Jacobs and Ecotech conducted ambient air monitoring programs on behalf of Woodside on the Burrup Peninsula. Ambient air monitoring results of hourly averages for NO_2 and O_3 were analysed in the NWS Project Extension ERD and results were summarised in Figure 4-7 to Figure 4-11 in that document. NO_2 was monitored to allow comparison to the relevant air quality standards, with data demonstrating typical levels of NO_2 are well below the relevant health criteria. Data from the ambient air monitoring showed that NO_2 is typically observed well below the relevant NEPM (Ambient Air Quality) standard of 120 ppb for NO_2. The monitoring results showed that O_3 is also below the corresponding 1-hr NEPM (Ambient Air Quality) standard of 100 ppb, as outlined in AQ-EPA-4.
AQ-3.	ANON-TCUY-7GQA-N	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *There is strong evidence these emissions are affecting the health of people living in the area. Results from the Pilbara Health Profile Planning and Evaluation Unit report in November 2018 show children aged between 0 and 14 years, are hospitalised for lung disorders of asthma and bronchiectasis, which is damage and widening of the airways, 1.7 and 11.5 times more, respectively, than the Western Australian State average.*	The Pilbara Health Profile Planning and Evaluation Unit report referenced by the submitter contains an analysis of health trends throughout the region. Note: The information summarises the data for the entire Pilbara region, not sub-regions or individual towns. Using comprehensive and conservative modelling, emissions from the NWS Project Extension Proposal were assessed to return to background levels within tens of kilometres and therefore would only extend to the nearby urban areas of Dampier and Karratha and would not be expected to impact the entire Pilbara region. As such, the findings presented in the Pilbara Health Profile report are unlikely to be related to a particular industrial emissions source, instead reflecting of common trends across the region. High natural background levels of dust and PM from bushfires, controlled burns and dust storms are present in the Pilbara. Although industry makes an additional contribution to the levels of dust and PM, emissions of PM from the Proposal are negligible in relation to

No.	Submitter	Submission and/or issue	Response
			these other sources (See Section 4.2.1 of the NWS Project Extension ERD). While most air pollutants impact on human health to some degree, review of the monitoring results for the Burrup Peninsula revealed the air pollutant of most concern is particulate matter, as determined by comparisons of measured PM_{10} and $PM_{2.5}$ concentrations against NEPM criteria. In the Pilbara, measured concentrations of PM_{10} and $PM_{2.5}$ are naturally high and regularly exceed relevant health criteria, whereas NO_2 and O_3 typically do not. This air quality issue is not specific to the Pilbara – PM_{10} impacts on human health in all parts of Australia, and around the world. This has been recognised by the World Health Organization, which in 2005 set air quality guidelines (AQG) for PM_{10} and $PM_{2.5}$ that are similar to Western Australia's new, draft, ambient air quality guideline values (AGV). The Pilbara Health Profile report stated that children in the Pilbara have higher than average potentially preventable hospitalisation rates for asthma. A wide range of factors likely influenced the rate of occurrence of asthma and bronchiectasis, as outlined in the Pilbara Health Profile Planning and Evaluation Unit Report. For the NWS Project Extension Proposal, the primary interpretation of the air quality modelling results was done by comparing modelling results with national ambient air quality standards, which are set for the protection of human health. Model results for the current baseline and future reductions model demonstrated the key air pollutants for the Proposal, NO_2 and O_3, did not exceed ambient air quality standards. Together, the modelling and monitoring results indicate that ambient NO_2 and O_3 levels in the Burrup Peninsula region are below NEPM thresholds set for the protection of human health.
AQ-4.	ANON-TCUY-7GQA-N	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *Continuation of emissions from Woodside at the current level will exacerbate the health issues of local residents. It is irresponsible for the Government to put the public and workers on Murujuga and in the towns of Karratha and Dampier at such continuing risk.*	All work at NWS Project facilities is conducted considering relevant job hazards, including those potentially arising from gaseous emissions. Extensive onsite monitoring equipment is used, and measures are in place to ensure the safety of staff working on Woodside operated assets. This includes the presence of dedicated or trained occupational hygienists, equipped with monitoring tools and equipment to measure onsite emissions levels and guarantee compliance with all relevant internal and external Health and Safety requirements. The NWS Project Extension ERD considers risks from emissions of the Proposal including potential cumulative impacts from other development or emissions sources in the nearby region. Section 6.3.4.1 of the ERD summarises the results of air dispersion modelling completed for the project (Appendix E to the NWS Project Extension ERD has the full AQIA) for a number of scenarios including the current baseline conditions, future NWS

No.	Submitter	Submission and/or issue	Response
			emissions and cumulative emissions from current and reasonably foreseeable future developments. As indicated in Table 6-7 and Table 6-8 of the NWS Project Extension ERD, no exceedances of NEPM (Ambient Air Quality) standards are expected. Of particular focus from submitters was emissions of NO_2. Modelling indicates that peak ground level concentration of NO_2 anywhere in the vicinity of the NWS Project are below the NEPM standard.
AQ-5.	ANON-TCUY-7GQA-N	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *Current technology is available to reduce nitrogen oxide and volatile organic compound emissions from industry to near zero and for greenhouse gas release to be carbon neutral. The Government must change the relevant Ministerial Statements and regulations to include emissions limits for the Woodside operation to be close to zero. A strict and rapid timetable must be imposed for installation of the relevant emission reduction technology for all existing operations.* *Meaningful penalties for breaches of licence conditions must be introduced. Australian Governments appear to be weak on ensuring compliance with licences and prosecuting for breaches. For example, in the 2016 Financial Year, 462 Commonwealth EPBC Act projects were monitored and 96 were found to be non-compliant. No company was prosecuted. Instead, the Department 'relied on administrative measures such as variations to conditions of approval, revisions to management plans, conservation agreements and warnings.' Such a conciliatory approach to non-compliance will not ensure the health of citizens on Murujuga or preservation of the petroglyphs.*	Woodside has identified credible emissions reductions for emissions of concern, indicating a firm timetable and formal commitment for achieving these reductions. Please refer to these responses that address the other items raised in this submission: • AQ-EPA-1 (Air Quality Management Plan) • AQ-KIR-1 (Emissions Reduction Technology) • AQ-KIR-3 (Air Quality Impact Assessment) • AQ-KIR-5 (Air Quality Monitoring)
AQ-6	ANON-TCUY-7GDE-C (Murujuga Aboriginal Corporation (MAC))	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: **[MAC recommendation 7]** *Conduct further air quality modelling, which includes airborne particulate matter and Volatile Organic Compounds as modelled factors, and includes*	In response to **MAC recommendation 7** Subsequent to the ERD, Woodside undertook air quality modelling of Benzene emissions, the VOC with the most sensitive risk quotient criteria (i.e. ratio of emissions to threshold assessment criterion level). Conservative modelling of applicable Benzene emissions sources applying the 2014 meteorological conditions indicates that at locations immediately beyond the NWS Project Lease Boundary, maximum one hour exposure levels are predicted to remain below the relevant threshold (e.g. 9 ppb) with a model grid peak (experienced only at the industry location) of 8.5 ppb, and modelling domain 90th

No.	Submitter	Submission and/or issue	Response
		scenarios which consider likely changes to emissions due to variations in third party gas contributions. **[MAC recommendation 8]** *Implement an appropriate ongoing air quality monitoring for the life of the project. Monitoring needs to be in keeping with the most up to date National Environment Protection Measures for Ambient Air Quality and Air Toxics, with inclusion of all relevant pollutants, and all areas potentially impacted by emissions from the project. Data should be made publicly available with averages appropriate to the most up to date standards, and regularly updated for public review. With the following pollutants included (at a minimum) within monitoring:* • *Carbon monoxide;* • *Nitrogen dioxide;* • *Photochemical Oxidants (as Ozone);* • *Sulfur dioxide;* • *Lead;* • *Particles (as PM_{10} and $PM_{2.5}$); and* • *VOCs.* **[MAC recommendation 9]** *Prepare an appropriate and complete Environmental Quality Management Framework for air quality, which includes appropriate management and mitigation controls and appropriate contingency strategies for cases where National Environment Protection Measures guideline exceedances occur.* The full response is available in Appendix A.	percentile maximum one-hour average of 1.8 ppb, and median average annual benzene concentration of 0.02 ppb. In response to **MAC recommendation 8** The NWS Project Extension Air Quality Management Plan (AQMP) includes a commitment to implement an Ambient Air Quality Monitoring Program, that will monitor ambient ground level concentrations of NWS Project emissions including NO_2, ozone, benzene and certain VOCs. Other listed air toxics are significantly below levels of concern as a result of the operation of the NWS Project, and their inclusion in an NWS Project-operated Ambient Air Monitoring Program is not considered necessary. In response to **MAC recommendation 9** The AQMP has been prepared and includes adaptive management to address changes in legislation, including NEPM standards. The AQMP has been updated to describe processes to be followed in the case of an exceedance of the NEPM. Please refer to these responses that address the other items raised in this submission: • AQ-EPA-1 (Air Quality Management Plan) • AQ-EPA-4 (NEPM (Ambient Air Quality) Standards) • AQ-KIR-2 (Third Party Gas Composition) • AQ-KIR-3 (Air Quality Impact Assessment) • AQ-KIR-4 (Public Reporting) • AQ-KIR-5 (Air Quality Monitoring) • AQ-KIR-6 (Air emission risk assessment)
AQ-7	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	**[MAC recommendation 14]** *Make a commitment to progress the Ambient Air-quality Monitoring Network, as currently considered for implementation within the MRA Strategy. In conjunction with an appropriate ongoing air quality monitoring program for human health impacts, as outlined within recommendation 8 above*	Woodside fully supports all aspects of the MRAS, including the Rock Art Monitoring Program and Atmospheric Deposition Monitoring Network. This is formalised in Management Actions described in the CHMP and AQMP. Woodside has recently re-established a series of ambient air quality monitoring stations on Murujuga and in Dampier to monitor for the presence and concentration

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		The full response is available in Appendix A.	of contaminants of potential concern. The NWS Project Extension AQMP includes a commitment to establishing an ambient air quality monitoring program and to report results to DWER. It is the intention of the NWS Project to continue the ambient air monitoring program until its absorption or replacement with the coordinated approach established under the Murujuga Rock Art Strategy. Cessation of any monitoring would be undertaken in consultation with relevant agencies, including DWER.
AQ-8	ANON-TCUY-7GH5-Z	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are summarised as: • The NEPM is undergoing revision and the impact assessment needs to be conducted against the outcomes of the revised NEPM. • Safe level of exposure of humans to pollutants such as ozone, nitrogen dioxide or $PM_{2.5}$ particles are lower than stated in the NEPM criteria. • Observations of the Woodside NWSJV operations show an almost continuous cloud of nitrogen dioxide over the plant on Burrup Peninsula. • The USEPA's review of impacts associated of ozone exposure and evidence the maximum limit for ozone is less than 30 ppb, which is well below the current Australian NEPM limit of 100 ppb, noting these concentrations are exceeded or close to 30 ppb for 10 days in every 100 days on the Burrup Peninsula. Similar results were presented for the township of Dampier. The Air Quality Impact Assessment Summary needs to be changed to reflect the current known impacts of ozone and nitrogen dioxide on human health. • The high concentrations of ozone and nitrogen dioxide over Murujuga, Dampier and Karratha suggest it may be related to the local anecdotally named 'Karratha respiratory syndrome'. Results from the Pilbara Health Profile Planning and Evaluation Unit report in November shows that these respiratory issues are not anecdotal (Anderson et al. 2018). From 2011 to 2015 there were significantly higher potential preventable hospitalisations for respiratory causes in children aged 0-14 years of age in the towns of Karratha, Port Headland and Newman than for the average of Western Australia. Hospitalisation for chronic asthma	The concentration of NOx as it leaves the exhaust stacks does not represent the concentration received at ground level. Ambient air quality and extensive modelling outlined in the ERD demonstrate NOx does not exceed safe levels, either within or beyond the NWS development envelope. The graph presented in both the NWS Project Extension ERD and the 2018 Australian Energy Regulator (AER) shows both the reduction resulting from improved calculations after the 2013/14 reporting year and the reductions in NOx emissions from efficiencies and improved infrastructure since the 2003/04 reporting year. The dark smoke event was not related to KGP but was from the Pluto Gas Plant. This event was reported to the regulator in accordance with both regulatory and Woodside's internal requirements. Please refer to these responses that address the items raised in this submission: • AQ-2 (Exposure Thresholds) • AQ-3 (Human Health Impacts) • AQ-EPA-2 (NOx Exceedances) • AQ-EPA-3 (Flare Emissions and Dark Smoke) • AQ-EPA-4 (NEPM (Ambient Air Quality) Standards) • AQ-KIR-5 (Pollutant concentrations)

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		in the Pilbara was 1.7 times greater than the state average, while hospitalisation for bronchiectasis, which is damage and widening of the airways, was 11.5 times greater than the state average. • This threat to human health provides another reason for ensuring any licence approved for the Woodside proposal has virtually zero emissions of chemicals causing ozone formation and of nitrogen dioxide. • NOx reductions stated in the ERD and states "the same graph is presented in Karratha Gas Plant Annual Environmental Report – July 2018 To June 2019, where it states that the reduction in NOx emissions was due simply to a change in the method of calculation and not due to additional gas scrubber technology as implied in the Proposal." • Claims that a Dark Smoke event related to KGP occurred for 5 days in August 2018 despite Woodside stating no dark smoke occurred in association with operation of the NWS Extension in that year. • Please note, many of these comments were also received as ANON-TCUY-7GQA-N. The full response is available in Appendix A.	
AQ-9	ANON-TCUY-7GHJ-N (Margaret River Regional Environment Centre)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are summarised as: *The former WA Premier stated in 2016 that emissions at Hearson Cove on the Burrup Peninsula posed a potential public health threat. The negative impacts of emissions include the effects of climate change and poor air quality for local Indigenous communities, residents in the towns of Dampier and Karratha, visitors to Murujuga, and industry workers in the Dampier region. A recent analysis of the health of Karratha (Port Hedland and Newman) residents show that potentially preventable hospitalisations relating to lung disorders for children up to 11 years old was from 1.7 to 11.5 times more than for the Western Australian state average.* *Woodside argues that "wholesale reductions in emissions are difficult to achieve" because they are extending the life of the existing old and*	Please refer to these responses that address the items raised in this submission: • AQ-KIR-1 (Emissions Reduction Technology) • AQ-2 (Exposure Thresholds)

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		inefficient plant rather than building a new plant (with modern technology & decreased emissions. *All it would take is 1.5% of one year of Woodside's annual profits to install the appropriate available technology to reduce their emissions to near zero. Polluters should pay.* The full response is available in Appendix A.	
AQ-10	ANON-TCUY-7GHY-4	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are summarised as: ***Monitoring of Emissions on the Burrup*** *Who is responsible for monitoring what is happening on the Burrup as far as emissions and pollutions and health issues are concerned? It appears as if the industry has been given a "carte blanc" to do whatever it wants to do. There appears to be no compliance requirement to the WA government, and with no one checking on what's really happening on the ground (or in the air).* ***Health Concerns*** *Health issues in Karratha and Dampier for workers and residents are of concern, and they can be put down to living in an environment full of emissions from the industry on the Burrup, including CO_2, NO_2 and $PM_{2.5}$. There is strong evidence that these emission are affecting the health of the people living in this area. Results from the Pilbara Health Profile Planning and Evaluation Unit report in Nov 2018 show children aged between 0-14 years are hospitalised for lung disorders of asthma (1.7xs more than the WA State Average) and bronchiectasis, which is damage and widening of the airways (11.5xs more than the WA state average.) And what of the workers who are at the plants, inhaling emissions on a daily basis? Surely, there will eventually be class action suits against both Woodside and the government that allow this to happen. Isn't it time for the WA state government to start enforcing measures to mitigate this health risk? Didn't anyone learn anything from Wittenoom, and the Asbestos lung diseases? It can happen again, and should happen again, if no action is taken to reduce the emissions on the Burrup.* The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • AQ-KIR-3 (Air Quality Impact Assessment) • AQ-KIR-5 (Air Quality Monitoring) • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)

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AQ-11	ANON-TCUY-7GQ2-6 (Member for Mining and Pastoral Region in the WA Legislative Council)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are summarised as: *The Environmental Review Document (ERD) gives the most significant products of gas combustion and facility emissions: carbon dioxide (CO_2), oxides of nitrogen (NOx), carbon monoxide (CO), methane, and unburnt Volatile Organic Compounds (VDCs). Given the Venturers' projections of 18.5mtpa total LNG, and the assumption — in line with similar projects in the area — that the unprocessed gas is at least eighty-five percent desired product, it follows that 22.775 mtpa of unprocessed gas components will be released into the environment. These components are typically acidic gases (oxides of carbon, sulphuric species), heavy metals and colloidal particles — and it must be noted that this figure is not inclusive of those emissions borne as a result of combustion or flaring. It is worthy of note also that "VDCs (including BTEX) were excluded from the modelling for the Proposal and the proponent goes on to say that this was due to "Ambient air monitoring undertaken during 2009-2015". Interestingly, the proponent does not utilise ambient air monitoring prior to the Burrup industrialisation, nor is a 2015 assay a reputable source five years later, following several expansions in industrial activity both on and off shore* *Whilst it is understood that protocols for gaseous or aerosolised irritants will be affected; providing for worker safety, the concerns over air quality are not as localised. An air quality study and risk assessment was undertaken on behalf of the proponents, based on a broad survey of Burrup Peninsula air quality studies, historical ambient monitoring records, estimates of cumulative emission inventories and other information. This assessment monitored nitrogenous oxides (modelled as nitrogen-dioxide), ozone, and sulphur dioxide. Published in 2005 by the old 'Department of Environment and Energy", the Government's "Air Quality Fact Sheet' gives the "major source of nitrogen dioxide in Australia is the burning of fossil fuels: coal, oil and gas...Other sources of nitrogen dioxide are petrol and metal refining, electricity generation from coal-fired 4. When one considers that the*	The total volume of 'waste' products released into the environment is an order of magnitude less than 22.75 Mtpa. This figure is almost more than the total mass of products sold annually from the NWS (equivalent to ~ 120% of LNG production capacity). Hydrocarbons processed by the NWS Project are typically 97–98% saleable product. In the LNG manufacturing process, it is necessary to remove some products, including water and CO_2 (to prevent freezing once methane is reduced to cryogenic temperatures), while other components of the feed gas stream are converted into Domestic Gas for the Western Australian market, LPG and Condensate. The total volume of all solid, liquid and gaseous emissions from the NWS Project are estimated and reported in accordance with relevant legislation, including the National Greenhouse and Energy Reporting (NGER) Act and National Pollutant Inventory (NPI) requirements. These reports are publicly available. Woodside notes the comment that VOCs (including BTEX) were excluded from the Air Quality Impact Assessment. Monitoring of hydrocarbons undertaken during 2009-2015 showed emissions of Benzene, Toluene and Xylenes (BTX), as indicators of VOCs, had insignificant air quality effects at the monitoring locations of Dampier, Karratha and industry location on Burrup Road. In Karratha and Dampier, monitoring over 2008-2010 (>11,000 hourly averages) did not identify peak benzene emissions greater than 3.4 ppb (against a 1hr average NSW EPA (draft WA) assessment criteria of 9 ppb). Between 2008-2016, monitoring at the industrial location 'Burrup Road' Station, there were some localised exceedances of the benzene 1 hour assessment criterion, representing less than 0.05% of the monitoring period. The station average in the monitoring period was than 0.08 ppb. Subsequent to the ERD, Woodside undertook air quality modelling of benzene emissions, the VOC with the most sensitive risk quotient criteria (i.e. ratio of emissions to threshold assessment criterion level). Conservative modelling of applicable benzene emissions sources during the 2014 meteorology regime indicates that at locations immediately beyond the NWS Project Lease Boundary, maximum one hour exposure levels are predicted to remain below the relevant threshold (e.g. 9 ppb) with a model grid peak at the industry location of 8.5 ppb, and modelling domain 90th percentile maximum 1-hour average of 1.8 ppb, and median average annual benzene concentration of 0.02 ppb. No other VOC would therefore be expected to exceed threshold values. Further monitoring information and modelling results is included in Appendix F of this document, which is an updated version of the Air Quality Impact Assessment.

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		Burrup power stations, other manufacturing industries and food processing Industrial Hub already has nitrogenous contaminants, perhaps it is not best practise to knowingly generate more. It must be stressed also, that even with a project of this scale, these environmental-contamination concerns are secondary to the damage caused by the physical installation of the structures. Often, it's better to err on the side of caution and it is alarming that the State seeks to give these joint venturers carte blanche for half a century, on the basis of a six-year trial conducted last decade. The full response is available in Appendix A.	Monitoring completed during 2009 – 2015 is representative of current emissions levels on the Burrup Peninsula, as there will be no significant changes to the NWS Extension compared to its operation in 2009 – 2015, therefore monitoring data are considered valid. Please refer to these responses that address the items raised in this submission: • AQ-4 (Public and Worker Health and Safety) • AQ-2 (Exposure Thresholds)
AQ-12	ANON-TCUY-7GHT-Y	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *In 2016 Colin Barnett said, re the proposed visitor centre, that it should not be located at Hearson Cove because of negative health impacts of emissions on visitors. Emissions have increased since then. I would not live in Karratha.* The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)
AQ-13	ANON-TCUY-7GHA-C	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *Furthermore, I am concerned about the health impacts for people living on the Burrup peninsula and Karratha, from poor air quality and high ambient levels of harmful contaminants such as nitrous oxide, sulfur dioxide, ozone and particulate matter.*	Please refer to these responses that address the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)
AQ-14	ANON-TCUY-7GHP-U	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *The negative impacts on human health of emissions include the effects of climate change and poor air quality for local Indigenous communities,*	Please refer to these responses that address the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)

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		the towns of Dampier and Karratha, visitors to Murujuga, and industry workers in the Dampier region; the former WA Premier stated in 2016 that emissions at Hearson Cove posed a potential public health threat. A recent analysis of the health of Karratha (Port Hedland and Newman) residents show that potentially preventable hospitalisations relating to lung disorders for children up to 11 years old was from 1.7 to 11.5 times more than for the Western Australian state average. Similar figures for chronic obstructive pulmonary disease and congestive heart failure in people over 65 years were 2.75 and 1.5 times, respectively, more than the state average. Impacts on human health.	
AQ-15	ANON-TCUY-7GQ5-9	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *So too, does the health of people who visit and live in the Burrup, Dampier and Karratha region [need protection].* *Ozone and nitrogen dioxide also have serious health implications for people. Current health experts around the world believe there are no safe limits for ozone nitrogen dioxide or small particles (Gudka 2020). The high concentrations of ozone and nitrogen dioxide measured by Woodside on the Burrup, Dampier and Karratha appear certain to be causing respiratory diseases in the region, particularly in children.* The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • AQ-2 (Exposure Thresholds)
AQ-16	ANON-TCUY-7GQN-2 (Urban Impact Project)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality were summarised by the submitter as: *A comprehensive Health Impact Assessment of all the air pollutants in the Burrup air-shed.* *1. Open source access to all the Woodside and BAAMP datasets (past, present and future).*	The NWS Project Extension ERD includes a comprehensive impact assessment, conducted in accordance with the relevant EPA Factor guideline, incorporating all emissions of relevance to the NWS Project Extension. Submission Point 1 - please refer to AQ-KIR-4: Public Reporting. Submission Point 2: A. There are no predicted increases in NOx emissions, with levels broadly aligned with current day operations with significant emissions reductions in place beyond 2030. Annual NOx emissions will be maintained within levels outlined in the Proposed

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		2. *A full response from Woodside that addresses the questions and omissions in the Appendix E: NWS Extension Air Quality Impact Assessment.* a. *What are the predicted increases in NOx emissions between 2020-2070 in the NWS project?* b. *What are the predicted cumulative increases in NOx emissions from all Woodside projects in the Burrup Peninsula between 2020-2070?* c. *Were all the data-sets included when Jacobs et al 're-analysed' the data for this report?* d. *If no, would this affect the average and 99th percentile data shown in Figure 3.2 and 3.3 on pg. 358-359?* e. *What were the annual averages of NO_2 between 2009-2015 at all three monitoring sites?* f. *Were there any exceedances in the annual averages of NO_2 between 2009-2015 at all three monitoring sites? If yes, how many and by how much?* g. *What was the actual O_3 data from between 2009-2015 from the Burrup Road station?* h. *What was the 8-hourly O_3 data between 2009-2015 at the three monitoring stations?* i. *Were there any exceedances in the NO_2 between 2009-2015 at all three monitoring sites? If yes, how many and by how much?* j. *What was the 24-hour and 1-year PM_{10} and $PM_{2.5}$ data between 2009-2015 at the three monitoring stations?* k. *Were there any exceedances in 1-year PM_{10} and $PM_{2.5}$ data between 2009-2015 at the three monitoring stations? If yes, how many and by how much?* l. *What were the precise location coordinates for the three BAAMP stations?*	Extent of Physical and Operational Elements Section 2.4 of the NWS Project Extension ERD. B. The NWS Project Extension ERD (Section 6.3.4.1) outlines potential future cumulative emissions scenarios used for modelling. Each of these are briefly described below; FBSIA: Future Burrup Strategic Industrial Area State, with existing, approved and referred facilities operating (with NWS Emissions aligned with current levels up to 2030): • In this scenario, potential Woodside-operated NOx emissions are estimated to increase from modelled current levels by approximately 11% after the proposed construction and operation of Pluto LNG Train 2, but before 2030. FBSIA-KIO: Future Burrup Strategic Industrial Area state (existing, approved and referred) with proposed NWS Project Extension emission reductions in place by 2030: • In this scenario, potential future Woodside-operated NOx emissions (NWS KGP and Pluto Train 1 and 2 taken together) are estimated to have decreased by 29% from modelled current levels from 2030 onwards. C. Yes, all 2008–2016 monitoring data were included in the analysis for the NWS Project Extension air quality report (25 October 2019). D. Refer c. E. Annual averages of NO_2 at the three monitoring points are illustrated graphically in the NWS Project Extension ERD Appendix E Figures 3-1 to 3-3, and numerically below

Year	Karratha	Burrup Road	Dampier
2009	2.4	4.7	3.1
2010	2.1	4.1	2.7
2011	1.8	3.8	3.1
2012	2.2	2.5	3
2013	2.2	2.4	2.3
2014	2.5	2.6	2.4
2015	2.1	2.2	2.1

F. There were no exceedances of hourly or annual NO_2 criteria in any of the data presented in (e).

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		m. *What height above ground was the air monitored at the three BAAMP stations?* The full response is available in Appendix A.	G. Ozone monitoring at the Burrup Road site was only conducted for a short period; Oct-Nov 2009. Ozone is not a direct emission from Burrup industries, but is a secondary pollutant and can be influenced (can be lowered) by local NOx emissions. Higher ozone concentrations are typically found at distance from a source of NOx and VOC, as the atmospheric processes involving these pre-cursors plus sunlight result in the formation of ozone. Therefore, after 2009, ozone was only measured at Karratha and Dampier stations. Monitoring results for these stations is provided below.

Parameter	Burrup Road	Dampier	Karratha
# of 8-hr averages identified	471	41,242	37,443
From date	24/10/2009	10/12/2009	1/04/2009
To date	27/11/2009	29/01/2016	29/01/2016
Max. 8-hr average	48.9	70.7	75.9
# criteria exceedances (65 ppb 8-hr draft proposed NEPM standard variation)	0	14	8
Median 8-hr average	17.0	23.3	21.5
Min 8-hr average	4.0	3.6	3.3

H. At the time of the monitoring program (2009–2016), the draft 8-hour O_3 standard was not applicable. The analysis of data was undertaken for the 1-hour (100 ppb) and 4-hour (80 ppb) NEPM criteria, which was the criteria that were applicable at that time. The 8-hour rolling and step change average has since been calculated for two modelled scenarios (FBSIA and FBSIA-KIO), see Response AQ-EPA-4. No exceedances of current or proposed future NEPM thresholds are predicted in the regional air shed as a result of NWS emissions.

I. No NO_2 NEPM exceedances occurred between 2009 and 2015.

J. Monitoring for $PM_{2.5}$ was undertaken between Dec 2011 and Feb 2013 for risk assessment verification purposes for the Pluto LNG Development. No PM_{10} monitoring was undertaken for the NWS Project specifically.

An independent review of $PM_{2.5}$ monitoring results acquired at Karratha, Dampier and Burrup monitoring stations from December 2011 to December 2012 was conducted by Golder for the Pluto LNG Development (Golder, 2014). Golder (2014) concluded there

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			was sufficient evidence to suggest that air emissions from the Pluto LNG Development were not associated with the exceedances. Iron ore handling was stated as a probable cause of exceedances of $PM_{2.5}$ standards detected at Dampier monitoring station. PM emissions from NWS operations are negligible compared to other sources including natural and industrial sources in the region. Other, more significant, emitters of $PM_{2.5}$ and PM_{10} undertake their own particulate monitoring activities. PM_{10} is negligible from the NWS Project and was not part of prior ambient monitoring program. K. Annual average $PM_{2.5}$ was exceeded at the Karratha station, the background reference site, by 0.3 µg/m^3 in 2012. There was no exceedance at Dampier in the same year. Insufficient valid data were available for Burrup Road to calculate an annual average in 2012 or at any site for other years. In relation to the 24-hour average, there were five exceedances in 2011 at the Karratha monitoring station and one at the Dampier station. In 2012, there were eight exceedances in 2012 at the Karratha station, 5Station, five at the Dampier station, and six at the Burrup Road Station. There was 1 exceedance measured in 2013 at the Burrup Road Station. L. Coordinates of the station are listed below (MGA94): Karratha: 484892 mE; 7707575 mN Burrup Road: 476665 mE; 7721038 mN Dampier: 470239 mE; 7716142 mN M. Sample inlet is located approximately 1.3 m above the top of the monitoring enclosure, which is approximately 2.5 m tall. Sample inlet is therefore approximately 3.7 m above ground level. The Australian Standard for Siting of Ambient Monitoring Equipment (referred to in Part 4 of the NEPM (Ambient Air Quality) Standards specifies an inlet height of between 2m to 5m above ground level.
AQ-17	ANON-TCUY-7GQV-A	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *One factor which seems to be ignored in this regard is the amount of*	**Particulate Matter** Woodside acknowledges there are exceedances of ambient air quality standards for particulate matter (PM) as PM_{10} and $PM_{2.5}$ on the Burrup Peninsula. However, it is understood that these exceedances are primarily due to smoke from bushfires and controlled burns, raised dust, and other industrial sources. The Proposal's predominant

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		airborne pollutants being released into the atmosphere by these industrial activities. I am not a scientist but my reading and my discussion with people who study this aspect lead me to believe that air quality on the Burrup regularly reaches unhealthy levels. Not only is this a threat to the people who work or live on the Burrup and in the surrounding area, it also has a damaging impact on the rock art. *I understand that modern technology can reduce the emission of airborne pollutants by a very large degree. I also understand that by using a series of different technologies it is also possible to achieve a zero emission. It would be good if the industrial activities on the Burrup could be forced to adapt newer and better technology as it evolves but I accept that this aspect is probably not covered in the individual approvals for their respective operations. However, shouldn't the Western Australian Government try to encourage those industrial activities to take such action voluntarily as responsible entities caring for their employees and their neighbours?* *If, however, the proposal is approved, it is to be hoped that such approval is strictly on the basis that Woodside immediately takes all actions necessary to stop any harmful emissions and that appropriate and independent review mechanisms are established to continuously monitor compliance. Such mechanisms should, of course, be supported by significant penalties for any non-compliance.* The full response is available in Appendix A.	air emissions are due to combustion of natural gas, so particulate emissions are unlikely to cause measurable air quality effects. As described in the ERD, the review of relevant literature and available monitoring data concluded that PM emissions from onshore gas plants were minor when compared with other sources in the region. The Pluto LNG Development Cumulative Air Quality Study (SKM, 2006) reviewed monitoring results and previous studies for particulate matter. The study found that that higher PM_{10} concentrations were observed on days of high wind speeds. On these days the $PM_{2.5}/PM_{10}$ fraction was reduced from approximately 50% to approximately 20%, indicating wind-blown dust caused the high PM_{10} concentrations likely associated with wind-raised dust, iron ore handling activities, and bushfires. Influence from combustion-based sources would be expected to be characterised as having a higher small particle fraction (e.g. $PM_{2.5}$). The review by Air Assessments (2010) indicated that measurements of PM_{10} at Dampier tend to be high, and 'exceed the NEPM (Ambient Air Quality) standard'. Air Assessments (2010) indicated the major sources of PM in the Burrup region are: smoke from fires, dust from wind storms and iron ore stockpiling, and ship-loading operations at the ports of Dampier and Cape Lambert. Emissions of PM from the onshore gas plants were recognised as small and of little relevance in comparison with these other sources. Please refer to these responses that address the items raised in this submission: • AQ-KIR-1 (Emissions Reduction Technology) • AQ-4 (Public and Worker Health and Safety)
AQ-18	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *Given the likely origin of the third-party gas and liquids is known and exploratory drilling will have been conducted, which should include some compositional analysis, further clarity should be provided around the composition of the expected third-party feeds compared to current feed streams and any areas of uncertainty associated with this. This would provide some reassurance that the assertion that emissions can be*	In response to the NAC recommendation specific to Air Quality, Woodside advises that the potential introduction of third-party gas and fluids may cause changes to air emission characteristics. However, these emissions are anticipated to remain similar to current emissions, and will be managed in line with the Woodside management system to ensure that the environmental objectives and legislative requirements are met. Regardless of the source of third-party gas, emissions from the Proposal will still be required to comply with Part V license emissions limits, enforced by the DWER.

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		adequately managed by engineering controls and the air quality modelling is indeed representative of future emissions from Karratha Gas Plant (KGP). The full response is available in Appendix A.	
AQ-19	ANON-TCUY-7GH4-Y	*I have not seen any data from ground monitoring stations for any of the polluting gases associated with Industry on the Burrup (Transport, Ammonia, Explosives) because none are freely available. However, nitrogen dioxide (NO_2) data from a European space satellite, the Sentinel-5P, has been freely available since 2018. Data averaged over 7 days shows clearly that NO_2 is anomalously high over an area about 20 km in diameter (the resolution is about 6 km) centred over the Burrup near the natural gas treatment plant. No similar anomalies from averaged data are seen over Port Hedland or the major mining towns of Tom Price and Newman, though much wider anomalies are well known over major world cities. It is highly likely that the natural gas and other industries based on the Burrup Peninsula are responsible for this anomaly, and for the well-known increase in pH measured at rock surfaces on the Burrup, which will destroy the Rock-Art. [see figure in submission] The existing industry on the Burrup is evidently producing significant acid air pollution (including NO_2) over the Burrup such that it can be detected by satellites. If the Browse Basin gas is piped to the Burrup Hub for processing then polluting emissions will hugely increase, as will also damage to the Rock-Art. This will likely make it impossible for the Burrup to achieve the World Heritage status that WA is applying for.*	The NWS Project Extension Proposal includes the emission of up to 8,900 tonnes of NOx per annum. The referenced satellite data is reflective of the presence of industry, including the NWS Project, on Murujuga. It is expected and described within the ERD this will lead to elevated concentrations of some gases, including NO_2, within the receiving air shed. It should be noted that the referenced Sentinel-5P data measures average concentrations of gases throughout the stratosphere and troposphere, thereby is not reflective of the concentration of gas that may be measured at ground level, i.e. that would be interacting with Murujuga Rock art. Within the Air Quality Impact Assessment (Appendix E to the ERD), Woodside has published an extensive ambient air quality monitoring data set. This data includes the results of monitoring of ground level concentrations of NO_2 and O_3 across a seven year data set from multiple locations on and near the Burrup Peninsula. Furthermore, Within the ERD has provided the results of NOx deposition across Murujuga. This data is more appropriate for assessing potential impacts to rock art, than satellite data, as has been presented within Section 6.4 of the ERD. There is no planned increase in air emissions, including NO_2 from the NWS Project Extension. Rather, as part of the NWS extension, NOx emissions will be reduced by at least 40% by 2030.
AQ-20	ANON-TCUY-7GHP-U	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *The negative impacts on human health of emissions include the effects of climate change and poor air quality for local Indigenous communities, the towns of Dampier and Karratha, visitors to Murujuga, and industry workers in the Dampier region; the former WA Premier stated in 2016 that emissions at Hearson Cove posed a potential public health threat. A recent analysis of the health of Karratha (Port Hedland and Newman) residents show that potentially preventable hospitalisations relating to lung disorders*	Please refer to these responses that address the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)

No.	Submitter	Submission and/or issue	Response
		or children up to 11 years old was from 1.7 to 11.5 times more than for the Western Australian state average. Similar figures for chronic obstructive pulmonary disease and congestive heart failure in people over 65 years were 2.75 and 1.5 times, respectively, more than the state average.	
AQ-21	NW Shelf/ Browse Expansion Submission [Individual 5 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are summarised as: *Then there are the ongoing and, if this proposal is pursued, increased level of chemical contaminates in the atmosphere. Already there is concern regarding the nitrous and sulfide residues that are being emitted. From a health perspective this is a problem for the whole environment. Both the natural environment and human health are, and shall be impacted. Further 'production' on the Burrup can only compound the matter.* *Only the immediate instillation of "scrubber technology" could give the industry some respite while this obsolete technology is phased out.* The full response is available in Appendix A.	Please refer to this response that addresses the items raised in this submission: • AQ-KIR-1 (Emissions Reduction Technology)
AQ-22	Three Browse – NWS Extension Proposals [Individual 11 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: *I am also very concerned about the health impacts of industrial emissions on local workers and residents of the Burrup Peninsula and Karratha region, given the high levels of air pollution that are consistently visible on BoM images. Much of this could be reduced if Woodside and other industries were forced to have the highest possible level of scrubber and other technology to reduce emissions -- some of their huge profits could be reduce harm to the petroglyphs, human health and well being.* The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety) • AQ-KIR-1 (Emissions Reduction Technology)

No.	Submitter	Submission and/or issue	Response
AQ-23	Clean State	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are: Risk of health impacts for local communities and workers from exposure to industrial pollution, which the submission claims that Woodside has failed to monitor and report on to date. The full submission is available in Appendix A.	Please refer to this response that addresses the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety) • AQ-2 (Exposure Thresholds) • AQ-KIR-3 (Air Quality Impact Assessment) • AQ-KIR-5 (Air Quality Monitoring) • AQ-KIR-4 (Public Reporting)
AQ-24	Conservation Council WA (CCWA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality include: *The proponent has provided insufficient evidence to demonstrate that these impacts on public health are acceptable. Further research is required into the existing exposure levels and their impacts over time before it can be assumed that it is safe to continue these exposure levels for decades into the future. An independent Health Impact Assessment is required to consider these factors properly before a judgement about acceptability can responsibly be made. Such a process must include direct consultation with both workers and surrounding communities, including the release of full analysis of what these workers and communities are being exposed to, at what concentrations, frequency and over what duration. Only then can the communities who are impacted by this proposal evaluate whether the impacts are acceptable.* *The processing of natural gas to produce LNG is extremely pollution-intensive, releasing emissions that have direct effects for public health and wellbeing for people living near or working at the facilities.* *In 2016 -17 the LNG plants Woodside proposes to be utilised for the Burrup Hub project were among the highest industrial point source polluters of harmful air pollutants in Western Australia, releasing 8,000 tonnes of nitrogen dioxide, 97 tonnes sulphur dioxide and 16,000 tonnes of volatile organic compounds (VOCs), as well as $PM_{2.5}$, ozone, mercury, and other*	Please refer to this response that addresses the items raised in this submission: • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)

No.	Submitter	Submission and/or issue	Response
		heavy metals. Air pollutants of this type can cause serious health impacts, including heart disease, stroke, lung cancer, asthma and diabetes, even at low levels of exposure. Woodside has undertaken some ambient air quality monitoring in Karratha and other locations around its LNG processing plants, however, the company has refused to release the full data from this monitoring, and the limited data that has been released is insufficient to provide evidence of public safety. *"There is no reasonable and practicable way of identifying the frequency and degree of risk people living and working in the Burrup Peninsula experience as a consequence of breathing the air pollution resulting from LNG production. Therefore, the true nature, extent and duration of health burden caused by this pollution is unknown."* *[Redacted]* The full response is available in Appendix A.	
AQ-25	Conservation Council WA (CCWA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality include: • The Proposal poses a human health risk to workers and residential communities in the Dampier Peninsula (and the nearby town of Karratha) due to atmospheric pollutants; including health impacts of respiratory and cardiovascular nature. • The submission states that the NEPM concentration limits have been set too high for the 'protection of a healthy population and receiving environment', and that air quality monitoring undertaken between 2009 and 2015 by the Proponent (measured against NEPM (Ambient Air Quality)) are consequently not sufficient to demonstrate that impacts to public health are acceptable. • The submitter also requested an independent Health Impact Assessment be undertaken and noted concerns over the risk of health impacts for local communities and workers from exposure to industrial pollution; namely to NO_2, SO_2, VOCs, $PM_{2.5}$, ozone, mercury and other heavy metals.	Please refer to this response that addresses the items raised in this submission: • AQ-EPA-4 (NEPM (Ambient Air Quality) Standards) • AQ-KIR-3 (Air Quality Modelling and Assessment) • AQ-KIR-4 (Public Reporting) • AQ-KIR-5 (Air Quality Monitoring) • AQ-KIR-6 (Air emission risk assessment) • AQ-2 (Exposure Thresholds) • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety) In relation to NEPM concentration limits, Woodside relies on regulatory authorities to set appropriate air quality standards based on rigorous scientific review in order to minimise health risks to the general population. The Environment Review Document has been prepared in accordance with relevant EPA guidelines for independent assessment in accordance with the EP Act. Modelling of all substances of concern was undertaken in predicting impacts from the Proposal. For those substances that were considered to have a high potential to impact human health, an

No.	Submitter	Submission and/or issue	Response
		• Woodside's refusal to release ambient air quality monitoring results; those that have been released do not provide sufficient evidence of public safety.	assessment of the modelled concentrations against the relevant NEPM standards, was undertaken. The NEPM standards have been set at levels considered appropriate for the protection of human health and are based on rigorous scientific research, assessment and review. After implementing the proposed mitigation measures, no planned impacts or risks with a residual risk higher than a low risk rating have been identified. Woodside considers that this indicates the residual impacts and risks associated with the proposal are broadly aligned with the EPA's objective for Air Quality. There were no impacts or risks identified that would mean that the EPA Objectives for Air Quality are not achieved.
AQ-26	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Air Quality are summarised as: *The negative impacts on human health of emissions include the effects of poor air quality for local Indigenous communities, the towns of Dampier and Karratha, visitors to Murujuga, and industry workers in the Dampier region;* *Appendix E: Air quality impact assessment: Fundamentally, the conclusions are based on insufficient data; however, while acknowledging some deficiencies, Woodside does not exercise the caution required, as dictated by the Precautionary Principle, Principle of Intergenerational Equity, and Principle of Waste Reduction.* *They have not accounted for all emissions in modelling even though they say it is cumulative; there is no accounting of offshore flaring and fugitive emissions.* *Incomplete/old data were used in modelling and there is not much/any reporting of recent data.* The full response is available in Appendix A	The NWS Project Extension ERD presents a comprehensive risk assessment for each air emission of concern, including extensive modelling accounting for future emissions profiles, and validates these, where relevant, using an extensive dataset of ambient monitoring results. All data informing impact assessments presented within the NWS Project Extension ERD was completely revised and updated using the latest available information including all currently operational facilities. Additionally, modelling undertaken for the NWS Project Extension Proposal considers cumulative emissions from all current and reasonably foreseeable future projects planned for Murujuga, including a conservative representation of regional shipping. The AQIA analysed historical studies and modelling sensitivities to ensure potential emissions that may contribute to impacts on the Burrup Peninsula were included. This assessment considered background sources, and small or lower risk sources, including offshore flaring and venting. Beyond 50 km, emissions sources have a negligible impact on assessment outcomes. The nearest offshore emissions from sources such as flaring or venting from existing NWS Project assets are >100 km away and were not included in the modelling. Emissions from the proposed Browse development are approximately 1000 km away. Neither source is credibly expected to interact with emissions from existing or new sources on Murujuga. Section 6.5.4.1 of the ERD presents deposition rates across the National Heritage Listed Place including islands, with conservatively estimated peaks (informing associated impact assessment) within the modelled domain. Please refer to these responses that addresses additional items raised in this submission: • AQ-KIR-3 (Air Quality Impact Assessment) • AQ-3 (Human Health Impacts) • GHG-CIR-4 (Management of fugitive emissions)

3.2 Greenhouse Gas Emissions

3.2.1 Agency Comments

The EPA provided a number of comments regarding the Proposal and Greenhouse Gas Emissions. The comments provided by the EPA and Woodside's response to these are detailed in Table 3-4. No comments relating to Greenhouse Gas Emissions were received from other agencies.

Table 3-4: Response to Agency Comments in Relation to Greenhouse Gas Emissions

No.	Agency	Comment	Response to Comment
GHG-EPA-1	EPA Services	Amend and submit a greenhouse gas management plan to explicitly including interim targets and timeframes for reducing emissions. Discussion: The Environmental Review Document (ERD) does not provide an appropriate interim target for emissions reduction – the offset commitment comprises less than one half of one percent to 2030. In addition, the ERD does not provide a longer-term target or a pathway for emissions reduction, or public commitments made by the proponent to be carbon neutral by 2050 for all direct emissions. There is significantly greater scope to reduce total and/or net emissions over the life of this project, and these should be articulated clearly in the greenhouse gas management plan. For clarity, while the State GHG Policy is complementary to national policy frameworks, including the Australian Government's safeguard mechanism, the State GHG Policy also supplements the safeguard mechanism, imposing requirements above and beyond those required under the National Greenhouse and Energy Reporting Act 2007.	The NWS Project Extension Greenhouse Gas Management Plan (GHGMP) has been revised to demonstrate the contribution of the Proposal towards the State's aspiration of achieving net zero emissions in Western Australian by 2050. This contribution is demonstrated through a series of interim and aspirational long term emissions reduction targets, that are aligned with the State's aspiration of achieving Net Zero emissions by 2050. These target show a series of constant and continuous reductions, on a trajectory towards net zero emissions by 2050. Included within Management Actions within GHGMP is the requirement for Woodside to publicly report on actual emissions, progress against the interim emissions reduction targets and details of emission reduction opportunities identified or implemented. **Interim Emissions Reduction Targets** Aligned to the requirements of the Environmental Factor Guideline for greenhouse gas emissions, the NWS Project Extension GHGMP includes a series of interim greenhouse gas emissions reduction targets. Based on current expectations as to emissions reduction technology under development, identified efficiency improvement opportunities and identified gas reserves, GHG emissions reduction targets for the NWS Project Extension are to: • Maintain Scope 1 emissions below 6.55 million tonnes per year by 2025; and • Maintain Scope 1 emissions below 5.39 million tonnes per year by 2030. When compared to the maximum expected emissions levels predicted from the NWS Project Extension, of 7.7 MTPA, as per Section 6.4.4 of the ERD these interim emissions reduction targets are equivalent to GHG reductions of 15% by 2025 and 30% by 2030. Beyond this time frame, aspirational long term emissions reduction targets have been established. However, it is a requirement that the GHGMP be updated every five years.

No.	Agency	Comment	Response to Comment
			Each time the GHGMP is updated, there will be a clear interim emissions reduction target for the forward ten year period, where one has not yet been set. For example, in 2025, the GHGMP will be updated to establish interim emissions reduction targets extending to 2035. **Long term emissions reduction targets** Beyond 2030, the level of emissions reduction that may be achieved remains uncertain due to many factors, including the degree to which additional third party gas supplies are identified for processing through KGP, advances or availability of technology that is practical for retrofit to an existing plant, outcomes of ongoing operational improvements or commitments under the Federal Safeguard Mechanism. In alignment with the WA State Government's Policy Aspiration to achieve net zero emissions by 2050, the aspirational long term emissions reduction targets for the NWS Project Extension are to: • Avoid, reduce of offset emissions by 47% by 2035; • Avoid, reduce of offset emissions by 65% by 2040; • Avoid, reduce of offset emissions by 82% by 2045; and • Avoid, reduce of offset emissions by 100% by 2050. Reductions in percentages are as compared to project's emissions baseline against which the interim emissions reduction target (i.e. 7.7 MTPA). This emissions baseline aligns to the estimated maximum annual emissions from the Proposal, as outlined in the ERD.
GHG-EPA-2	EPA Services	DWER notes the proponent considers that it has 'demonstrated continuous improvements in greenhouse gas emissions from NWS Project' and that 'mitigation measures to reduce greenhouse gas emissions are assessed annually and will be implemented in accordance with internal decision criteria'. It is noted that the proponent will 'continue to identify opportunities to reduce greenhouse gas emissions, through measures such as the optimisation of the existing process or implementation of the technological solutions', however this approach is inconsistent with the State government policy and the EPA's draft EFG because the proponent does not commit to interim greenhouse gas targets over the life of the proposal.	Please see the response to GHG-EPA-1. Within this response, Woodside has included an updated GHGMP which includes interim GHG targets, consistent with the EPA's Environment Factor Guideline and State government policy.

No.	Agency	Comment	Response to Comment
GHG-EPA-3	EPA Services	The ERD lists the greenhouse gas emission sources and estimated the expected Scope 1 and Scope 2 emissions. DWER requests estimated emissions are broken down by source as this will help highlight where efforts to reduce emissions should be focused.	Section 2.3.2 of the Greenhouse Gas Management Plan (GHGMP) (Appendix C) has been updated with a table that provides a breakdown of the relative sources of emissions from the NWS Project Extension. The largest individual sources of emissions are the gas turbines, that either provide electricity of compress refrigerants for use in the natural gas liquefaction process, accounting for over 75% of all GHG emissions from the NWS Project.
GHG-EPA-4	EPA Services	DWER notes the outcomes of the analysis undertaken to benchmark against other LNG facilities. To understand and determine adequacy of the analysis, the data used (location, age and capacity of each facility) should be provided.	The GHG Benchmarking Report (Appendix C of the NWS Project Extension ERD) includes the information requested. It is included in Table 2-2 of that report.
GHG-EPA-5	EPA Services	The ERD should outline how the proponent intends to apply the mitigation hierarchy over the entire life of the project. Currently it appears to be only applied at commencement.	As outlined in the GHGMP and Section 6.4.5 of the ERD, Woodside will continue to implement the mitigation hierarchy throughout the life of the NWS Project. Woodside aims to reduce Greenhouse Gas emissions in accordance with our Greenhouse Gas Reduction Philosophy. The Greenhouse Gas Reduction Philosophy minimises emissions across the life of a project across three key areas Design Out, Operate Out and Offset. First during the Design phase, Woodside will 'Design Out' greenhouse gas emissions sources to reduce expected emissions to 'as low as reasonably practicable' (ALARP). This occurs through incorporating energy efficiency and emissions reductions measures into the facility design or through equipment selection. Throughout the Operate phase, continuously identify opportunities to Operate Out Greenhouse Gas emissions through improving energy performance. This occurs through a structured approach in accordance with the requirements of the Woodside Management System. Once emissions sources have been Designed and Operated Out, offset a portion of the residual greenhouse gas emissions (i.e. those that cannot be Designed Out or Operated Out) to meet statutory requirements, including any corporate commitments that have been made. In accordance with the GHGMP, a key element of the 'design out' aspect of the GHG reduction philosophy is that every 5 years, Woodside will undertake an assessment of reasonable and practicable emission reduction equipment and technologies that could be implemented to improve GHG emissions at the NWS Project and report publicly on the outcomes.

No.	Agency	Comment	Response to Comment
			A key element of the 'operate' aspect of the GHG reduction philosophy is that Woodside will utilise the Optimisation Reference Process to continue to identify and adopt practicable and efficient technologies to reduce greenhouse gas emissions. The ORP process is used to identify cost efficient and practicable efficiency opportunities at NWS Project facilities. Energy efficiency opportunities can be identified at any time, however annual workshops are the major contributor to opportunity/idea generation. Opportunities are evaluated by the value of the proposition and the confidence of return, in accordance with the ORP, while considering other emissions reduction requirements (i.e. methane guiding principles). These workshops are typically conducted annually, enabling the output to feed into the following year's budgeting cycle. Each budget approved opportunity is then planned for execution, and implementation tracked and reported as part of the ORP process. Once energy efficiency and emissions reductions opportunities have been identified and confirmed for implementation through the ORP, offsetting of residual GHG emissions will be performed to ensure that net emissions from the Project remain under the interim emissions targets within the GHGMP.

3.2.2 Key Issues Identified by the EPA

The EPA identified several matters regarding the Proposal and Greenhouse Gas Emissions that had been raised by multiple public submissions. The EPA considered that key issues associated with GHG include the State GHG Policy, Australia's Paris Agreement target and the cumulative impact of the Woodside Burrup projects. The key issues raised and Woodside's responses to these are provided in Table 3-5.

Table 3-5: Responses to Key Issues Relating to Greenhouse Gas Emissions Identified by the WA EPA

No.	EPA Key Issues	Response
GHG-KIR-1	The proposal does not meet the State Greenhouse Gas Emissions Policy for Major Projects (State GHG Policy) with the continued current emissions (7.7 mtpa CO_2e) with a carbon reduction commitment of 0.4% mtpa CO_2e. The proposal should be compliant with the State GHG Policy and submit plans (responding to CO_2, methane and nitrous oxide) demonstrating alignment to the State GHG Policy. Emissions from the LNG industry in WA are estimated to be around 22-25% of the State's total emissions (Climate Analytics, 2019). How will the proposal	Woodside supports and shares the Commonwealth and State Governments' aspiration of achieving net zero emissions by 2050. The NWS Project Extension GHGMP a series of interim and aspirational long term emissions reduction targets, set on a continuous trajectory towards Net Zero emissions by 2050. Targets within the GHGMP are aligned to the Paris Agreement target and recommendations within the IPCC Special Report.

No.	EPA Key Issues	Response
	facilitate meeting Australia's Paris Agreement target, given the annual contribution of 7.7 mtpa CO_2e? Comment on how the proposal responds to potential risks outlined in the IPCC Special Report on Global Warming of 1.5°C and IEA 1.5°C Sustainable Development Goals based carbon budget showing that between 2025 and 2040 global natural gas production must decline and reduce in emissions intensity. How is the proponent proposing to manage Scope 3 GHG emissions?	**Paris Agreement** The Commonwealth Government's policy aims to achieve the Nationally Determined Contribution (NDC) as committed to in the Paris Agreement, under which Australia has a target of reducing emissions by 26–28% below 2005 levels by 2030. Australia stated in its NDC that it would develop its target into an emissions budget covering the period 2021–2030. The cumulative emissions budget for this period is 4800 Mt to reach the 26% reduction target. Scope 1 and 2 GHG emissions from the NWS Project Extension are expected to contribute 1.4% of this cumulative emissions budget. Australia's Emissions Projections 2018 provides an indicative summary of how Australia is tracking to achieve its NDC of 26–28% below 2005 levels in 2030. Projected emissions to 2030 from the LNG sector (direct combustion and fugitive) are included in the methodology used to underpin these projections. The methodology is based on an export capacity of 80 MPTA of LNG in 2020 with the addition of one new LNG Train in the mid-2020s. This is important to note as it means that the Project (and other LNG projects) are built into the Commonwealth Government's plan to meet its NDC commitments. **Project Contribution to Achieving Paris Agreement Aspirations** As a clean and reliable energy source (Section 6.4.4.2 of the draft NWS Project Extension ERD), gas is expected to play a key role in the future energy mix with the potential to contribute to a reduction in global GHG emissions by displacing higher carbon-intensive power generation (e.g. oil and coal burning). As an example of this, independent expert analysis by Environmental Resources Management (ERM), and critically reviewed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), shows Woodside's Browse and Scarborough projects could avoid 650* Mt of CO_2 equivalent (CO_2-e) emissions between 2026 and 2040 by replacing higher emission fuels in countries that need our energy. Given these significant potential benefits, by focusing on providing clean, affordable and reliable energy, the NWS Project Extension Proposal can contribute to achieving the aspirations of the Paris Agreement. ERM's Life Cycle Assessment (LCA) report (ERM, 2020) is included as an appendix to this response. *This scenario is one of a range of possible emissions avoidance scenarios further described within the LCA. See Section 6.1.4 of the LCA for further details. In preparing the draft NWS Project Extension ERD, Woodside has ensured the proposed controls and impact and risk levels are consistent with national and international standards, law, and policies including Australia's implementation of the Paris Agreement on climate change through domestic legislation. Woodside as Operator will actively manage and mitigate Scope 1 GHG emissions associated with the NWS Project Extension, in accordance with relevant legislation, conditions and commitments. Examples of how

No.	EPA Key Issues	Response

		this may be achieved are provided in Section 6.4.5 of the draft NWS Project Extension ERD and the GHGMP (Appendix C).
		
		Under the Paris Agreement and global GHG accounting conventions, each country is responsible for accounting for, reporting, and reducing emissions that physically occur in its jurisdiction. This means that the Paris Agreement is the framework that manages Scope 3 emissions associated with customer consumption of gas produced at the KGP. The Paris Agreement requires parties to publish NDCs, reflecting their commitment towards agreed global goals. The likely major users of the gas produced at KGP have made these commitments as part of their current NDCs, which are designed to be successively tightened over time through future periodic NDC updates. In accordance with the Paris Agreement, these countries are required to update their NDCs, to 'reflect its highest possible ambition', by 2025. These measures constitute examples of how third-party emissions associated with the combustion of gas produced at KGP will be managed and mitigated in customer nations.
		
		• China:
		  • to achieve a peak of CO_2 emissions around 2030 and making best efforts to peak early
		  • to lower CO_2 emissions per unit of gross domestic product (GDP) by 60% to 65% from the 2005 level by 2030
		  • to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030
		  • to increase the forest stock volume by around 4.5 billion cubic metres on the 2005 level by 2030.
		• Japan:
		  • a GHG reduction of 26.0% by fiscal year (FY) 2030 compared to FY 2013 (25.4% reduction compared to FY 2005) (~1.042 billion tonnes of CO_2-e as 2030 emissions).
		• India:
		  • to reduce the emissions intensity of its GDP by 33 to 35% by 2030 from 2005 level
		  • to achieve about 40% cumulative electric power installed capacity from non-fossil fuel based energy resources by 2030 with the help of transfer of technology and low cost international finance including from Green Climate Fund (GCF)
		  • to create an additional carbon sink of 2.5–3 billion tonnes of CO_2-e through additional forest and tree cover by 2030.
		• South Korea:
		  • reduce emissions by 37% below 'business as usual' levels by 2030.

No.	EPA Key Issues	Response
		State Government GHG Emissions Policy for Major Projects The State Government's GHG Emissions Policy for Major Projects includes an aspirational target to achieve net zero GHG emissions in the State by 2050 and the NWS Project GHGMP includes an equivalent aspirational long term emissions reduction target. Other elements of the State Government Policy are reflected in the EPA's Environmental Factor Guideline: Greenhouse Gas Emissions. The NWS Project Extension GHGMP includes a detailed summary of how each element of the EFG has been met by the Proposal (See Section 3.2.6 of the GHGMP, included as Appendix C).
GHG-KIR-2	Best practice efforts should be implemented to minimise GHG emissions and residual GHG emissions be 100% offset. Offsets may include carbon capture and working with traditional owners to develop renewable energy proposals.	While the emissions intensity of the NWS Project Extension compares well against other existing LNG facilities, the Proposal includes activities to contemporise aspects of the KGP to meet current societal expectations with regard to reducing greenhouse gas emissions. A suite of contemporary best practice management and mitigation measures have been incorporated within the NWS Project Extension GHGMP to ensure ongoing, long-term reductions in GHG emissions will be achieved. This includes provisions to identify and implement emissions reduction technologies and opportunities to improve GHG emissions performance. Woodside aims to reduce Greenhouse Gas emissions in accordance with our Greenhouse Gas Reduction Philosophy. The Greenhouse Gas Reduction Philosophy applies three key steps to minimise Greenhouse Gas emissions: Design Out, Operate Out and Offset. First during the Design phase, Woodside will 'Design Out' greenhouse gas emissions sources to reduce expected emissions to 'as low as reasonably practicable' (ALARP). This occurs through incorporating energy efficiency and emissions reductions measures into the facility design or through equipment selection. Throughout the Operate phase, continuously identify opportunities to Operate Out Greenhouse Gas emissions through improving energy performance. This occurs through a structured approach in accordance with the requirements of the Woodside Management System. The management and mitigation measures proposed for GHG emissions related to the NWS Project Extension are detailed in Section 6.4.5 of the ERD and the GHGMP (provided as Appendix C of this document). Woodside is committed to reducing emissions by investing in technologies and improving operating practices. The Greenhouse Gas Management Plan (GHGMP) has been updated to include both interim emissions targets (covering period to 2030) as well as long term emission reductions (established for the life of the Proposal). Woodside has committed undertaking 5 yearly assessments of reasonable and practicable emission reduction equipment and technologies that could be implemented to improve GHG emissions.

No.	EPA Key Issues	Response
		As part of preparing the ERD, Woodside undertook a review of all credible, material emissions reduction opportunities. This specifically included a review of the applicability of both geo-sequestration (carbon capture and storage (CCS)) and utilisation of renewable energy. All opportunities were evaluated as having carbon abatement costs significantly higher than benchmark offset prices, such as the price of Australian Carbon Credit Units (ACCUs). Further detail on these studies has been included in the updated GHGMP (See MA5). The generation and use of ACCUs through approved and validated carbon farming methodologies (bio-sequestration), is a significantly lower risk and more cost-effective option where required to meet Safeguard Mechanism (SGM) baseline requirements or reduce net emissions from the Proposal, than from geo-sequestration or large scale uptake of renewable energy. This form of offsets can also deliver environmental and social co-benefits, such as biodiversity and regional employment opportunities. More specifically, Australian-generated ACCUs can offer potential co-benefits resulting from the additional ecosystem services provided when carbon is bio-sequestered, as well as social, economic and environmental benefits (e.g. improvements to air quality, employment opportunities in remote communities or provision of additional habitat for fauna). CCS will continue to be included in the 5 yearly review and assessment of emission reduction technologies. These technologies would include renewables as an option however this would require development of Complete avoidance of GHG emissions for the NWS Project Extension is not considered feasible. GHG emissions will result from all phases of the project and from transporting, distributing, and consuming gas produced by the KGP. Once emissions sources have been Designed and Operated Out, consideration is given to offsetting residual emissions. GHG emissions from the NWS Project Extension will be considered when reviewing carbon sources and sinks.
GHG-KIR-3	Determine the cumulative impact of the Woodside Burrup projects (including transport and fugitive emissions) as a whole, and determine how the cumulative impacts will align with the State GHG Policy for consideration, regulation and monitoring.	Proposed Woodside operated gas and energy projects in the Pilbara (Woodside's 'Burrup Hub' vision) are proceeding through independent approvals processes. While Woodside is the Operator of each project, they are subject to different joint venture ownership structures and commercial arrangements. Assessment processes for these proposed projects have been determined by State and Commonwealth regulators in accordance with State and Commonwealth legislation. The estimated cumulative Scope 1 and 2 emissions from current and proposed future assets associated with Woodside's 'Burrup Hub' vision were published on the Woodside website at the same time as the release of the draft NWS Project Extension ERD. These estimates can be viewed on the Woodside website: https://www.woodside.com.au/our-business/burrup-hub/burrup-hub-environmental-topics-and-approvals/greenhouse-gas-emissions.

No.	EPA Key Issues	Response
		As per the information provided on the Woodside website, forecast Scope 1 and 2 emissions from current and proposed Woodside-operated projects associated with the 'Burrup Hub' vision are estimated to be on average 15.9 MTPA CO_2-e, increasing from the current 9.6 MTPA from the existing Burrup facilities (i.e. existing NWS Project and Pluto LNG (Train 1)). This increase is not associated with Scope 1 or 2 emissions from the NWS Project Extension, as total annual emissions on the Burrup are not planned to increase as a result of the NWS Extension Proposal. The balance of emissions contributing to the increase are from Pluto Train 2 or projects proposed to be located in offshore waters, specifically, emissions from the operation of the proposed Browse and Scarborough offshore facilities. As part of the various Commonwealth and State assessments, projects must operate within any emissions limits set by regulators. An estimated projection of all GHG emissions related to the NWS Project Extension has been included in the ERD. This includes emissions related to transportation, distribution, end user (Scope 3), and fugitive emissions. **Cumulative Emissions** In relation to cumulative impacts, while it may be useful for context to compare emissions from the Proposal to local or regional sources, the Intergovernmental Panel on Climate Change (IPCC, 2014) notes that GHGs accumulate over time and mix on a global scale. Emissions from a single entity (individual, community, company, country, etc) will mix with and affect the emissions of other entities. Therefore, the impact associated with the Proposal's GHG emissions contribution needs to be considered in the context of global emissions, as the receptor relevant to GHG emissions is the global atmosphere. In relation the Proposal's contribution to global GHG concentrations, this is addressed in Section 6.4.4.1 of the NWS Project Extension ERD. Over the possible operating life of 50 years, an estimate of up to 385MT of Scope 1 and 2 emissions were anticipated from the NWS Project Extension Proposal. The total, or cumulative, contribution of Scope 1 emissions from the NWS Project Extension to global GHG emissions was estimated as being up to 0.03% in 2030, before accounting for any reductions in net emissions associated with interim emissions reduction targets included within the revised GHGMP. The State GHG Policy only applies to the emissions from individual proposals. It is not practicable for the NWS Project Extension Proposal to respond to questions as to how cumulative emissions from any given project or projects may be considered, regulated or monitored. All GHG emissions directly associated with the Proposal are outlined within the ERD and the GHGMP includes management and mitigation measures associated with these emissions. See the response to GHG-KIR-1 for a detailed response of how the NWS Project Extension is addressing the State GHG Policy.

No.	EPA Key Issues	Response
GHG-KIR-4	Clarify statements made in the ERD that refer to LNG being cleaner than coal and displacing coal to reduce domestic and global GHG generation.	As stated in Section 6.4.4.2 of the draft NWS Project Extension ERD, numerous independent energy and climate bodies agree that natural gas has a significant role to play in reducing net global emissions and increasing access to a reliable energy supply that supports a progressive transition to renewable energy sources. The 2014 report of the Intergovernmental Panel on Climate Change (IPCC) said that 'GHG emissions from energy supply can be reduced significantly' by switching to gas. According to the IPCC, electricity generated from gas also has, on average, half the GHG emissions of electricity generated from coal (IPCC, 2014). According to the IEA, 'coal-to-gas fuel switching for power generation avoided 100 Mt of CO_2 in advanced economies' in 2019, helping avoid an increase in global energy-related CO_2 emissions. Under the IEA's sustainable development scenario, which suggests a pathway that could see global temperature rises limited to well below 2 °C this century in line with the Paris Agreement, demand for natural gas in the Asian markets that Woodside supplies is modelled to increase by 70% from 2018 to 2040 (from 519 million tonnes of energy [Mtoe] to 884 Mtoe). Note: The growth of renewables may also be constrained by the need to ensure grid stability. That is, grids need to be maintained at the correct frequency during fluctuations in demand. This can be readily done with controllable energy sources such as gas but is more difficult with renewable sources such as solar and wind. This intermittency issue cannot currently be resolved via the use of large-scale battery storage alone. For example, the battery storage system built in South Australia by Tesla in 2017 (the largest of its type at the time) is capable of powering around 30 000 homes for just over an hour. Given the costs currently involved, battery storage is not sufficient to solve intermittency issues on the scale required. This constraint can be supported by using gas to address intermittency and enable deeper penetration of renewables into grid mixes. Further, the full life-cycle analysis (ERM 2020 – See Appendix G) of LNG production and utilisation from the proposed Browse and Scarborough projects undertaken by ERM (2020), and critically reviewed by CSIRO, indicated that gas produced at the KGP can help facilitate and accelerate energy transition, even under transformative decarbonisation scenarios. Although Woodside does not have control over emissions from third-party consumption of gas produced by the NWS Project, it is committed to support a range of initiatives associated with the transition to a l ow-carbon economy. Woodside will develop and implement a program to support this objective relating to third-party GHG emissions, which may include: • working with the natural gas value chain to reduce methane emissions in third-party systems (e.g. regasification and distribution), such as by adopting the Methane Guiding Principles • promoting the role of LNG in displacing higher carbon-intensity fuels • supporting the development of new technologies to reduce higher carbon-intensive energy sources

No.	EPA Key Issues	Response
		• advocating for stable policy frameworks that reduce carbon emissions • monitoring the global energy outlook including the demand for lower carbon-intensive energy such as LNG and displacing higher carbon-intensive fuels Implementing mechanisms to ensure adaptive management of these measures for the duration of the NWS Project, including regular reviews in conjunction with the GHGMP revision cycles.
GHG-KIR-5	Clarify how the proposal is aligned with the Precautionary Principle and Intergenerational Equity Principle embedded within the *Environmental Protection Act 1986* in terms of impacts from GHG.	**Intergenerational Equity Principle** The Intergenerational Equity Principle states "*that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations*". Woodside acknowledges the impacts caused by climate change and the need to reduce these, so as to not prejudice the health, diversity and productivity of the environment, and is actively taking steps to reduce emissions from the NWS Project Extension. These measures are part of a program which fulfils Woodside's aspiration to transition to carbon neutrality by 2050 in support of State and international policy. As described in response GHG-1, access to clean, affordable and reliable energy improves living standards dramatically and the world's growing population is driving increased energy demand. To achieve the UNDP target while reducing GHG emissions in line with the Paris Agreement, the world needs more energy, delivered in cleaner ways. Renewables and emerging technologies, such as hydrogen, have a growing role to play, however as described in GHG-8, numerous independent energy and climate bodies agree that natural gas has a significant role to play in achieving both a reduction in net global emissions and increased access to a reliable modern energy supply that supports a progressive transition to renewable energy sources. Gas can help mitigate the intermittency associated with some renewable energy sources while more carbon-intensive fuel sources are phased out, thus providing increased energy security to future generations. Extending the operating life of the NWS Project will enable continued delivery of significant benefits to Western Australia, including reliable and affordable energy to homes and businesses, thousands of local jobs, billions of dollars of spend with local businesses and millions of dollars of investment in sustainable community development. As such, Woodside considers that the proposed NWS Project Extension will contribute to the reduction of global GHG emissions as the world transitions into a lower carbon world. In displacing more emissions-intensive fuels, the proposed NWS Project Extension is aligned with the Principle of Intergenerational Equity embedded within the EP Act 1986 and the EPBC Act 1999.

No.	EPA Key Issues	Response
		Precautionary Principle The Precautionary Principle states "where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation". The NWS Extension will not postpone, but rather provides a credible measure to prevent, environmental degradation resulting from the use of other credible alternative energy sources (other fossils fuels) in the absence of further LNG production. Experts such as the IPCC, the Australian Chief Scientist and the IEA agree that as a clean and reliable energy source, gas is expected to play a key role in the future energy mix with the potential to contribute to a reduction in global GHG emissions by displacing higher carbon intensive power generation (e.g. oil and coal burning). Independent expert analysis by ERM, and critically reviewed by CSIRO, shows Woodside's Browse and Scarborough projects could avoid 650 Mt of CO_2 equivalent (CO_2e) emissions (392 Mt for the proposed Browse Project) between 2026 and 2040 by replacing higher emission fuels in countries that need our energy. It is considered that there is sufficient scientific certainty with respect to the estimated GHG emissions from the Proposal. Woodside has forecast GHG emissions, based on the GHG Protocol emissions classification scheme. This scheme has been adapted and deployed by national and local regulators and represents a globally accepted subdivision of GHG emissions for evaluation and reporting purposes. In estimating expected GHG emissions, Woodside has used accepted emissions estimation methods including NGER methods. The impact of global GHG emissions on the environment is also acknowledged and a detailed assessment has been made of the likely impacts of global GHG emissions and climate change on the Australian environment and in the vicinity of the Proposal. This threat has been assessed together with potential impacts of the Proposal which may operate in combination with climate change impacts. Woodside has ensured the proposed controls and impact and risk levels are consistent with national and international standards, law and policies including Australia's implementation of the Paris Agreement on climate change through domestic legislation. Woodside will actively manage and mitigate Scope 1 GHG emissions associated with the NWS Project Extension Proposal, in accordance with relevant legislation and EPA Guidelines. The role of NGER/SGM is to implement Australia's co-ordinated response to the threats posed by climate change. Woodside is committed to complying with NGER/SGM and meeting any requirement for offsets, likely in the form of ACCUs, required in relation to the anticipated excess emissions over a future facility baseline. Woodside has also detailed commitments in relation to ongoing GHG management and mitigation within the GHGMP.

No.	EPA Key Issues	Response
GHG-KIR-6	Address the latest World Energy Outlook report by the International Energy Agency.	With respect to the IPCC's 2018 report into the pathways to limiting warming to 1.5 °C (three of its four pathways show deep declines in gas consumption by mid-century), Woodside notes that the report contains scenarios, not recommendations or forecasts. The report makes it clear that there is no single energy source or technology that will allow the world to limit warming to 1.5 °C. The potential role for gas to contribute to emissions reduction by displacing higher-carbon fuels is illustrated in pathway P3 from the report (IPCC, 2018). It is acknowledged that the World Energy Outlook Report (IEA, 2019) (released after the draft NWS Project Extension ERD was finalised) revised down gas supply and demand estimates under the Sustainable Develop Scenario. However, even in low-carbon scenarios such as the IEA Sustainable Development Scenario, which suggests a pathway that could see global temperature rises limited to well below 2 °C this century in line with the Paris Agreement, demand for natural gas in the Asian markets that Woodside supplies is modelled to increase by 70% from 2018 to 2040 (from 519 Mtoe to 884 Mtoe). This growth under the Sustainable Development Scenario, as well as the fact that numerous independent energy and climate bodies agree that natural gas has a significant role to play in reducing net global emissions and increasing access to a reliable energy supply that supports a progressive transition to renewable energy sources, confirm the importance of gas as the world transitions to a lower-carbon future.
GHG-KIR-7	Clarify GHG emissions and the Karratha Gas Plant (KGP) operating comparison with other facilities with the inclusion of venting from the CO_2 reservoir prior to gas reaching the KGP and the energy use required to extract and pump the LNG onshore.	Section 6.4.4.1 of the draft NWS Project Extension ERD details the carbon emissions estimate for the NWS Project Extension Proposal and describes the approach taken to forecast GHG emissions. In estimating expected GHG emissions, NGER-compliant estimation techniques were used. The worst case GHG emissions estimate provided in the ERD is based on 50 years of operation of the NWS Project Extension at full capacity. In relation to Scope 1 emissions, only those associated with the KGP and supporting logistics (i.e. King Bay Supply Base) were included. The Scope 1 GHG emissions estimates within the ERD incorporate reasonable assumptions regarding feed gas composition, efficiency, interaction and complexity of the extraction, processing, anticipated production, and compression of product streams. Although CO_2 accounts for most of the GHG emissions associated with the NWS Project Extension, other GHG emissions will also occur, including methane and nitrous oxide. All estimates for CO_2-e include both methane and N2O. The Global Warming Potential (GWP) adopted to determine the amount of CO_2-e contributed from both methane and N2O aligns to the NGER Regulations 2008, which at time of writing reflected the IPCC's Fourth Assessment Report (IPCC, 2007). Fugitive emissions were also incorporated into the emissions estimates. In the case of Scope 1 emissions, they were estimated based on the production rate of the facility and an emissions factor taken from NGERs (Method 1). As detailed in Section 6.4.4.1 of the draft NWS Project Extension ERD, fugitive emissions related

No.	EPA Key Issues	Response
		to transporting domestic gas via the Dampier to Bunbury Natural Gas Pipeline were estimated in accordance with the NGER Measurement Determination. For LNG, estimated Scope 3 emissions were calculated using an emissions factor sourced from the Ecoinvent v3.5 database. This emissions factor considers the transport, regasification, distribution, and final combustion of LNG. The KGP can only receive feed gas that complies with the existing design specifications of the facility, the upper bound of which has been accounted for in the GHG Benchmarking report (ERM 2020). Other facilities, both within Australia and internationally, were compared to the KGP on the same basis. Any emissions associated with processing or transporting the gas to the meet LNG processing facility specifications, including energy use to extract and transport gas, were not included for any of the facilities included in the GHG benchmarking report. The purpose of the benchmarking study was to compare the relative efficiency of liquefaction (i.e. LNG production) facilities. Upstream emissions, such as those that arise in supplying gas for processing at the KGP, are not included in the Scope 1 emissions estimates for the NWS Project Extension as they are assessed at the facility that has control over those emissions and are considered "Scope 3" emissions to the NWS Project Extension. These emissions are subject to the environmental regulations relevant to the jurisdiction in which the gas is extracted, which may be State, Commonwealth or a combination depending on the origin of the gas. Irrespective of the source, it is acknowledged that there will be emissions associated with the extraction, treatment and processing of gas and fluids prior to processing at the Karratha Gas Plant. Based on a review of publicly available data, it is anticipated that upstream Scope 3 emissions involved in extracting, processing and transporting gas until receipt at the KGP may be up to 7 MTPA. This is before accounting for any carbon offsets which producers of this upstream gas may relinquish in respect of these emissions, either voluntarily or as a result of other regulatory commitments.
GHG-KIR-8	Consider the impacts of the proposal emissions and climate change on human health.	A recent IPCC Report (Hoegh-Guldberg et al., 2018) summarised the potential impact of human-induced climate change (at 1.5 and 2 °C) on a range of climatic variables (e.g. temperature, precipitation, drought, extreme events) and the likely consequence to different ecosystems and ecosystem services, including potential impacts to human health, at a range of spatial scales. In the global context, the use of gas produced by the KGP is expected to result in an overall reduction in net global GHG emissions by displacing emissions associated with higher carbon-intensity energy sources, which are required to compliment the development of renewable energy. As described in Section 6.4.4.2 of the ERD, it is not feasible to link GHG emissions from the NWS Project Extension to a measurable increase in global temperature or other climate change impacts.

3.2.3 Public Submissions

The principal issues raised in the submissions from interest groups and individuals generally concern the Proposal meeting local and international climate change commitments, cumulative GHG emissions and LNG as a transition fuel. Common issues raised by multiple submitters have been summarised and responded to in Table 3-6. All individual issues raised in submissions from interest groups and individuals are listed in detail in Table 3-7. Responses to the issues raised are also provided in Table 3-7. Where additional information was provided via an uploaded document to the EPA's Consultation Hub, or through another consultation pathway (for example, emailed directly to the EPA), a summary of the Key comments raised has been provided in Table 3-6 and Table 3-7; the full submission is provided in Appendix A. NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA's Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 3-6: Responses to Common Issues Raised by Multiple Submitters in Relation to GHG Emissions

No.	Common Issue Summary	Response
GHG-CIR-1	A number of submissions expressed a general objection to the project due to potential GHG emissions and climate change related impacts.	As part of the environmental assessment process, Woodside has fully disclosed the project's predicted GHG emissions, and has actively sought to manage and mitigate these emissions by achieving energy efficiency and applying emissions reductions measures. In accordance with the WA Government's Greenhouse Gas Policy and EPA Environment Factor Guideline, the NWS Project Extension GHGMP has been updated to include an aspirational long term emissions reduction target to achieve Net Zero emissions by 2050. This target is aligned with recommendations of the IPCC and goals of the Paris Agreement, as outlined in the EPA's EFG. Groups such as IPCC and CSIRO have established a link between an increase in global GHG emission concentrations and changes in global climatic conditions. There is also a need to both improve local air quality in countries that are currently reliant on higher-emitting fossil fuels and increase access to modern energy sources. Access to clean, affordable, and reliable energy improves living standards dramatically. The world's growing population is driving increased energy demand. **Affordable and clean energy** To achieve the 7th UNDP Sustainable Development target while reducing GHG emissions in line with the Paris Agreement, the world needs more energy, delivered in cleaner ways. Renewables and emerging technologies such as hydrogen have a growing role to play. However, experts agree that natural gas has a big role to play in the transition to, and in, a lower-carbon world: • The 2014 IPCC report said that 'GHG emissions from energy supply can be reduced significantly' by switching to gas. According to the IPCC, electricity generated from gas has, on average, half the GHG emissions of electricity generated from coal (IPCC, 2014).

No.	Common Issue Summary	Response
		• Australian Chief Scientist Alan Finkel has observed that 'natural gas is already making it possible for nations to transition to a reliable, and relatively low emissions, electricity supply' (Australian Government, 2020). (https://www.chiefscientist.gov.au/news-and-media/national-press-club-address-orderly-transition-electric-planet) • The IEA reports that 'coal-to-gas fuel switching for power generation avoided 100 Mt of CO_2 in advanced economies' in 2019, helping avoid an increase in global energy-related CO_2 emissions (IEA, 2020). (https://www.iea.org/articles/global-cO_2-emissions-in-2019) • Under the IEA Sustainable Development Scenario, which suggests a pathway that could see global temperature rises limited to well below 2°C this century in line with the Paris Agreement, demand for natural gas in the Asian markets that Woodside supplies is modelled to increase by 70% from 2018 to 2040 (from 519 Mtoe to 884 Mtoe) (IEA, 2019). • Existing gas fields are in decline. New gas fields will need to be developed to provide the natural gas that, along with renewables, can advance the global energy transition. **Gas a Partner to Renewables** The growth of renewables may be constrained by the need to ensure grid stability. That is, grid supply needs to be matched to demand to avoid stability issues. This can be readily done with controllable energy sources such as gas but is more difficult with renewable sources such as solar and wind. This intermittency issue cannot currently be resolved economically via the use of large-scale battery storage. For example, the battery storage system built in South Australia by Tesla in 2017 (the largest of its type at the time) is capable of powering around 30 000 homes for just over an hour. Given the costs currently involved, battery storage is not sufficient to solve intermittency issues on the scale required. This constraint can be supported by using of gas to address intermittency and enable deeper penetration of renewables into grid mixes. To have reliable energy and lower emissions, natural gas is essential. As a readily dispatchable power source, gas-fired power is an ideal partner with renewables to provide the necessary system stability. Gas fired generation plays an important role its provision of grid frequency stabilisation (due the inertia of large gas turbines) a role that can only otherwise be supported by the installation of additional capital-intensive equipment. The continued production of export and domestic gas from the NWS through to approximately 2070 will support the global transition to renewables and a lower-carbon energy future, aligned to the Paris Agreement goals. The International Energy Agency (IEA) (2020) has outlined the crucial role that natural gas can play in supporting the transition to lower-carbon energy which is expected to underpin strong demand for natural gas in the decades ahead.

No.	Common Issue Summary	Response
		The IEA's Sustainable Development Scenario, which is aligned with a "well below 2 °C" goal, includes significant additional gas supply and identifies the global shortfall by comparing global gas demand to current and predicted supply. The IEA has also highlighted the role of gas in enabling the energy transition from sources such as coal, reporting that "coal-to-gas fuel switching for power generation avoided 100 Mt of CO_2 in advanced economies" in 2019, helping avoid an increase in global energy-related CO_2 emissions (https://www.iea.org/articles/global-cO_2-emissions-in-2019). This demonstrates the contribution gas is making to lowering global GHG emissions and net atmospheric concentrations by providing a dispatchable, transportable energy source to replace higher carbon-intensive fuels, such as coal, and supporting cheap renewables. As Chief Scientist Alan Finkel has noted, "natural gas is already making it possible for nations to transition to a reliable, and relatively low emissions, electricity supply" (https://www.chiefscientist.gov.au/news-andmedia/national-press-club-address-orderly-transition-electric-planet). There are also predicted limits to the growth of renewables. CSIRO (Hayward, J.A. and Graham, P.W. 2017, Electricity generation technology cost projections: 2017- 2050, CSIRO, Australia) surveyed literature from global regulatory agencies and collated data showing that many of the potential markets for Scarborough gas (India (IND), Japan (JPN), OECD Pacific ex Australia (PAO) and South East Asia (SEA)) cannot build sufficient renewables to meet their projected 2050 electricity demand. **Contribution to climate change impacts** Anthropogenic climate change impacts cannot be directly attributed to any one project—instead, these impacts are the result of global GHG emissions, minus GHG sinks, that have accumulated in the atmosphere since the industrial revolution started. As outlined in Section 6.4.4 of the ERD, the Proposal will contribute only a negligible portion of annual anthropogenic global GHG emissions, meaning there is no directly attributable link between GHG emissions from the NWS Project Extension, and climate change impacts. The more relevant consideration is the contribution that a project makes to net emissions, as it is the overall global atmospheric concentration of emissions that causes climate change. Gas processing and consumption results in GHG emissions, but these emissions are expected to displace emissions from other sources. If gas produced by the NWS Project displaces other sources of gas, then the net emissions contribution of the NWS Project will reduce proportionately, potentially to negative net emissions contribution. In the more likely scenario where the use of gas produced by the NWS displaces energy from more emissions-intensive fuels, then there will be a net reduction in global GHG emissions.

No.	Common Issue Summary	Response
		Comparison with the Adani Project A number of submissions noted a claim that Woodside's Burrup Hub will have four times the emissions of the Adani Project. These claims are made on simplistic calculations and do not consider the full life cycle of natural gas or the alternatives to it. Independent expert analysis by ERM, critically reviewed by CSIRO, shows Woodside's Browse and Scarborough projects could avoid 650 Mt of CO_2-e emissions between 2026 and 2040 by replacing higher-emission fuels in countries that need Woodside's gas (Note: This figure includes Woodside's CO_2-e offsets for the proposed Browse Project). This means for every tonne of GHG emitted in Australia from Woodside's projects, about 4 tonnes in emissions is reduced globally (ERM, 2020). A 650 Mt CO_2-e reduction is equivalent to: • cancelling out all emissions from WA for over eight years, or • cancelling out the energy emissions of more than 5 million households per year over the 15-year period covered by the LCA. According to the Your Home website (https://www.yourhome.gov.au/), the average Australian household is responsible for around 7 tonnes of GHG emissions each year (DISER, 2020), or • the same amount of GHG emissions avoided from >127 000 wind turbines running for a year (US EPA, 2020). The independent LCA (ERM, 2020) is included as Appendix G to this Response. **Socioeconomic considerations** The NWS Project Extension continues to present an opportunity to realise significant local and international economic and social benefits while contributing to the reduction of global GHG emissions as the world transitions to a lower-carbon future. According to economic modelling by ACIL Allen in 2019, the Browse and NWS Project Extension projects are estimated to boost Australia's GDP by $289 billion between 2019 and 2063, of which 99% will be in WA. These projects are also expected to generate direct taxation and royalty payments to the Commonwealth and State Governments of $63 billion and indirect taxation payments of $30 billion and are estimated to create an average of >2700 jobs per year (direct and indirect) nationally between 2019 and 2063.
GHG-CIR-2	A number of submissions stated that gas is not a transition fuel and there are adequate low or no carbon alternatives already available which, if implemented, could avoid the potential emissions from the Proposal. Several submitters suggested that renewable energy projects should be prioritised over oil and gas developments.	When comparing gas consumption to other sources of electricity generation it is important to consider the role that gas plays in the electricity mix. Gas is transportable, dispatchable and available at scale today, and competes with other fuel sources with similar characteristics. However, it is more expensive than some other sources of electricity, such as renewables, that are often quoted as the cheapest source of electricity in many of the world's energy markets.

No.	Common Issue Summary	Response
		Renewables are growing rapidly and have policy support from governments wishing to decarbonise their electricity system. Where installed, renewable electricity often dispatches at zero marginal cost. Natural gas is primarily expected to compete with other dispatchable energy sources in the portion of the grid not satisfied by renewables. However, there are limits to the growth of renewables. Where growth of renewables is constrained due to various factors (e.g. cost), gas is expected to be a particularly important component of efforts to decarbonise energy supply. The growth of renewables may also be constrained by the need to ensure grid stability, but the response to this constraint can be supported by using gas to address the intermittency of renewables and enable deeper penetration of renewables into grid mixes. The role of gas is expected to increasingly supplement domestically produced renewables. In doing so, it will compete with other transportable, dispatchable fossil fuels such as oil and coal, which, along with competing sources of natural gas, are the appropriate comparators when considering alternative energy sources to gas produced by the NWS. Other solutions such as intercontinental high voltage direct current transmission and transportable hydrogen may also play a role in the decarbonising global energy mix; however, current forecasts suggest that these contributions will remain negligible in comparison to other sources, even under the IPCC Sustainable Development Scenario. It is also important to note that gas plays an important role beyond that as a primary energy source, as it is important feedstock to many important chemical processes and a key component in the production of products such as fertilizers, hydrogen and methanol which will continue to be required even as global economies decarbonise.
GHG-CIR-3	A number of submissions made comments in relation to action taken by Woodside to mitigate the risks of climate change to its business.	Woodside notes that they continue to assess and mitigate all company risks at a corporate level. The NWS Project Extension ERD and associated documents have been prepared to enable the assessment of the environmental acceptability of the NWS Project Extension Proposal with respect to the relevant legislation. Corporate-level risks to Woodside and NWSJV partners are not the subject of the assessment.
GHG-CIR-4	A number of submissions raised concerns with respect to the potential for the Proposal to increase or contribute to fugitive emissions, noting the high greenhouse warming potential of methane.	The Greenhouse Warming Potential (or GWP) is a term used to describe the effectiveness of a gas in trapping heat in the Earth's atmosphere, measured against CO_2 as a reference point of one. The estimated GWP of gases can vary, specifically with reference to the time horizon over which comparisons to the warming potential of CO_2 are made. According to the latest NGER (Measurement) Determination 2008, on a 100-year time scale, methane has a GWP of 28. Depending on the jurisdiction, estimates of the 100-year GWP for methane are up to 36.

No.	Common Issue Summary	Response
		While LNG is predominantly methane, LNG is used as a fuel and it is intended to be combusted, primarily resulting in the emission of CO_2. Carbon dioxide is the main greenhouse gas released from the combustion of LNG. Fugitive emissions of methane can occur across the LNG production lifecycle. To ensure these emissions are appropriately managed, Woodside is a signatory to the Methane Guiding Principles, which seeks to identify and minimise losses of methane through the LNG production and distribution process. In the most recent NGER report, fugitive emissions resulted in ~30ktCO_2e, or less than 1% of total NWS Project emissions. Overall, methane accounts for less than 5% of greenhouse emissions forecast from the NWS Project Extension. Emissions of methane from the NWS Project Extension will continue to be measured and reported in accordance with the NGER Act.

Table 3-7: Responses to Public Submissions Received in Relation to Greenhouse Gas Emissions

No.	Submitter	Submission and/or issue	Response
GHG-1	ANON-TCUY-7GD1-R (Member for East Metropolitan Region)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • *According to the Intergovernmental Panel on Climate Change, we must stop all new and expanding fossil fuel developments, and we must be aiming for net zero emissions by 2050. Woodside's proposal to extend the processing facilities at the North West Shelf Project is beyond incompatible with the requirements needed to hold warming at 1.5C, it's arrogant.* • *This North West Shelf Project and the future Burrup Hub will make it impossible for Australia to meet its international obligations under the Paris Accord.* • *The other key consideration I'd like to bring attention to is that the Burrup Hub is being approved by stealth: there is no single authority assessing the entire impact of the offshore pollution from venting, onshore pollution from processing, and emissions from burning gas overseas for the Burrup Hub. No matter how you look at it, this*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions)

No.	Submitter	Submission and/or issue	Response
		project does not stack up -- environmentally, socially, economically or ethically. There is a significant risk to the global requirement of holding temperatures to 1.5C on 2005 levels, it is in direct opposition to the goal of the Paris Accord to be approving new or expanding fossil fuel projects, and it fails to meet our own state greenhouse gas policy. As such I urge the EPA to refuse environmental approval for the Browse to North West Shelf project. We all deserve to live and thrive in a safe, clean, healthy environment with hope for our future - the Browse to North West Shelf Project and North West Shelf expansion, and future Burrup Hub, puts this all at risk. The full response is available in Appendix A.	
GHG-2	ANON-TCUY-7GD3-T (Beeliar Group)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: Submission relates to atmospheric emissions (including GHG emissions) includes 50 sub-submissions grouped into the following 20 topics. • Suggested outcomes from the State and Commonwealth assessments • Woodside and the joint venture partners have failed to mitigate their companies' exposure to climate risk • Decision-makers must consider the Paris Agreement mitigation objectives • The proposals are not ecologically sustainable development • The two proposals are inextricably linked, and the separate assessments obscure the overall carbon footprint • Decision-makers must consider cumulative emissions • Decision-makers must recognise that all greenhouse gas emissions contribute to climate change • For the Commonwealth assessment. the relevant events or circumstances for the Scope 1 and Scope 3 emissions are the physical effects associated with climate change	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-6 (The role of gas in the future energy mix and consideration of IPCC Special Report on Global Warming of 1.5oC) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-CIR-3 (Investor Climate Risk) • GHG-3 (Methane Guiding Principles) • GHG-CIR-4 (Management of fugitive emissions)

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		• Decision-makers should not apply a simple mechanistic notion of causation in assessing impacts and should consider Australia's partial responsibility for climate change • A basis for evaluating the significance of a project's emissions • Decision-makers should not accept Woodside's claims of emissions reductions if LNG displaces coal in import countries and should instead accept Woodside's admission that the correct proposition is that gas has benefits over coal in generating electricity • Failure to consider the IPCC Special Report on Global Warming of 1.5°C • IEA perspectives on LNG & IEA scenarios • Emission intensities for LNG derived from the Browse reservoirs • In adequacy of measures to avoid and reduce greenhouse gas emissions, need for carbon capture and storage, inadequacy of offsets for residual greenhouse gas emissions • Woodside uses an internal carbon price to guide its decision-making and is well positioned to accommodate offset costs for all residual emissions • The offsetting of all residual emissions is practicable • Methane emissions & Methane Guiding Principles • LNG is a driver of a rise in greenhouse gas emissions in Australia and WA • the current Commonwealth framework does not adequately constrain greenhouse gas emissions and is best seen as setting a floor for the regulation of large facilities. The full response is available in Appendix A.	
GHG-3	ANON-TCUY-7GDC-A	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: 1. *The impact assessment does not align to the project lifecycle proposed, it focuses on the year 2030 (minimal impact, all emissions 0.37% of*	In relation to methane emissions, as outlined in the ERD and Air Quality Management Plan, Woodside is a signatory to the Methane Guiding Principles (MGP), an initiative to reduce methane emissions across the natural gas value chain. Woodside's methane emissions are approximately 4% of total operated emissions (CO_2-equivalent basis). Reducing methane emissions supports the goal of reducing (net) emissions. Each signatory to the MGP is committed to undertake the principles and implement them

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		global emissions) as opposed to 2050 (0.9%), 2060 (1.6%) and 2070 (required to be at zero emissions). 2. *The use of gas as a fossil fuel is simplified into "Gas is good" and beneficial for the mitigation of climate change, although this is true in the short term (to existing EPA approval of ~2040) this is not the case for the extension requested and does not highlight the risks of methane emissions (between 1-2% methane leakage natural gas becomes dirtier than coal).* 3. *It argues that business-as-usual operation and technology is acceptable and that modifications are too expensive for an existing asset. I cannot see how running an asset to 85 years without modification can be considered appropriate in the face of the commitments of the Paris Agreement.* 4. *Scope 3 emissions management* 5. *I do not believe Woodside has yet demonstrated its maturity in methane emissions management. The 2018 Sustainability Report does not outline methane emissions or the method with which they are determined. There are also no trends to demonstrate their ability to reduce or eliminate methane emissions.* The full submission is available in Appendix A.	by way of a defined action plan. Woodside's priority activities to deliver on the Guiding Principles in the near term include: • conducting a methane emissions survey at the KGP • delivering methane emissions reductions through the ORP • improving leak detection and repair programs across all facilities. Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-CIR-4 (Management of fugitive emissions)
GHG-4	ANON-TCUY-7GDH-F (Green Services)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • It was good to read Woodside's acknowledgement of WA's EP Act, but how is it that the Browse-Burrup project whose greenhouse emissions from CO_2 and methane will be so gargantuan, can possibly be granted approval? It would be the dirtiest gas project in the world emitting 6 billion tonne CO_2e-, 11x Australia's total annual GHG emissions! Direct greenhouse pollution alone, here in WA (Scope 1 only) will wipe out the benefit of Australia's solar rooftop 8 times over!	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix.) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

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		• I came across WA's Clean State's campaign materials including the assertion that there is NO EVIDENCE that gas is displacing coal and oil. I felt the need to find further confirmation of this and spotted this article by a group of scientists from the Global Carbon Project (including one from the CSIRO) compelling and nuanced. • And another article from 6 Feb 2020 by energy analyst David Leitch's re the dawn of the new age of huge batteries displacing gas 'peakers' that provide peak time backup to renewables • Approval of this project will be immensely demoralising to the hundreds of thousands of people who take the trouble to follow these items in the news. Some will drop away from their foray into energy efficiency, except where financial payback is quick and guaranteed. They can be forgiven for thinking, "What's the point of me taking the time and trouble to do my little bit?" • Approving the Browse Burrup projects will blow the carbon budget so clearly set out for this state by Climate Analytics, outlining the steps WA needs to take to be compatible with a temperature rise of only 1.5° above pre-industrial levels • For our descendants... Our currently still (mostly) liveable planet will be an unrecognizably inhospitable home for our great-grandkids of 2100 - 3-5° hotter than pre-industrial levels if business as usual continues. (WMO, ICPP, Climate Analytics, Bloomberg et al) Woodside and partners, with its new Browse-to-Burrup project enthusiastically supported by the WA government, is proposing to hasten this outcome! • looked through the WA government's 2019 CODE OF PRACTICE Mentally healthy workplaces for fly-in fly-out (FIFO) workers in the resources and construction sectors. No examples are given about the stress of LNG workers who wake up in their donga one day and realise that servicing their mortgage depends on them continuing to enable the spewing of billions of tonnes of CO_2 and methane into the atmosphere while extracting or processing a product that is already unneeded, or will be very soon, replaceable with renewables + batteries The full submission is available in Appendix A.	

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GHG-5	ANON-TCUY-7GDM-M (Denmark Environment Centre Inc)	This submission was received through the EPA's Consultation Hub and was also sent directly to the EPA and provided to Woodside as an "Other Pathways" submission. This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • *According to the 1989 state approval, the Woodside/North West Shelf (NWS) joint venture was required to use the 'best available technologies' at the time; this must remain the case. Woodside argues that the Karratha gas plant, for which they are seeking approval to extend operations until 2070 to process the Browse gas, is too old to have significant design-changes in place to reduce emissions -- this is not an excuse to not implement mitigation measures elsewhere.* • *The only reduction Woodside has committed to is a 330,000 tonne reduction or offset per year at the plant, or ~4% of the plant's total annual emissions and ~0.16% Browse's total lifetime project emissions.* • *We cannot afford to lock-in this high-polluting, and destructive infrastructure.* • *We should be world leaders in renewable resources and exporting the technology. Instead, the EPA are considering the proposed Browse to North West Shelf Project that may contribute to climate change. We all deserve to live in a safe, clean, healthy environment with plans for a sustainable future - the Browse to North West Shelf Project and North West Shelf expansion raises many concerns and questions.* • *No approval should be given to any new fossil fuel project, as any new fossil fuel development is incompatible with the goal of the 2015 Paris Climate Agreement.* Other comments were made pertaining to: • accuracy of GHG emissions estimates including cumulative emissions • gas's role as a transition fuel towards a zero carbon economy	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-7 (GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions)

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		• emissions of gas compared to coal • GHG impacts associated with fugitive emissions. Note that the submission also refers to the Browse to NWS draft EIS/ERD. Where the submission relates to the Browse to NWS draft EIS/ERD and not the NWS Project Extension, this part of the submission has not been addressed here. The full submission is available in Appendix A.	
GHG-6	ANON-TCUY-7GDP-Q	*The proposal to extend the lifetime of the Karratha Gas Plant and significantly increase the quantity of gas processed there is environmentally unacceptable. The emissions associated with processing Browse gas (which necessarily includes emissions from extraction and transport of that gas and offshore venting, being clearly identifiable corollaries of the proposal) will only exacerbate the difficulties with meeting a carbon budget consistent with a safe climate. The EPA should not countenance any such proposals.* *I am particularly concerned as to the total emissions associated with this proposal, including "scope 3" emissions from the LNG produced at KGP. All scopes of emissions associated with the proposal must be properly identified and assessed by the EPA in terms of environmental impact of the proposal. In this way, the use of the "scope" categorisation is irrelevant and obscures the total environmental impacts. Regardless of the means of accounting or attributing legal or regulatory responsibility (which is the purpose of the "scope" categorisation), the EPA's function is to assess environmental impacts. Emissions have the same effect in the atmosphere regardless of their source. Given that scope 3 emissions are clearly identifiable and quantifiable for this proposal, the total impacts of all "scopes" of emissions must be assessed.* *If the EPA then considers the impacts of those emissions are not able to be regulated to environmentally acceptable levels with the available Part IV controls, the only option is to conclude the proposal is unacceptable and should not be implemented.* *Under this proposal, the proponent states that "direct" emissions from the KGP each year will be 7.702 mtpa CO_2e – over the lifetime of the proposal*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions.) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-KIR-7 (Project GHG emissions estimates.)

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		(50 years) a total of 385.1 Mt. "Scope 3" emissions are estimated at 80.19 Mtpa, for a total of 4009.31 Mt. Total emissions will therefore be around 4.3 gigatons from this proposal alone. It is impossible to reconcile this level of emissions with environmentally acceptable outcomes, especially in view of the proponent's minimal proposed mitigation measures. The proposal cannot be recommended for implementation. *The community expects that the EPA, clearly established by the EP Act as an independent, expert and environment-focused body, will provide comprehensive and frank information on proposals. The EPA must consider the environmental acceptability of the proposal, not whether the proposal is in line with government policy or is able to have its impact "minimised".* *Essentially, the EPA can either recommend that new emissions be allowed, or recommend that they should not be allowed. It seems fairly common sense as to which of these would be consistent with its statutory obligations and the expectations of the community.*	
GHG-7	ANON-TCUY-7GDU-V	*WA is the only Australian state with increasing greenhouse gas emissions (GHGe). Australia's emissions also continue to increase, with it not being on track to achieve its Nationally Determined Contribution/target under the Paris Agreement. This target has been considered as insufficient to achieve the objectives of the Paris Agreement and limiting global warming to 1.5'C, meaning that our ability to reach this insufficient target is even more shocking. The recent report by the IPCC confirms the importance of limiting warming to 1.5'C in order to avoid adverse impacts to the environment and people. Scientific experts have revealed that climate change has already had demonstrated adverse impacts on WA and has significant predicted impacts. To avoid these impacts, scientific evidence reinforces that global warming must be limited to 1.5'C, which requires rapid reductions in GHGe. This is supported by the EPA's proposed new environmental objective for the Environmental Factor Guideline for Greenhouse Gas Emissions, which is to reduce net GHGe and in order to minimise the risk of environmental harm associated with climate change.* *First and foremost, the separation of the Woodside's "Burrup Hub" project into separate proposals, is inappropriate. It is clear from Woodside's website*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions.) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-KIR-6 (The role of gas in the future energy mix.) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-CIR-1 (Response to general objections to the project based on GHG emissions.)

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		and diagrams that the proposals are all connected to each other. Assessing each proposal individually has prevented the total, cumulative and aggregated impact of GHGe from the total project from being considered. These must be considered by the EPA and DoEE in assessing the Browse Proposal. *The total (scope 1, 2 and 3) GHGe of the proposed NWSP Extension Proposal (NWSP Proposal) are estimated to be 87.89 mtpa CO_2e. This means that it will contribute 8.70% of WA's emissions, 1.44% of Australia's emissions and up to 0.37% of global GHGe (under a 1.5°C NDC Pathway). This increase in WA, Australian and global GHGe is not consistent with limiting warming to 1.5'C, or reducing Australia or WA's GHGe, or the EPA's environmental objective of reducing net emissions.* *While Woodside tries to argue that the annual GHGe from the NWSP Proposal will not change or increase the emissions of the original NWS Project (7.7 mtpa), this claim is inaccurate. It is likely that the extension of the life of the proposal by 40 years and processing of third party gas and fluids including Browse gas, which has a relatively high CO_2 content, will result in additional GHGe. However, Woodside does not define "third party gas and fluid" in the ERD or assess the relative impacts of assessing Browse or Scarborough gas. These changes must be comprehensively assessed by the EPA.* *Woodside also excludes impacts from activities in Commonwealth water such as the activities at the North Rankin and Goodwyn facilities from the scope of the ESD. While these facilities are located in Commonwealth waters, they will have impacts on the WA environment and are sufficiently connected to the NWSP Proposal. Accordingly, the EPA must assess the impacts of these activities in the assessment of the Proposal.* *The mitigation and offsetting measures proposed by Woodside in the ERD are grossly insufficient and arrogant. Woodside only commits to avoiding, reducing or offset 330,000 tpa of CO_2e from the KGP by 2030. This only constitutes a small fraction of the NWSP Proposal's total GHGe.* *Woodside states that the NWSP Proposal will contribute to the State Government's aspirational target of achieving net zero GHGe by 2050 in the Greenhouse Gas Emissions Policy for Major Projects through compliance*	

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		with the Safeguard Mechanism. The Safeguard Mechanism has been heavily criticised for being ineffective in reducing emissions, so will not ensure that the NWSP Proposal achieve net zero emissions by 2050. If the NWSP Proposal is allowed to proceed, it must at the very least be required to achieve a net reduction outcome and net zero emissions by 2050 through effective mitigation measures. *While Woodside relies on market substitution claims (that LNG will replace coal and reduce global GHGe) to justify the NWSP Proposal's GHGe and contribution to domestic and global GHGe, it fails to sufficiently substantiate these claims. Accordingly, these claims cannot be accepted by the EPA or DoEE.* *The NWSP Proposal is also clearly inconsistent with the environmental/ ESD principles in the EP Act and the EPBC Act, Australia's international obligations and NDC under the Paris Agreement and the WA Government's net zero emissions target announced late last year.* *Given the above and adverse impacts the substantial GHGe from the NWSP Proposal will have on species, ecosystems and social, economic and cultural impacts, it cannot be considered acceptable or allowed to proceed. The EPA must therefore recommend against approval of the NWSP Proposal.*	
GHG-8	ANON-TCUY-7GH5-Z	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • The adverse effects of climate change caused by an increase in atmospheric carbon dioxide from pre-world-industrialisation is clearly evident in this year's Australian bushfire season. Woodside is a significant contributor to Australia's greenhouse gas production, with 7.7 mt/year from scope 1-2 emissions and 80.2 mt/year in scope 3 emissions. The world is close to the 'tipping point', when the artic tundra's melt and release entrapped methane, which is 25 times more potent as a greenhouse gas. Humanity is in serious threat of catastrophe through large sea level rise, droughts, failed crops, fires and cyclones. For the sake of humankind, this project extension should not be approved.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal.) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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		• Woodside's claim that natural gas is important for the transfer from coal is outdated. The whole of the Australian Capital Territory is 100% renewables for electricity production and technology is currently available to replace all uses of gas. The full submission is available in Appendix A.	
GHG-9	ANON-TCUY-7GH6-1	*To (Chairperson Environmental Protection Authority WA) and Secretary Department of Environment and Energy,* *I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. If the proposed Burrup Hub projects are allowed to go ahead, the Burrup Hub will be Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world.* *The extent of the emissions that would result from more gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.* *Allowing both the creation of new, and the extension of existing, large-scale carbon pollution sources, such as the proposed Burrup Hub, will breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.* *The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are unsubstantiated and misleading. In 2019, LNG overtook coal as the most significant driver of pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change.* *The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

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		The life-time emissions of these projects must be considered. *It is for these reasons that I strongly urge that Woodside's North West Shelf Project Extension should be rejected.*	
GHG-10	ANON-TCUY-7GHA-C	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *My submission is made as a concerned and who is concerned about the consequences of this project, both with regards to the pollutants and greenhouse gases generated, damage to this precious area of Western Australia, as well as the economic viability of the project longer term.* *From reading the background to the project, it appears that the current proposal from Woodside is to expand gas extraction in the North West until 2070.* *It is estimated that the Burrup Hub LNG development would be the most polluting project in Australia's history (127 million tonnes CO_2-e per year). Given the recent scientific consensus about the climate crisis occurring at the moment, the Burrup Hub would derail any state or national efforts to achieve meaningful climate action for decades into the future. At a minimum, it does not seem to have any commitment to reduction in pollution, or carbon capture.* *Indeed, a recent paper from the prestigious New England Medical Journal (Landrigan et al N Engl J Med 2020; 382:104-107) outlines the argument that "gas is cleaner than coal" to be partially correct, but fails to recognise the significant contribution to emissions (particularly methane) and mis-direction of resources away from renewable energy.* *In addition, the economic arguments for natural gas seem to be rapidly changing as the unit price for renewables reduces, and thus the climate and direct environmental risks will be for short term gain.*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-CIR-4 (Management of fugitive emissions)

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GHG-11	ANON-TCUY-7GHB-D	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *I have already made a submission in relation to the proposed extension of gas extraction on the North-West Shelf, expressing my deep concern that we must stop this development just as we must stop the Galilee Basin proposal. The catastrophic bushfires, the bleaching of our reefs, and other extreme weather events and environmental catastrophes demonstrate that no new fossil fuel extraction can occur.* *I therefore urge the EPA to respond to the three proposals before it as follows:* *1. Recommend renewing the licence for the present facility for just a decade. This should be sufficient time to either demonstrate that renewable energy is a superior energy source, economically as wealth as environmentally and for health reasons, or that the there is no hope of saving the planet.* *2. Recommend that consideration of tapping up to 24 gas wells in the offshore Browse gas field in WA state waters, and a further possible 30 wells in Commonwealth waters, along with the destructive infrastructure is delayed for a decade, again to either demonstrate that we have shifted to renewable energy or that the there is no hope.* *I am concerned that the overall impact of the three proposals linked to the North West Shelf (NWS) / Burrup Hub are not being assessed together which they should be. These are massive and disruptive developments which require a careful and overall analysis of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas.* *This submission also makes a plea for mitigation. Three major conditions should be imposed on these massively profitable companies whose income is built on resources which belong to the people of Australia, including Indigenous Australians, and whose extraction will limit the futures of everyone on the planet.*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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		1. Offset emissions: The Barnett government's commitment to offsets must be imposed on our State's major polluters overseen by an independent regulatory body to ensure that offsets are effective. *2. In anticipation of WA's climate policy, the proponents must submit plans showing how they will "reasonably and practicably avoid, reduce and offset emissions to contribute to the state's aspiration of net-zero emissions by 2050."* *It is unlikely our State government will have the fortitude to halt this development and the Commonwealth government will be positively supportive, despite their professed commitment to emissions reduction. I therefore urge every possible mechanism that can delay expansion and limit the destruction caused by the present facility and any future facility. Every month brings more certainty that fossil fuel extraction is costing us more than it is worth, not just in the deaths of humans and animals but also in economic terms.*	
GHG-12	ANON-TCUY-7GHC-E	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *I am strongly opposed to the 3 proposed major expansions to the North West Shelf Project i.e. extending onshore processing to 2070, the offshore Browse gas field in state and Commonwealth waters and 900km connecting pipeline.* *These projects should be assessed as an entirety, as the impacts will be compounding rather than discrete. The decision should be postponed until the finalisation of WA's climate policy and the EPAs guidelines for assessing major pollution projects. There could be no way to credibly justify assessing the North West Shelf expansion as more important or urgent that climate change response and environmental protection.* *I believe that if the project was assessed on the criterion of whether it fit with the 2050 net-zero emissions aspiration, it would not be approved. I also feel very strongly that, as with existing industry in the Burrup region, the detrimental effect on the unique, invaluable and irreplaceable Murujuga*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions)

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		Rock Art must not be ignored. *Just because a resource exists, it does not follow that it must be exploited at the earliest opportunity. Other values - environmental and cultural - which affect humanity as a whole should stand above the financial interests of a company, industry or even state economy. We know that carbon pollution is already having negative environmental, social and economic impacts. We know we have a fairly small window in which to prevent catastrophic impacts. It's time we stopped acting as if we don't know.*	
GHG-13	ANON-TCUY-7GHD-F	I am concerned: • about the substantial, long term, cumulative environmental impact of these projects (viz emissions) • that the EPA has only just released draft guidelines to assess major polluting projects such as these so it would be good to see how Woodside's plans address how they will "reasonably and practically avoid, reduce and offset emissions to contribute to the state's aspiration of net -zero emissions by 2050". • that the extension of operation for onshore processing at Karratha's NWS plant until 2070 is well beyond the mooted WA policy goal of net zero emissions by 2050. *Although LNG is mooted as "clean" fuel, this is semantic as LNG is a fossil fuel (that is predominately methane, a much more potent greenhouse gas than carbon dioxide).* *There needs to be cumulative accounting of the total emissions for such projects alongside all existing ones, including the fugitive emissions released at all stages in a project's life.* *These projects will be one of the largest fossil fuel developments globally and increase the challenge for Australia to meet its international obligations for reduction of greenhouse gas emissions.* *LNG might be seen as a transition fuel as the world moves to greater reliance on renewable energy and greatly reduces its dependence on fossil fuels, so it is inappropriate to be considering new polluting developments at this stage with their long-term polluting effects. Will this lead to the new development being "stranded assets"?*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions.) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
GHG-14	ANON-TCUY-7GHF-H	*It is clear that there is a direct link between human health and fossil fuel emissions which drive climate change. You need to look no further than the loss of life and injury which occurred during the recent bushfires and deaths which occurred during the heatwaves. The World Health Organisation has labelled climate change as one of the greatest health challenges of this century.* *The North West Shelf Project Extension will substantially increase Australia's greenhouse emissions via fugitive and measured emissions from the mining, transfer and burning of these fossil fuels.* *There is a clear risk to human health by this large project going ahead.* *The EPA must consider the risks to human health from increased greenhouse emissions and only allow this project to proceed if all emissions (fugitive and measured) are completely offset.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions.) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-CIR-4 (Management of fugitive emissions)
GHG-15	ANON-TCUY-7GHG-J	*Allowing the extraction of vast amounts of natural gas from the Browse Basin is like igniting a firestorm that will sweep across all the fire-prone areas of the world. It is in our view an immoral action. The time has come to keep remaining fossil fuels in the ground.* *The ongoing catastrophic fires in Eastern Australia are clearly linked to climate change, which in turn is clearly linked to increasing levels of CO_2e, which is itself clearly linked to increasing use of fossil fuels and related actions of human beings.* *Since the Browse Project will emit 200 million tons of CO_2e over its lifetime (and that does not include the even higher amounts from the burning of that gas in other parts of the world) it will emit pollution equivalent to 2.7% increase over Australia's 2005 baseline. This will jeopardize Australia's goal of the 2015 Paris Climate Agreement and put at risk any chance of holding global temperatures below 1.5C on 2005 levels.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-7 (Project GHG emissions estimates)
GHG-16	ANON-TCUY-7GHJ-N (Margaret River Regional Environment Centre)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as:	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
		• If approved it will hugely increase WA's greenhouse gas emissions (CO_2, methane, nitrous oxide) which affects Australia and the world by increasing the impacts of climate change. • Inevitable fugitive release of methane and nitrous oxide during gas extraction and processing add greatly to the greenhouse gas output. If these projects go ahead, the Burrup Hub would be one of the largest and most polluting fossil fuel projects in the world. • Gas is not a 'clean' alternative when all factors are considered. Natural gas is a fossil fuel (like oil & coal) that is ~90% methane, which is 34 times more potent than CO_2 in trapping heat – we know it results in more warming than CO_2! • Australian gas is not reducing emissions overseas, because Australia is actually the largest exporter of LNG and coal; LNG is being burnt in addition to coal. The full response is available in Appendix A.	• GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-CIR-4 (Management of fugitive emissions)
GHG-17	ANON-TCUY-7GHN-S	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *I am strongly opposed to the North West Shelf Project Extension for numerous reasons, but in summary, these are three key factors.* ***Climate Change*** *It will hugely increase WA's greenhouse gas emissions which affects the world by increasing the impacts of climate change. If these projects go ahead, the Burrup Hub would be one of the largest and most polluting fossil fuel projects in the world. WA cannot expand the LNG industry and meet its policy goal of net-zero emissions by 2050!* *You will be aware of the detail of these and other strong arguments against this proposal as submitted by numerous organisations including the Conservation Council of Western Australia and Friends of Australia Rock Art, which I fully endorse and support.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

No.	Submitter	Submission and/or issue	Response
GHG-18	ANON-TCUY-7GHP-U	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *I am really concerned about the joint environmental impacts of the Burrup Hub. We are currently seeing the catastrophic consequences of climate change right here in Australia and we are looking to our government on all levels to take leadership, make brave decisions and be consequent about their implementation. It is time to put the health of the planet we live on above the health of our mining sector.* *Gas is simply not a 'clean' alternative when all factors are considered:* • *Natural gas is a fossil fuel (like oil & coal) that is ~90% methane, which is 34 times more potent than CO_2 in trapping heat – it results in more warming than CO_2!* • *Australian LNG creates more emissions than are reported because 'fugitive' emissions are released during all stages: drilling, extraction, transportation, storage and finally combustion. Australia's fugitive emissions have increased dramatically since 2004 and will further reduce our ability to meet emissions reduction targets* • *Australian gas is not reducing emissions overseas, because Australia is actually the largest exporter of LNG and coal; LNG is being burnt in addition to coal* • *LNG is not a transition fuel because the Browse-NWS expansion project, and building all the new required infrastructure (some paid for by taxpayers), is only profitable when they are operated over decades; the calculated return is based on at least 2050-2070, yet the companies can only apply for a 12 year extension! And we know that we need to reduce emissions long before 2050 to achieve net zero.* • *The Browse–NWS project could easily become a stranded asset, especially as the cost of renewables continues to drop and the environmental cost of burning gas rises.*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-6 (The role of gas in the future energy mix and consideration of IPCC Special Report on Global Warming of 1.5 °C) • GHG-3 (Methane Guiding Principles) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
		I have been informed about following problems with the 3-part nature of the project: • *No one authority will assess the entire impact in terms of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas* • *Consultation launched when WA's climate policy is not yet completed, and EPA has just released draft guidelines for assessing major polluting projects. These will require proponents to submit plans showing how they will "reasonably and practicably avoid, reduce and offset emissions to contribute to the state's aspiration of net-zero emissions by 2050." So, none of this is included in the proposals.* *The Browse – NWS expansion is detrimental for many reasons:* 1. *It will hugely increase WA's greenhouse gas emissions (CO_2, methane, nitrous oxide) which affects Australia and the world by increasing the impacts of climate change, including extreme temperatures, sporadic/ changed rainfall patterns, uncertainty of agricultural productivity, increased severity of hazards (bush fires, fire tornadoes, floods, cyclones, landslides, costal erosion), sea level rise and displacement of people living in low- lying areas. Importantly, inevitable fugitive release of methane and nitrous oxide during gas extraction and processing add greatly to the greenhouse gas output. Methane is 34 times and nitrous oxide 300 times more powerful than CO_2 in their contributions to global warming and climate change. If these projects go ahead, the Burrup Hub would be one of the largest and most polluting fossil fuel projects in the world. WA cannot expand the LNG industry and meet its policy goal of net-zero emissions by 2050!* 2. *Lack of cumulative accounting: the effects of total emissions from the Browse-NWS projects have not been added to emissions from all existing industry already operating on the Burrup Peninsula, emissions from ships serving Dampier Port, or the fugitive emissions and offshore venting of high-CO_2 reservoirs in Commonwealth waters (EPA guidelines only apply to area of state jurisdiction); the impacts of total emissions must be calculated, considered, regulated and monitored.*	

No.	Submitter	Submission and/or issue	Response
GHG-19	ANON-TCUY-7GHH-K	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *There is an urgent need for policymakers to use climate goals as a starting point for energy decisions, particularly when it comes to gas. Rather than searching for ways to justify using the abundant supply that new ocean exploration and drilling methods have unleashed, extensions to existing oil and gas fields, policymakers should consider how much gas is compatible with achieving the goals of the Paris Agreement. The answer is the same for gas as it is for coal and oil: We need less, not more." And continuing innovation and invention to increase the storage of renewable energy.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-20	ANON-TCUY-7GHQ-V	*We are at the beginning of a climate emergency that is projected to accelerate.* *It is going to be driven by ongoing and increasing greenhouse gas emissions.* *Western Australia, Australia, the World, cannot continue to increase the emission of greenhouse gases.* *It is not an exaggeration to say that, over this century, civilisation as we know it is at stake.* *LNG activities on the North West shelf must not be expanded.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-21	ANON-TCUY-7GHR-W (UWA Rock Art Conservation Project)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • Increasing WA's greenhouse gas emissions (CO_2, methane, nitrous oxide) which affects Australia and the world by increasing the impacts of climate change • Natural gas is not a 'clean alternative' • WA cannot expand the LNG industry and meet its policy goal of net-zero emissions by 2050 The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
GHG-22	ANON-TCUY-7GHS-X	*Please do not approve any more fossil fuel projects in our country. The time is ready for developing our renewable energy sources.* *I am working to convert my home to a carbon neutral system and want my government to do the same for my country.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-23	ANON-TCUY-7GHU-Z	*My preference would be for no expansion of the North West shelf and the rapid cessation of development of any new fossil fuel projects. This is what the world requires if it is to work seriously towards stabilising the climate.* *However, in reality, it is likely that the EPA will be unable to stop the Woodside expansion.* *Ideally, the expansion should only proceed if Woodside demonstrates to the EPA how it proposes to offset the carbon emissions it will emit over the next 50 years of operation of the North West shelf.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions)
GHG-24	ANON-TCUY-7GHV-1	*My main concern about the extension of the North West Shelf Project to 2070 is the amount of greenhouse gases going into the atmosphere. I believe these should be curbed within the next few years to avoid disastrous global warming.* *We are still enduring a horrendous fire season in Australia, which is driven by higher temperatures and strong winds. Fire-fighting experts have stated that hazard reduction can do little to stop such fires.* *Furthermore, we have had serious drought, drying rivers, more frequent storms and floods and severe damage to the Great Barrier Reef.* *The argument is made that LNG is better than coal where emissions are concerned but an increase in the volume of LNG will only make matters worse.* *We cannot afford to lose our tourism industry and agriculture for the sake of selling finite fossil fuels such as LNG. The WA Government should be playing its part in transitioning to cleaner fuels and place curbs on this industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-25	ANON-TCUY-7GHW-2	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as:	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
		• The Woodside Proposal states that the Northwest Shelf Pluto operation releases 7.7 megaton per annum (mtpa) of scope 1 and 2 and 80.2 mtpa of scope 3 GHG, totalling 87.9 mtpa. These figures mean that Woodside emissions represents an equivalent of 16% of the total GHG release from Australia, although it is recognised that some scope 3 emissions will occur in other countries. • The Conservation Council of WA suggests that the figures presented by Woodside are grossly underestimated and the total GHG emissions from the Woodside Burrup Hub will be 128 mtpa, which is equivalent to 23.7% of Australia's GHG production. • I implore the Minister and Director General, or others with influence, to intervene and not allow this Woodside Proposal to proceed for the sake of humanity. The full submission in available in Appendix A	• GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions)
GHG-26	ANON-TCUY-7GHY-4	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • Climate change is happening. We need to hold large industry responsible for their contribution to the pollution. They need to be given targets to comply with. • And if the net zero targets are not met, there should be significant fines applied, and even jail terms for those responsible for non-compliance. This is a REAL Climate Change issue, causing all kinds of natural disasters, health risks, and escalating temperatures, with severe consequences to all inhabitants on Earth, as the sea level will rise due to increased temperatures, releasing methane into the air, which is currently trapped in the ice. Methane is 25 times more destructive than the CO_2!! • There are other ways to produce energy, technologies that already exist: solar power, photovoltaic arrays, wind turbines, wave power, electric cars, etc. If the government starting supporting these industries	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix and consideration of IPCC Special Report on Global Warming of 1.5 °C)

No.	Submitter	Submission and/or issue	Response
		in lieu of the LNG industry, we would not need to open the BROWSE Basin, as the call for fossil fuels will decline over time. We need to be pro-active in accelerating this shift away from fossil fuel use, as well as coal to more sustainable technologies. The full submission in available in Appendix A	
GHG-27	ANON-TCUY-7GHZ-5	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *I am very concerned about Woodside's Expansion Plans because of their possible increase of Greenhouse Gas Emissions and all the concomitant damaging effects this would have. Specifically, I am worried that the mix of sulphur and nitrogen dioxide emissions will form strong acids which may dissolve the rock surface patina and thus contribute to the destruction of the Burrup Peninsula petroglyphs. Economic considerations may become less important as the cost of renewable sources of energy decreases and the price of burning gas increases.* *I strongly believe that we have a duty to preserve and protect ancient, irreplaceable artworks for future generations, and therefore I urge you to reject Woodside's application.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-28	ANON-TCUY-7GQ1-5 (Australian Parents for Climate Action)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • The proposals are not consistent with ecologically sustainable development nor can Australia accommodate these emissions and still meet its Paris Climate Agreement commitments • The 2019 WEO, released in November 2019, has significantly revised the role of gas in its latest energy outlook • The commitments to offset emissions from the proposals are also weak and insufficient	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-CIR-2 (Zero and low carbon energy) • GHG-KIR-6 (The role of gas in the future energy mix)

No.	Submitter	Submission and/or issue	Response
		Despite seeking approval to operate to 2070, the proposals do not substantially or convincingly address how the project would contribute to Western Australia's 'aspiration of net zero by 2050'. The full submission in available in Appendix A.	• GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD))
GHG-29	ANON-TCUY-7GQ2-6 (Member for Mining and Pastoral Region in the WA Legislative Council)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • This submission is largely related to air quality and heritage and also raises a number of comments related specifically to the Browse to NWS Proposal, rather than the NWS Project Extension. The submission makes a general statement objecting to the project on the basis of climate change. The full submission in available in Appendix A	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-30	ANON-TCUY-7GQ4-8 (Doctors Reform Society of WA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • Essentially, we believe that global emissions reduction should occur as quickly as possible. • Continued expansion of Australia's fossil fuel industry is fundamentally incompatible with limiting global climate change. It is therefore disastrous for public health. • Gas industry advocates like to paint gas as being cleaner than coal. We concede that gas-fired electricity is less carbon intensive at the point of combustion than coal. However, gas is still a significant source of carbon dioxide when burnt, and methane when leaked is a particularly potent greenhouse gas when leaked. • It is not feasible for WA to develop its gas resources and also meet our international climate obligations. A recent report from Climate Analytics makes the numbers clear: of the global "carbon budget" of 570 $GtCO_2e$, Australia gets a share of 5.5 $GtCO_2e$, with Western Australia attributed	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

No.	Submitter	Submission and/or issue	Response
		1 $GtCO_2e$ of this. WA's conventional gas resources would contribute 7.5 $GtCO_2e$. Clearly the vast majority of this gas needs to remain in the ground. Further expansion of gas extraction in Western Australia simply does not fit within WA's obligations to a reasonably safe climate for current and future generations. The full submission in available in Appendix A	
GHG-31	ANON-TCUY-7GQ5-9	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *The impacts of climate change caused by the large increase in atmospheric greenhouse gases are already apparent around the world and cannot be allowed to be exacerbated by huge continuing emissions from the Woodside facilities until 2070.* The full submission in available in Appendix A	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-32	ANON-TCUY-7GQ6-A (Albany Community Environment Centre Inc. (ACEC))	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *Woodside proposes to create three new projects to expand Liquified Natural Gas (LNG) production in WA. The ACEC object to these projects due largely to their effect on climate change, and also due to impacts on cultural heritage and marine life.* *According to Woodside:* *"We propose to create a regional LNG hub on the Burrup Peninsula, where we have been safely and reliably operating for more than 30 years. Our vision for the Burrup Hub involves the proposed development of some 20 to 25 trillion cubic feet of gross dry gas resources from Scarborough, Browse and Pluto, relying on our proven LNG facilities – Pluto LNG and the Karratha Gas Plant."*	While no specific trade agreement currently points to Australia's LNG export market and its ability to displace higher-carbon energy sources, Woodside closely supports the Department of Foreign Affairs and Trade's bilateral and multilateral energy consultations with Australia's major trading partners and other stakeholders, and policy development in our key markets. Australia's energy policy priorities are advanced through a number of multilateral forums and country-specific bilateral consultation which are detailed at: https://www.energy.gov.au/government-priorities/international-activity Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions)

No.	Submitter	Submission and/or issue	Response
		"The Burrup Hub could process more gas than the entire volume extracted from the north west shelf since startup in 1984." https://www.woodside.com.au/our-business/burrup-hub *Woodside published the following video on this website and YouTube, which seems to present the project as a response to a global clean energy challenge, and one that is culturally, economically, and environmentally responsible. I'm puzzled about these statements in the advertisement:* • Sharing in "cultural and environmental stewardship" - 20 seconds • "Pursue energy sources that reduce emissions" - 35 seconds • "Lower emission energy source for domestic use and export" - 1:06 seconds • "See the pathway to a lower carbon world" - 1:19 seconds Woodside - YouTube In page 17 of the Executive review of the proponent states that: *"The Proposal will contribute up to 0.03% of global greenhouse gas emissions and this contribution is assessed as contributing to a slight impact (i.e. increase) to global emissions."* *How was the figure of 0.03% of global greenhouse gas emissions arrived at? Does it include the emissions of the gas being burned by consumers, or only the emissions produced by mining and processing? What is the actual amount? Please provide more detail.* *"It was not possible to quantitatively assess the impact of the Proposal to any regional, state or global climate changes."* *Why is a quantitative assessment of impacts on climate change not possible? Surely if a percentage is known, it is possible to access local global, Australia, and State-wide climate modelling (as has been done regionally on page 40 of the document) and note that known impacts of climate change the project will be contributing to?*	• GHG-KIR-6 (The role of gas in the future energy mix) • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
		"While the Proposal will contribute directly to a slight increase in global greenhouse gas emissions, natural gas has the potential to contribute significantly to the reduction in global greenhouse gas emissions by displacing higher carbon intensive power generation (e.g. coal-gas energy switch). As such, the Proposal may result in a net reduction in global emissions." *What specific trade agreement ensures that LNG from these projects will actually be displacing any other high carbon energy sources, and to a significant enough level to meet Australia's commitments to the Paris Agreement of "limiting global temperature increase to well below 2 degrees Celsius, while pursuing efforts to limit the increase to 1.5 degrees"?* *With growing global population and energy demands, is it not likely that natural gas will be used as well as other high carbon energy sources? Will not this set of proposals result in LNG producing nearly half of W.A.'s Greenhouse Gas emissions? Might this be worth mentioning in the Environmental Revision Document?* *Liquified Natural Gas (LNG) is methane (APPEA – What is LNG?), a greenhouse gas with a radiative forcing of 84 times CO_2 within twenty years (Myhre et al Pg. 74). The Australian Petroleum Production & Exploration Association (APPEA) states "Electricity produced from gas produces 50-70% less greenhouse gas emissions than current coal-fired power generation facilities." (APPEA – How Natural Gas can Minimise Greenhouse Emissions) however, when considering full life-cycle assessment and including fugitive emissions LNG can have higher emissions than coal (Jamarillo et al), and the APPEA's statement is thus worth examining in light of possible bias and comprehensiveness. Additionally, gas is not even mentioned as a viable Energy System Transition in the IPCC's Special Report 'IPCC, 2018: Global Warming of 1.5°C...' (pg.s 324-327) and again an industry bias in advertising it as such is worth critiquing.*	
GHG-33	ANON-TCUY-7GQ9-D	*Regarding the proposed Browse Basin and North West Shelf projects, if these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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		If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry. *Gas is promoted as a 'transition' fuel but we do not need to transition. We have the resources and technology for a rapid move to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector. Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years cannot go ahead.* *Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG.*	• GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-6 (The role of gas in the future energy mix)
GHG-34	ANON-TCUY-7GQC-Q	*I am writing a brief submission to register my absolute opposition to these proposed fossil fuel projects. It is neither safe nor wise to approve these expansions.* *Australia's natural environment is in dire straits due historically to excessive land clearing and poor management practices. Now, more than ever, human induced climate change is increasingly becoming one of the most important factors in preserving the health of our air, water and land and hence our very survival. Coral reefs are especially vulnerable to climate change. Add to this the immediate physical threats posed to Scott Reef and the marine life surrounding it, these proposals are completely unacceptable.* *Australia, and the rest of the world, needs to transition away from fossil fuel energy production now. If the Browse and North West Shelf expansion proceeds, it will be Australia's largest and most polluting fossil fuel project and contribute to WA's ever-increasing emissions. According to CCWA these projects would produce over 6 gigatons of GHG over their lifetime, equivalent to Australia's entire national emissions over 11 years.* *Hence, the effects of climate change due to this project will have significant impacts on nearly every Matter of National Environmental Significance (MNES) throughout Australia according to the EPBC Act: world heritage properties, national heritage places, wetlands of international importance,*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD)) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)

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		nationally threatened species and ecological communities, migratory species, Commonwealth marine areas and the Great Barrier Reef Marine Park. *Although the EP Act 1986 and EPBC Act 1999 are not explicitly clear about climate change, the intent and implications of these laws are: the project should not be approved. Leading researchers worldwide have reached consensus on climate change and have laid out global emission targets. WA should be decreasing its emissions, not increasing them. Indeed, Australia is bound by the Paris Agreement and we will fail to meet our targets if this project proceeds.* *Furthermore, the fossil fuel industry has shown that it cannot be trusted to put in place mitigation efforts to counter their emission production. Currently Chevron is involved in one of the most blatant cases of non-compliance, failing to implement carbon capture to offset its gas production for the Gorgon project. This is simply outrageous. Chevron should immediately be prosecuted and made to shut down their production until they are compliant. This shows a lack of will and competence of the WA Government in failing to enforce simple regulation and law. Hence any other similar project should not be approved until proper regulation and compliance measures are put in place and enacted. It is also an insult to every individual who would not be treated with the same lax approach, for any offence.* *Finally, this project is not in the best interests of the public or the wondrous creatures that inhabit this beautiful country and its associated waters. It is only in the interests of Woodside shareholders.*	
GHG-35	ANON-TCUY-7GQD-R	*I am writing regarding the proposed Browse Basin and North West Shelf projects. If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.* *Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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		renewables sector. Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large-scale LNG project with a lifespan of over 50 years cannot go ahead. *Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.*	• GHG-KIR-6 (The role of gas in the future energy mix)
GHG-36	ANON-TCUY-7GQE-S	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: ***Greenhouse gas emissions:*** The State Government has a target of net zero greenhouse gas emissions by major projects in WA by the year 2050. Currently the Karratha Gas Plant/ North West Shelf project emits 7.7mtpa CO_2e. The proponent proposes to continue the same level of throughput and pollution to 2030 but as a supposedly mitigating step, has committed to offsetting 5% of the plant's emissions by the year 2030, equivalent to 0.3mtpa CO_2e. This is an abysmal response to the State Government's policy: the life extension project is to enable the plant to be substantially overhauled so that it can run until the year 2070. The only way such a project can be considered compliant with the State Government's 2050 target is if the proponent commits offsetting 100% of emissions from the project.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions)
GHG-37	ANON-TCUY-7GQG-U	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *I am writing to you today to lodge a submission as I am deeply passionate about keeping global temperatures below 1.5 degree increase. I work in climate change policy and I am acutely aware of the scientist's projections*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

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		and the climate change impacts that will increase in severity with rising greenhouse gas emissions. *No approval should be given to any new fossil fuel project, as any new fossil fuel development is incompatible with the goal of the 2015 Paris Climate Agreement. Therefore this project is incompatible with the Paris Agreement, and Australia's commitment to that agreement. Global emissions are required to peak as soon as possible, and then reduce drastically before 2050.* *The Browse project, if approved, will be the most emissions intensive development in Australia, adding an additional 7 million tonnes of CO_2e just through venting and pumping the gas 900km and about another 7.6 million tonnes CO_2e from processing at the North West Shelf LNG facility. This project alone will emit pollution equivalent to 2.7% increase over Australia's total 2005 baseline.* *No single authority will assess the entire impact of the offshore pollution from venting, onshore pollution from processing, and emissions from burning gas overseas for the Burrup Hub.* *The total emissions from the extraction, venting and processing of gas, both onshore and offshore, from the proposed Browse field project will equal 200 million tonnes of CO_2 over a minimum 31 years' field life (112 offshore, 88 onshore).* *If the proposed Woodside Burrup Hub expansion is approved, opening up the Browse and Scarborough gas fields, emissions from WA's current and proposed LNG facilities will account for 47% of WA's annual emissions.* *The Burrup Hub could process more gas than the entire volume extracted from the North West Shelf since start up in 1984. Despite what the industry claims, gas is not cleaner than coal, and is not a transitional fuel.* *Huge amounts of methane, known as fugitive emissions, is released into the atmosphere during an LNG facility's lifespan. These emissions escape during drilling and extraction, transportation in pipelines and storage, and eventual combustion. It's estimated to be as much as 9% of the entire volume of the gas resource.*	• GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-CIR-4 (Management of fugitive emissions)

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		Methane is an extremely potent greenhouse gas that traps 86 times more heat than CO_2 over a 20-year period, and is responsible for 25% of global warming to date. *These elevated methane levels have increased by 60% in Australia over the last 15 years and negate any advantage gas has over coal.* *The reality is Australian gas is being burnt in addition to – not instead of – coal, and our exports are significantly increasing global emissions. Any new gas projects will only lock in another 40-60 years of carbon pollution and are highly risky projects that will risk billions of dollars into stranded assets.* *Woodside argues that the Karratha gas plant, which they are seeking approval to extend operations until 2070 to process the Browse gas, is too old to have significant design-changes in place to reduce emissions -- this is not an excuse to not implement mitigation measures elsewhere.* *The only reduction Woodside has committed to is a 330, 000 tonne reduction or offset per year at the plant, or ~4% of the plants total annual emissions and ~ 0.16% Browse's total lifetime project emissions.* *We should be pursuing the cheap and abundant renewable resources we have available right here in WA.* *I hope the EPA will do the right thing, and will reject this proposal as it doesn't align with the Paris Agreement or keeping the world temperature below a 1.5 degree increase. (I feel quite strange that the importance of this needs to be reiterated to the EPA.)* *I also respectfully ask Woodside, as I believe they will be reading these submissions, to reconsider your business model and start to move with the times and begin investing in renewable energy and a just transition to a clean economy. Regain your social licence to operate, and win back community support by using your expertise and power to build a future we can all survive and enjoy - I'm sure you can still find a way to make lots of money and keep lots of people employed.*	

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GHG-38	ANON-TCUY-7GQJ-X	*My name is , I migrated to Australia 33 years ago from the - I came to the "lucky country"* *Yet over that 33 years I have witnessed our ever growing greed, at the expense of the natural world. As a recreational scuba diver, I have literally watched marine life and reef disappear.* *It has been under stress for 30 years. Perhaps we were somewhat ignorant back then, but not now, we know the effects of carbon emissions, disturbance and death of our ecosystems. Hence the concept of this complex and risky development to extract more gas seems untenable* *I understand this project will span some 900 kms, tapping into numerous gas fields across multiple basins, with scores of wells, and hundreds of Kms of pipeline. crisscrossing state and commonwealth waters and multiple Environmental regulators, complex web of overlapping or underlapping responsibilities across this complex multifaceted project.* *I must assume that neither State or commonwealth EPAs could entertain this project, as it intends to extract and process gas for up to 50 years – taking us to 2070 (yet we seek to cut emissions to net zero by 2050) this intention is a total mismatch and would be misleading to citizens.* *As a layman it is not my role to report to you all the facts and risks – I must trust that you have these in hand from experts internal, external and neutral in scrutiny. There has been much work to inform the public of risks, and I have been well read and informed of these. Hence, it is clear even as a layman that there are many and varied risks, to countless ecosystems. We also know that Potential fracking is dangerous to already compromised drinking water sources.* *There is no logic or benefits to this project from an environmental or climate security point of view. Adding to emissions and extending any fossil fuel project into 2070 is unethical, and unnecessary. The environmental risks are of a colossal scale, for no gain to humanity or our earth as we have the capacity to generate energy for the future in other viable and low impact ways.* *If you approve this project (any part of this project) – it is contradictory*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • O-KIR-4 (Potential processing of gas sourced via fracking)

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		your responsibilities as Protectors of the Environment, destabilising climate further, and locking in horrendous consequences already happening throughout our country. *I entrust in your role to actively Protect our natural Environment, essential ecosystems, and future of our children, what will they say – when the planet is unliveable because we simply "wanted more gas".*	
GHG-39	ANON-TCUY-7GQK-Y (Beyond Zero Emissions)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • gas is not a transition fuel, and cannot be made clean • new gas development is counter to the aims of State, Commonwealth and international climate policy • Western Australia does not need more gas • the great economic opportunities of the 21st century are renewable The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-40	ANON-TCUY-7GQP-4	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as; • The Woodside proposal to extend the NWS plant life to 2070 is entirely incompatible with any realistic net-zero emissions reduction target for 2050 • This Consultation has been launched when WA's climate policy is not yet complete and the EPA has just released draft guidelines for assessing major polluting projects. These will require proponents to submit plans showing how they will "reasonably and practicably avoid, reduce and offset emissions to contribute to the state's aspiration of net-zero emissions by 2050." To allow the NWS Project Extension's target-busting suite of proposals to be processed and potentially allowed before the State's climate policy is in place would reduce that policy to fig leaf status.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-5

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		• The east coast of Australia has the Adani coal mine and in the NWS Project Extension we have our own challenge to the government and citizens of the state and nation. Jobs and growth versus local and global long-term environmental degradation. The choice is ours. The full response is available in Appendix A.	
GHG-41	ANON-TCUY-7GQQ-5	*Given the terrifying prospects the world faces as a consequence of greenhouse gas emissions, we would be completely PROFLIGATE to allow a 17.2MtCO_2-e per annum impact, expansion of our LNG industry. With an impact of 7 MtCO_2-e per annum for the Browse project from venting and pumping this will be the most polluting LNG project in Australia.* *Furthermore, it is still worse, as this LNG is exported and impacts much more on the environment as further GHG emissions and abundant, wasteful and harmful, cheap plastic production.* *I understand these impacts are not part of your assessment, which I do not agree with. As this represents an EVEN bigger impact on Australia.* *I am not aware of any meaningful GHG controls applying to this project, previous GHG controls (e.g. Gorgon) have been ineffective and not enforced. This speaks to the failing of a social licence for this industry to operate.* *Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector. Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years cannot go ahead.* *Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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GHG-42	ANON-TCUY-7GQR-6	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • Project emissions and Australia's performance against the Paris Climate Agreement • Global gas supply and demand (revised WEO Sustainable Development Scenario) • Coal to Gas switching and gas as a clean energy source • GHG emission reductions • Western Australia's 'aspiration of net zero by 2050. The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD)) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions)
GHG-43	ANON-TCUY-7GQT-8 (Greens WA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • Gas is not a transition fuel • WA's obligations under the Paris Agreement • Provision of offsets for emissions and emissions reduction technology • General objection to the project due to the level of GHG emissions The full submission in available in Appendix A	Please refer to these responses that address the items raised in this submission: • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-44	ANON-TCUY-7GQU-9	*The EPA must include the full impacts of the proposed gas project in its decision, including the profoundly significant effect that the huge emissions of the project will contribute to global negative climate change and therefore on all of WA for literally hundreds of years to come.* *To not do this is an abdication of responsibility to all WA flora, fauna and people.* *I ask you give adequate weight to the global science re the proven link between emissions and negative climate change and I must insist that any presented facts or opinions from any stakeholder - is assessed against*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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		the science on climate change. For example, a demonstrated economic argument in isolation - without it being assessed against the proven degradation such a project will cause to the WA environment - is not a complete assessment based on all the science.	
GHG-45	ANON-TCUY-7GQW-B	*It is madness to prolong the production and use of gas when the world is burning, flooding etc.* *Electricity produced from renewable sources is far cheaper than gas.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-46	ANON-TCUY-7GQX-C	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *We are concerned with the greenhouse gas emissions of this development.* • The proposals assert that gas is a 'clean' fuel. All evidence indicates otherwise. Gas is still a fossil fuel and is a major driver of global greenhouse gases from end use, flaring and fugitive emissions. • The Browse proposals argue that the greenhouse gas emissions from the development are acceptable based on the International Energy Agency (IEA) 2018 World Energy Outlook (WEO) "Sustainable Development Scenario" forecast for gas. The IEA has recently released the 2019 WEO and this substantially revises gas demand and supply estimates under the Sustainable Development Scenario. The IEA state that this scenario is aligned with achieving Paris Climate Agreement objectives. • The project documentation states that gas demand will increase to 2040, including increasing in the Asian market by 130%, and also that LNG exports can reduce emissions through coal-to-gas switching. Now, the 2019 WEO Sustainable Development Scenario indicates gas demand would peak sooner (global peak by late 2020s and Asia peak in late 2030s), that there would be much lower Asian growth overall (31% not 130%), coal-to-gas switching is less feasible economically, and LNG faces uncertainty in terms of scale of imports, their durability and	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD)) • GHG-KIR-6 (The role of gas in the future energy mix.) • GHG-CIR-4 (Management of fugitive emissions)

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		price competitiveness. Currently, there is still an over-supply of LNG and several new projects and expansion projects are planned, including development of Woodside's Scarborough field. Why then, should Browse also be developed, when it fails to deliver 'clean' energy, supply may not be warranted, it will contribute more total emissions than most countries? • Current 2019 Australian Government projections indicate that Australia will not meet its Paris Climate Agreement emissions reduction commitment without the use of Kyoto carry-over credits. The Browse proposals are presently unaccounted for in Australia's emissions projections, yet they will add around 3% to Australia's annual emissions. How will this be accommodated for Australia to meet its Paris commitments? • There is no cumulative impacts assessment for greenhouse gas emissions. This is concerning because it fails to place the Browse development in the context of the broader Burrup hub and northern Australia developments (which already produce significant emissions). A cumulative impact assessment would quantify the emissions from multiple, proposed fossil fuel projects and how these would affect Australia's ability to meet its Paris Climate Agreement commitments. • The documentation does not adequately or convincingly demonstrate how these major polluting proposals will contribute to Western Australia's aspiration of net zero by 2050. At best the Browse to NWS Project Draft EIS/ERD commits to offsetting around 25% of direct emissions in an 'average' operating year and the NWS Project Extension commitment is <1%. How is this acceptable for a major polluting activity that seeks to operate to 2070?	
GHG-47	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *The argument that natural gas is the lowest carbon fossil fuel (NWS Project Extension GHG Management Plan Table 3-1) is not sufficient to justify the extension of the Proposal to 2070 given that it is a significant contributor*	Currently, integration of renewable energy is not under detailed consideration, due to the complexity in transmitting and integrating offsite power into the NWS. In line with the GHGMP, Woodside will continue to investigate opportunities to incorporate renewable energies into the Proposal, including working with Traditional Owners to identify appropriate locations for such developments. In response to the Ngarluma Aboriginal Corporation (NAC) recommendation specific to GHG emissions, please refer to these responses that address the items raised in this submission:

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		to the State's GHG emissions. A commitment to a 330,000 tpa reduction is a small reduction to the 7.7 Mtpa emissions footprint, (the footprint is significantly greater if emissions from Browse gas to be processed at the KGP are taken into account) and does not demonstrate sufficient support of the State Emissions Policy to achieve net-zero GHG emissions by 2050. Given the Proposal would extend halfway into the second half of the century, a more significant commitment to offsetting the potential global warming impacts of the Proposal should be required to meet the current State Government policy. This should include working with NAC and the State to identify and develop locations outside the Proposal area in which to generate renewable energy for the Proposal. Furthermore, a specific commitment to investment in offsets with long term benefits at the local and or regional level, and in particular to address the social impacts of the proposal on Ngarluma and other Aboriginal people, should be prioritised. The full submission is available in Appendix A.	• GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal
GHG-48	ANON-TCUY-7GQZ-E	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • There are many environmental and social reasons that all 3 proposals must be rejected. The most important of these is the massive increase in Greenhouse gases (GHG), CO_2 and methane, that these projects will emit. These emissions will be equal to as much as four times the amount that Adani would produce and will be responsible for 47% of WA emissions • Australia is a signatory to the Paris Agreement and this Burrup Hub proposal will not allow us to meet our commitment to reduce emissions and cooperate with other nations to prevent temperature rising above 1.5 degrees • We must do all we can to abate the GHG alaready the atmosphere and must not drastically increase the GHG as these proposals would.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD))

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		• It does not make any sense to pursue these highly environmentally destructive forms of energy when WA has so much potential to become a world leader in renewable energy. • Climate change that is already causing increased illness, millions of deaths and much hardship and trauma globally, the magnitude of suffering will only increase if we don't stop using fossil fuels. • According to the 1989 state approval, the Woodside/NWS joint venture was required to use the 'best available technologies' at the time; this must remain the case. Woodside argues that the Karratha gas plant, for which they are seeking approval to extend operations until 2070 to process the Browse gas, is too old to have significant design-changes in place to reduce emissions -- this is not an excuse to not implement mitigation measures elsewhere. • The only reduction Woodside has committed to is a 330, 000 tonne reduction or offset per year at the plant, or ~4% of the plants total annual emissions and ~ 0.16% Browse's total lifetime project emissions. The full submission is available in Appendix A.	
GHG-49	ANON-TCUY-7GHT-Y	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *There is now plenty of evidence of the actual deterioration and the ongoing damage to the rock patina, from the emissions. I have read the findings of scientist Dr John Black. The existing emission level is excessive. Woodside is a huge polluter. Woodside and Chevron are responsible for c.30% of WA's total carbon footprint. The increased emissions that would result from more gas collection and processing at the Burrup Hub - for 45 years - would cancel out any gains made by industry and individual Australians who have reduced their carbon emissions. The carbon pollution created by this project makes it totally incompatible with WA's policy goal of net zero emissions by 2050.* The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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GHG-50	Australian Marine Conservation Society (AMCS) submission to North West Shelf assessments 2191 and 2186	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *If the proposed Browse Basin and North West Shelf projects were to go ahead, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. The approval of this scale of new fossil fuel project is not consistent with Western Australia meeting its policy target of net-zero emissions by 2050 or Australia meeting its Paris Agreement climate targets. To protect our climate and our oceans we must rapidly reduce emissions, not proceed with major new fossil fuel projects.* The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-51	Clean State	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised below. The submission includes three parts: • Browse Burrup Hub Report - a detailed report on carbon emissions from the proposed Burrup Hub project, as well as environmental and heritage impacts. Please note this submission was received in duplicate from CCWA. • A submission that summaries the outcomes of the Browse Burrup Hub Report and provide further specific comment on the proposed Browse Project GHG emissions. • A petition accompanying the submission. **Emissions:** • Concerns that the Burrup Hub would be the most polluting project ever to be developed in Australia. • The gas would be the dirtiest in the world based on the carbon intensity of gas extracted from the Browse Basin. • The proposal should be rejected outright based on its carbon impact.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Zero and low carbon energy) • GHG-CIR-3 (Investor Climate Risk) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

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		Climate Change and Commitments: • The proposal would be in direct breach of Australia's commitments on climate change, would undermine international climate goals in the Paris Agreement, and would directly contravene public commitments on climate change by the companies involved. • The proposal is fundamentally inconsistent with the carbon budget that is available to WA under the Paris Agreement. • Woodside has made no credible efforts to address carbon pollution and climate change. These are grounds for the EPA to reject the proposal as environmentally unacceptable. Woodside has not proposed efforts to avoid, reduce or offset emissions as is required under the EP Act. • Woodside has made no attempt to address State, Commonwealth or international carbon pollution reduction goals and policies. • Woodside has made no credible attempt to justify their public claims that the project would result in reductions in global carbon pollution. • Woodside has made no meaningful attempt to engage with the latest climate science, carbon budgets or global analysis of climate change trends and impacts. • Woodside has presented no analysis of carbon pollution abatement options and their costs and feasibility. Woodside has proposed actions that directly go against their own corporate commitments on climate change and carbon pollution, and those of other Joint Venture partners in the proposal. **Safeguard Mechanism:** Woodside has made claims about emissions reductions that will be required pursuant to the Commonwealth Safeguard Mechanism. These claims are not credible given the Safeguard Mechanism has to date allowed increases in pollution from LNG pollution, new safeguard limits are speculative as they are yet to be determined for the facility, and as a policy instrument the	

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		Safeguard Mechanism has utterly failed to control industrial emissions to date. It is likely that the Safeguard Mechanism will require no, or negligible abatement. Woodside's claim that meeting the Safeguard Mechanism requirements is a sufficient 'contribution' to meeting the WA State GHG reduction target of net zero emission by 2050, is duplicitous. **Specific Mitigation Actions:** • Woodside has said that it will '*avoid, reduce or offset 330,000 tpa of CO_2e from the KGP by 2030*' in the EIS. For the years prior to 2030 it can be assumed that less or no abatement will be delivered by Woodside. 330,000 tpa is 0.4% of the 7.7 Mtpa Woodside are seeking approval to continue emitting from the NWS LNG indefinitely. This is insignificant. When seen in the context of the Burrup Hub total emissions it is a miniscule fraction of total pollution. Woodside has made public commitments that it would offset its 'equity reservoir' from CO_2 for its LNG projects, however these commitments are not included in the EIS documents. Woodside's equity in the Browse field is around 30% so if its equity share of reservoir gas were to be offset this would presumably be 30% of the reservoir gas. However, the lack of commitment to this offsetting in the EIS shows that Woodside is seeking to do this purely as a voluntary undertaking which would not be enforceable and would potential fail to comply with national and international carbon accounting and reporting regimes that require permanence, additionality, and verifiability standards to be met. The offsetting has not been reflected in net emissions projections supplied by Woodside, suggesting the company does not want to be accountable for this voluntary offsetting and will be free to decide to cease it at any time or not commence it in the first place. As such this commitment is pure corporate greenwashing. ***Cumulative impacts:*** Woodside has attempted to obscure the overall cumulative impacts of their projects on the global climate by failing to disclose anywhere in the several thousand pages of documents that have been released, what the overall cumulative carbon pollution impact of the Burrup Hub mega project would be.	

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		Coal versus gas: Woodside's claim that gas is 'cleaner' than coal and will displace emissions overseas, is dangerous and unfounded. Woodside makes claims within the proposal that switching from coal to gas will decrease greenhouse emissions. The proposal's statements have been investigated and the evidence does not support these claims. For example: • To achieve the Paris goals and stay within the IPCC carbon budget, gas needs to reduce not increase. • All modelled pathways in the IPCC Special Report that limit warming to 1.5° involve deep reductions in gas production and methane emissions. • A major international review of LNG infrastructure found the threat to the climate from LNG is 'as large or larger than coal'. • Methane levels negate any claimed 'advantage' over coal. • Woodside has used outdated figures to claim electricity generated from gas has half the emissions of electricity generated from coal. Woodside has used 2011 PC estimates of the electricity emissions intensity of gas and coal. However, since 2011 there has been a downward trend in coal emissions intensity as older, more polluting, coal generators have been retired or upgraded and the median emissions intensity has moved closer the lower boundary. According to the independent WA research body Sustainable Energy Now (SEN), once methane figures are taken into consideration for gas, the emissions intensity of Browse LNG rises to at least 616 lg/CO_2. This means browse LNG is 83% as intensive as coal at the very least. • Australian gas is not 'reducing emissions overseas'. This was investigated in the Clean State 'Runaway Train' report which found no evidence that Australian gas is reducing emissions overseas. • Even if Woodside's claim that 95 mt was "averted" globally by coal-to-gas switching in 2018 were true, this figure would be dwarfed by the scope 3 emissions of the Burrup Hub project. • New gas projects will lock in another 40-60 years of greenhouse gas pollution.	

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		Decarbonising using renewables: • In a ground-breaking report released on 25 November 2019, Climate Analytics modelled a Carbon Budget for WA that is compatible with the Paris Agreement goals of limiting global warming to 1.5°C. This report found that the LNG industry could completely decarbonise by 2050, without using offsets at all. This would be achieved through CO_2 capture and storage for LNG facilities, using renewable energies to electrify LNG plant components that require refrigeration, and binding regulatory requirements on the LNG industry to meet or exceed greenhouse gas intensity benchmarks consistent with emission reductions or conditions. Note that the submission also refers to the Browse to NWS draft EIS/ERD. Where the submission relates to the Browse to NWS draft EIS/ERD and not the NWS Project Extension, this part of the submission has not been addressed here. The full submission is available in Appendix A.	
GHG-52	Conservation Council of WA (CCWA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: CCWA noted that WA was the only state or territory in Australia to see an increase in GHGe between 2000 and 2016; and had high per capita GHGe relative to other international developed economies. CCWA linked LNG production in the state as a contributing cause and noted the connection between GHGs and Climate Change in relation to the Proposal. The statement that annual GHGe for the facility would not increase was considered not to be possible, and that the increased GHGe for the extended life cycle of the project from 2030 to 2050 was not acceptable. The Proposal's contribution to global GHGe should include Scope 3 emissions (not just Scope 1 and 2 GHGe) and therefore, with this inclusion, the Proposal would be unacceptable and not a 'slight' increase to global GHGe.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Zero and low carbon energy) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-6 (The role of gas in the future energy mix and consideration of IPCC Special Report on Global Warming of 1.5°C) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-CIR-3 (Investor Climate Risk)

No.	Submitter	Submission and/or issue	Response
		Characteristics (primarily the CO_2 content) of Browse Gas and other third party gas to be processed as part of the Proposal should be made available and evaluated as part of the assessment. A statement that the Proposal clearly means to source gas from the Browse and Scarborough fields should be included. Cumulative impacts of the "Burrup Hub" facilities, and those other facilities (e.g. North Rankin Complex) in Commonwealth waters connected to the Proposal, should be assessed as part of the proposal. CCWA considered that there was a lack of credible effort to address carbon pollution and climate change in relation to the proposal, and insufficient carbon pollution abatement efforts. CCWA considered that the objectives of the Proposal's Greenhouse Gas Management Plan would not achieve net reduction or net zero emissions, and also raised concerns that specific commitments to achieve offsets were not made in the ERD, despite the public stance of the company to achieve zero net emissions by 2050. The Proposal could not demonstrate that 'market substitution' of LNG over coal fuels would occur or that it could be measured. There would be a lack of requirement for gas in light of projected growth in renewables. **Emissions:** • Concerns that the Burrup Hub would be the most polluting project to be developed in Australia when all direct and indirect emissions are accounted for. • The gas would be the dirtiest in the world based on: the CO_2 content of the Browse gas field; the energy required to extract the gas and transport it onshore; and the age of the facility for processing the gas. • Air emissions will contribute to global heating and increased frequency of extreme weather events and bushfires. These will cause physical and physiological health impacts. **Climate Change and Commitments:** • That natural gas production is linked to climate change and emissions due to global LNG expansion threatens climate change.	

No.	Submitter	Submission and/or issue	Response
		• Be in direct breach of Australia's commitments on climate change, undermining international climate goals in the Paris Agreement, and directly contravene public commitments on climate change by the companies involved. • That the Proposal is inconsistent with maintaining a safe climate and meeting Australia's international commitments to climate change. • The Burrup Hub project is inconsistent with Australia's climate change commitments by Woodside. • Woodside has not proposed efforts to reduce or mitigate carbon emissions from the proposal, despite Australia's commitments to net-zero emissions by 2050. The Proposal will deliver few benefits, while transferring billions of dollars of costs to West Australians. • Few domestic jobs will be created as the bulk of engineering will be shipped from overseas (i.e. use of offshore labour). • Lack of disclosure by the WA premier Mark McGowan of the local benefits, local content or royalties. • Little to no royalties paid by LNG projects in WA. • Compared economic benefits to those of solar, battery and wind farm sectors which are considered to be the major job-creating technologies by 2050. • Australia does not need gas, due to existing LNG projects supplying domgas, expected low growth for domestic gas in WA, opportunities in renewable energies. • Lack of commitment to significant abatement will transfer the costs of carbon offsetting to other parts of the WA economy. **Risk to investors and shareholders:** • 'Investors should be wary of any project which has not fully disclosed carbon risks'	

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		• State that global demand will not be stable for the life of the project. Potential for the Burrup Hub to become a stranded asset. • Reputational, litigation and direct action risks to other companies and contractors working on the project; finance institutions, banks and trading partners. • Target for protest, advocacy and climate litigation in the future. The full submission is available in Appendix A.	
GHG-53	Climate Analytics	Climate Analytics submitted two documents: • A 1.5°C Compatible Carbon Budget for Western Australia • Impact of Burrup Hub for Western Australia's Paris Agreement Carbon Budget. These submissions analyse the impact of the Burrup Hub LNG projects for Western Australia's carbon budget under the Paris Agreement and its net zero emissions 2050 goal, building on a study published earlier on Western Australia's carbon budget under the Paris Agreement. The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-CIR-2 (Zero and low carbon energy) • GHG-KIR-6 (The role of gas in the future energy mix)
GHG-54	NW Shelf/ Browse Expansion Submission [Individual 5 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: *Another matter which seems to be skipped over is the great increase in gases which will be the result of the project going ahead. Methane and CO_2 in large volumes will be freed to the atmosphere even before any gas is burnt. Then of course, the burning of the gas shall contribute further to CO_2 levels in the atmosphere.* *It also raises concerns related to rock art and air quality generally, which are addressed under the relevant environmental factor.* The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
GHG-55	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are summarised as: • [The project] will hugely increase WA's greenhouse gas emissions (CO_2, methane, nitrous oxide) which affects Australia and the world by increasing the impacts of climate change. • If these projects go ahead, the Burrup Hub would be one of the largest and most polluting fossil fuel projects in the world. WA cannot expand the LNG industry and meet its policy goal of net-zero emissions by 2050! • Public consultation about the NWS Extension proposals was (conveniently) launched when WA's climate policy is not yet completed, and the EPA has just released draft guidelines for assessing major polluting projects, which will require proponents to submit plans that show how they will "reasonably and practicably avoid, reduce and offset emissions to contribute to the state's aspiration of net-zero emissions by 2050." • Gas is not a 'clean' alternative when all factors are considered • The Browse–NWS project will likely become a stranded asset, especially as the cost of renewables continues to drop and the environmental cost of burning gas rises. The full submission is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Zero and low carbon energy) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-56	Three Browse – NWS Extension Proposals [Individual 11 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Greenhouse Gas Emissions are: *In order to truly evaluate the environmental impact of these industrial emissions, it is imperative that the total cumulative emissions from industries on the Burrup Peninsula must be calculated, considered, regulated and monitored. Only then can the actual emissions from the Browse-NWS expansion projects be calculated to estimate the extra harm they will do to the environment and the ancient rock art.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

No.	Submitter	Submission and/or issue	Response
		The emissions from processing, transporting, and burning the LNG are a huge source of carbon dioxide and methane which Australia must curtail. some of their huge profits could be reduce harm to the petroglyphs, human health and well being. The full submission is available in Appendix A.	
GHG-57	Proforma submission		
GHG-58	Proforma submission (CCWA)	Header: Don't approve the proposed Browse Basin and North West Shelf LNG projects *Dear Chairperson EPA WA),* *I am writing regarding the proposed Browse Basin and North West Shelf projects. If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.* *Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector. Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years cannot go ahead.* *Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-59	Proforma submission (CCWA)	*Header: Reject the proposed Browse Basin and North West Shelf LNG projects* *Dear (Chairperson EPA WA),* *I am writing in response to the current consultations on the Browse Basin and North West Shelf extension projects. If the proposed Burrup Hub*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)

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		extension projects proceed, the Burrup Hub will be Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world. *The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.* *Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, will breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.* *The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are unsubstantiated and misleading. In 2019, LNG overtook coal as the most significant driver of pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change.* *The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.* *The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's proposal.*	• GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-60	Proforma Submission (additional text appended to CCWA Proforma)	*I am alarmed that these projects are being considered as, the Burrup Hub would become one of the largest and most polluting fossil fuel.* *Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. There are towns in Western Australia already successfully making use of wind to supply almost half of their town's power needs. We have the technology and the expertise to build more wind farms.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

No.	Submitter	Submission and/or issue	Response
GHG-61	Proforma Submission (additional text appended to CCWA Proforma)	*As Australia burns, I write to you regarding the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-62	Proforma Submission (additional text appended to CCWA Proforma)	*WA must tackle its emissions through the creation of jobs and investment in renewable technologies, including large-scale solar in the Pilbara and Kimberley which would permit the export of clean, renewable power to our neighbours in Indonesia, Singapore and Timor. We must rapidly move away from all types of fossil fuels, including LNG.* *I thank you in advance for your proactive, enlightened stance on this crucial issue.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-63	Proforma Submission (additional text appended to CCWA Proforma)	*If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand the LNG industry.* *I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources available in WA.* *Please advise me of your decision and the reasons for it, by email.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Zero and low carbon energy) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-64	Proforma Submission (additional text appended to CCWA Proforma)	*You have a duty of care to the people and our environment and wildlife. It is reprehensible that you even entertain the idea of these gas mines. It would be an absolute dereliction of duties to approve this. Our country is on fire. I cry every day because 1.25 billion animals have burned alive holding their babies in their arms. Our irreplaceable forests are burned beyond recognition like an atomic bomb has been dropped on us, and most of our country was already in severe drought. Arsonists started the fires, and climate change is the reason the fires became so big and spread so far. You have no business approving any gas mine that will pump huge amounts of pollution into the air. Our emissions need to go down, it is our commitment in the Paris Agreement and approving these mines would be in failing to live up to our commitment. It would in fact make you culpable in the destruction that will follow and creating the poisonous air we will be breathing. You need to protect life in WA, not a gas mine.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Zero and low carbon energy)

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GHG-65	Proforma Submission (additional text appended to CCWA Proforma)	*If these projects were to proceed, it would result in one of the largest and most polluting fossil fuel. WA has the resources and technology for a rapid transition to renewable energy. We should be embracing job opportunities and regional development in carbon farming and the renewables sector. Gas is not part of the solution. A large-scale LNG project cannot go ahead.* *We need clean jobs and renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal. [Name and details redacted]*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Zero and low carbon energy) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-66	Proforma Submission (additional text appended to CCWA Proforma)	*If the proposed Browse Basin and North West Shelf projects were to proceed, Western Australia would not meet its policy goal of net-zero emissions by 2050. Fossil fuel is dying and to propose such projects harms Australia's more profitable tourism, agricultural and housing industries.* *WA has the resources and technology to lead the world in a rapid transition to renewable energy, geographically we are in a perfect spot for solar and wind projects. We should be embracing the potential for job opportunities and regional development in the renewables sector.*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-67	Proforma Submission (additional text appended to CCWA Proforma)	*Gas is not part of the solution for climate change, it only emits more carbon into the air, to disastrous effects such as this summer's fatal bushfires. Australia is one of the countries to be hit the hardest by climate change, and so it would likely be destroyed itself by bushfires, storms, cyclones and the rising sea levels set to hit Australia regardless. It is unsustainable and a drain on our natural resources.* *I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA, before it is too late to even try.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Zero and low carbon energy) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-68	Proforma Submission (additional text appended to CCWA Proforma)	*Why do I even have to write this?* *Why in God's name is it even being considered?* *Just grow a set & do the right thing, instead of the expedient thing! Please!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)

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GHG-69	Proforma Submission (additional text appended to CCWA Proforma)	*And any further damage and disruption to Burrup is petroglyphs can not be condoned. This is a World Heritage listed site of national and global significance, containing the oldest known portrait of a human being on the planet. It is a place of extreme cultural value and definitely not the location for a gas plant.* *Also had is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-70	Proforma Submission (additional text appended to CCWA Proforma)	*PLEASE think carefully before considering approval of this project. The science tells us we should be very wary of gas. Is it really necessary.... do the benefits really outweigh the costs to the whole world. Think globally.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-71	Proforma Submission (additional text appended to CCWA Proforma)	*There is no doubt in my mind that our devastated Australia has been driven by climate change.* *Hotter temperatures and drier conditions in Australia are contributing to a longer fire season. Australia has now burnt through more than 10 million hectares, and killed more than a billion Australian fauna. The incredible toll this heating up crisis is taking on us, our environment, wildlife and air quality is immeasurable. The costs of all the words of politicians, but no real action, has crippled our country* *I am very concerned that the govt's 'business as usual' stance will destroy Australia, unless the government actually acts on the obvious climate change through powerful new legislation, and urgently reduce our emissions. Bear with me a moment - think about it, Australia is already a hot place, what happens when it suddenly gets hotter by a few degrees, remember this is not Greenland where it gets warmer and the ice melts and they can now go outdoors some more. While that happens in Greenland - we're getting cooked!* *I urge the EPA not to allow this massive carbon producing demon to destroy us!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-72	Proforma Submission (additional text appended to CCWA Proforma)	*I know it is difficult for some people to believe, but the proposed Browse Basin and North West Shelf projects will be a planetary nightmare, just like the bushfires that are ravaging our country.* *If we don't meet that goal, we're toast; burnt toast, at that.* *Development in carbon farming and the renewables sector. Gas is neither part of the solution for climate change, nor the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years should not even be considered.* *Western Australia must reduce its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG.* *I strongly urge you to reject Woodside's proposal, and instead pursue the cheap and abundant renewable resources we have here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-73	Proforma Submission (additional text appended to CCWA Proforma)	*We have already seen, Australia-wide, the devastating effects of climate change, with only a 1 degree rise in world temperatures. We cannot afford to add any more carbon-dioxide to the atmosphere .*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-74	Proforma Submission (additional text appended to CCWA Proforma)	*For Australia's sake STOP.* *The only people to benefit from this project in the long term are the backers and the profiteers. Make a choice for the people, not the magnates !*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-75	Proforma Submission (additional text appended to CCWA Proforma)	*We MUST get our Energy Policy into THIS century with Clean Renewables - NOT more polluting Fossil Fuels!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-76	Proforma Submission (additional text appended to CCWA Proforma)	*Please note I ask this despite the fact that the decision would be financially detrimental to me personally as a Woodside shareholder.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-77	Proforma Submission (additional text appended to CCWA Proforma)	*We are 5 years away from enough RENEWABLE energy for the whole planet. Why are we doing this?* *Isn't the bush-fires raging across the width and breadth of this country a big enough hint to what is happeningto the planet?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-78	Proforma Submission (additional text appended to CCWA Proforma)	*First, it is disheartening as a citizen to see the strength of influence that the major energy companies have over our state public bodies such as the EPA, paid for by taxation to monitor and mediate international corporate influences not necessarily acting in our best interest. The degree of trust in politicians and their government agencies depends on their performance. The capitulation of the EPA to Woodside in a context of low transparency deserves an erosion of confidence from the public. OK, so big deal that can be ignored. But only in the short term as the banking sector (rock bottom in public trust) found out.* *I'm objecting to the expansion (without apparent limit or control by government) of the Burrup gas projects. It again reflects the hegemony that international companies have over our government in relation to development of our resources. And we get little for it except higher carbon emissions, temporary employment and persistently high local gas prices.* *I want you to show some courage and reinstate forceful controls over these companies and PUBLICLY explain your position -especially if you renege on the independence of your own advice. That, or resign.* *In summary, I am writing about your involvement in the current consultations on the proposed Browse Basin and North West Shelf projects, and about your approach to it with the knowledge that emissions will negate the gains made by real efforts (often coming at a personal cost) from caring people and industries with an interest in this country beyond a financial one.* *You have the scientific facts at hand. Use them. Carbon emissions from the Burrup Hub will have a negative effect on the environment's carbon levels for lifetime magnitudes.* *The global impacts of these projects must be considered in a scientific and humanitarian view, not a monetary viewpoint. The very rich in these companies*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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		can avoid global warming consequences - away from rising sea levels, away from violent weather events, away from increases in disease, away from the flood of desperate people moving to first world arenas. Those most negatively affected by climate change are the least able to deal with its impacts. It is for these reasons that I strongly urge you to reject Woodside's proposal.	
GHG-79	Proforma Submission (additional text appended to CCWA Proforma)	*Please please think of the climate disaster we are leaving our children and grandchildren.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-80	Proforma Submission (additional text appended to CCWA Proforma)	*We need to stop supplying easy gas- it's delaying transition to cleaner more renewable forms of power.* *We need to be 50% cut in emissions by 2030- for a 50% of living on a habitable planet/ not real good odds for my children. Opening these projects will seal the dark fate of future generations*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-81	Proforma Submission (additional text appended to CCWA Proforma)	*As my address below shows, I am not one of your constituents however, the emissions emitted from this proposed project will not recognise the various boundary lines we have imposed on the landscape; they will impact across all sectors of our shared world. If we are to have any chance of limiting global warming to 1.5°, we cannot afford to grant Woodside the approvals required to commence this project*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-82	Proforma Submission (additional text appended to CCWA Proforma)	*[Name and details redacted]I write to you regarding the proposed Browse Basin and North West Shelf projects, and to formally request that these projects are NOT to be approved. Should these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we truly cannot afford to expand our LNG industry.* *We already have the resources and technology for a rapid transition to renewable energy. Instead of starting up more gas projects, we should instead be embracing the potential for job opportunities and regional* *WA has already suffered through catastrophic bushfires this season.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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		We cannot go on embarking on heavy carbon emitting projects; it is non-viable for the environment and all living beings, instead, WA needs to look at reducing emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels. *Once again, I strongly urge you to reject Woodside's proposal. The risk/cost benefit analysis does not weigh up.*	
GHG-83	Proforma Submission (additional text appended to CCWA Proforma)	*Having just spent the last month out fighting fires NSW that scientists link directly to climate change, I implore you on the strongest possible terms to reject the proposal which will undoubtedly exacerbate our current drought, fire and extreme weather problems.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-84	Proforma Submission (additional text appended to CCWA Proforma)	*As a final note, my postcode should not negate my high concern. Being a now quite mature Australian, and citizen of this Planet. We will all suffer through ill-advised environmental destruction for short term gain.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-85	Proforma Submission (additional text appended to CCWA Proforma)	*This is not the time to be investing in high emissions projects. We must drastically reduce our emissions in line with the science of climate change.* *Our futures, that of your children and grandchildren are in your hands.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-86	Proforma Submission (additional text appended to CCWA Proforma)	*We know that CO_2 emissions from fossil fuels are exceeding what the planet can cope with. If the proposed Burrup Hub projects proceed, the Burrup Hub will be The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.* *Considering approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-87	Proforma Submission (additional text appended to CCWA Proforma)	*WE SHOULD BE DEVELOPING AND USING EXISTING RENEWABLE OPTIONS RATHER THAN SUPPORTING AND CONTINIUNG AN INDUSTRY THAT THAT BENEFITS FEW BUT NEGATIVELY AFFECTS EVERYONE.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

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GHG-88	Proforma Submission (additional text appended to CCWA Proforma)	*Please take the environment into consideration and the longer term effects - not just on ourselves but future generations.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-89	Proforma Submission (additional text appended to CCWA Proforma)	*Come to Melbourne and breath the most dangerous polluted air in the World if you're happy that is the future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-90	Proforma Submission (additional text appended to CCWA Proforma)	*If you have not noticed the country is burning!!! When the whole world is burning will you stop !!!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-91	Proforma Submission (additional text appended to CCWA Proforma)	*You have the public duty & personal ability to do your job, Save the environment and protect Australia's future, let's we how deep the corruption in WA runs.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-92	Proforma Submission (additional text appended to CCWA Proforma)	*I strongly urge you to reject Woodside's proposal as the state should be pursuing the cheap and abundant renewable resources we have available right here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-93	Proforma Submission (additional text appended to CCWA Proforma)	*Now more than ever before it imperative that everything possible is done to protect every aspect of the environment.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-94	Proforma Submission (additional text appended to CCWA Proforma)	*HOW DARE YOU!* *The life-time emissions of these projects must be considered. It is for these reasons that I strongly INSIST you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-95	Proforma Submission (additional text appended to CCWA Proforma)	*If one day, there's a Royal Commission into what corporations were allowed to spew into our atmosphere, knowing what we now know about Climate Change, will you feel comfortable with what the EPA is allowing to go through?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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		I, for one, don't want the Burrup Hub to become the most polluting fossil fuel project in Australia! Do you? *Hence, if these projects were to proceed, the Burrup Hub would become one of the largest most polluting fossil fuel projects not just here, but IN THE WORLD. If Western Australia is to meet its policy goal of net-zero emissions by 2050, how can we expand this industry?* *Please don't allow pressure from politicians to influence your ability to do your job and make the right, independent decisions.*	
GHG-96	Proforma Submission (additional text appended to CCWA Proforma)	*The last thing we need is a large project that will increase our carbon emissions. We should be 100% focused only on wind, solar and hydro power and lowering fossil fuel exploration and use.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-97	Proforma Submission (additional text appended to CCWA Proforma)	*Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-98	Proforma Submission (additional text appended to CCWA Proforma)	*I write in sadness today because our country is facing a long road to recovery after a summer of catastrophic bushfires. These fires have occurred after many warnings, first from science and then from the broader community, that climate change is real and presents an immense threat to the Australian continent.* *Scientists tell us that as a global community we must reduce the emission of greenhouse gases by 45% by 2030. That leaves us ten short years to undertake the most challenging restructure of our economy, society and way of life we have ever attempted. I would argue that as a wealthy nation, and as a fossil fuel exporter, Australia and Western Australia should be a leader in this struggle, by refusing to allow any further expansion of fossil fuel extraction.* *We simply cannot afford for these Woodside projects to proceed. They would make the Burrup Hub one of the largest and most polluting fossil fuel* *It will leave the workers in that industry vulnerable, as those facilities become*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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		stranded assets in the near future. *I strongly urge you to reject Woodside's proposal as the state should be pursuing the cheap and abundant renewable resources we have available right here in WA. Please, do the right thing for us all.*	
GHG-99	Proforma Submission (additional text appended to CCWA Proforma)	*I write as a lay person who on reading the public material available find it incredible that WA is even considering allowing a project that will cause such high levels of pollution.* *I'm sure you will receive many fully documented responses but mine is simply from the heart. Do we really need the mantle of having one of the largest and most polluting fossil fuel developments anywhere in the world on our doorstep.* *Please reject this on the grounds of common sense and protecting our environment for my 10 grandkids.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-100	Proforma Submission (additional text appended to CCWA Proforma)	*Every 16 tonne of natural gas combustion provides 44 tonne of CO_2 - more than some coals!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-101	Proforma Submission (additional text appended to CCWA Proforma)	*The devastating climate change related fires of the Eastern Seaboard is a wake up call to every single Australian. We must free ourselves from coal and gas ASAP. Fossil fuel is not the future. You and your committee have the ability to signal change by denying this project.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-102	Proforma Submission (additional text appended to CCWA Proforma)	*This month my family & I narrowly escaped losing our home to bushfires. These fires were exacerbated by climate change, fuelled by our mining & export of fossil fuels.* *It is time to stop any new projects, forgo any extensions & bring to a timely close all ongoing projects, for the sake of our planet.* *It could only be considered by someone who has already given up on the future of our planet.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

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GHG-103	Proforma Submission (additional text appended to CCWA Proforma)	*STOP FOSSIL FUEL PRODUCTION AND INVEST IN RENEWABLES*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-104	Proforma Submission (additional text appended to CCWA Proforma)	*I fully support the following points and I want to make this one first: the current bushfire emergency is a foretaste if what is to come if we do not URGENTLY act to limit greenhouse gas emissions. We cannot afford the proposed extension by Woodside. We cannot afford any expansion of oil, gas and coal - we need to start phasing them out NOW.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-105	Proforma Submission (additional text appended to CCWA Proforma)	*As a deeply concerned mother of 5 children, I am very well aware of the impacts of climate change and in particular, the role of fossil fuels in our environment's demise. I am therefore writing with regard to the current consultations on the Browse Basin and North West Shelf extension projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-106	Proforma Submission (additional text appended to CCWA Proforma)	*Even though I obviously do not live in the area, I am concerned for Australia and the planet and so should you be.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-107	Proforma Submission (additional text appended to CCWA Proforma)	*The life-time emissions of these projects and their contributions to global emissions of CO_2 and methane must be considered. It is for these reasons that I strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions)
GHG-108	Proforma Submission (additional text appended to CCWA Proforma)	*Even though I do not live in WA, this issue is a global issue, concerning all who live on this planet. The one we call home. The one that is unique. The one we must look after. The one we have been destroying. The one that will be subjected to disaster after disaster, because we have not listened, we have been totally out of balance. To restore some balance and avoid total apocalypse, we must act on this without delay. And is a radical way. Climate action demands that we transition to renewable energy and sustainable practices. That we stop new fossil fuel projects. Now.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-109	Proforma Submission (additional text appended to CCWA Proforma)	*I object to it taking so long to get this project up and going! What's wrong with you people, why the hell can't you approve this wonderful project faster?* *God speed,*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-110	Proforma Submission (additional text appended to CCWA Proforma)	*WE ONLY HAVE ONE PLANET AND IT BELONGS TO ALL LIFE _ PLEASE STOP DESTROYING IT*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-111	Proforma Submission (additional text appended to CCWA Proforma)	*If the proposed Burrup Hub extension projects proceed, the Burrup Hub will be Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments in the world.* *The extent of emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.* *The science is telling us that the earth has passed a series of critical systems tipping points. (1) We can no longer afford to extract fossil fuels. Doing so is suicide.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-112	Proforma Submission (additional text appended to CCWA Proforma)	*The life-time emissions of these projects must be considered. We have a responsibility to include all ultimate emissions of any fossil fuels we export. All add to global heating and its disastrous consequences.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-113	Proforma Submission (additional text appended to CCWA Proforma)	*[Name redacted], for my children, your grandchildren, all the wild and wonderful creatures of this world - we cannot allow this proposal to go ahead. Greed can not be the driving factor here. You can not allow the profits into the pockets of Woodside and the political cowardice and fear of the Government blindside all the evidence that you and I know screams this is a terrible project to approve. My stomach churns at the thought of it - especially given the time we are in with my friends on the east coast rebuilding their family properties ravaged by fire.* *If this project goes ahead we are responsible for future climate damage. How will we look our children and grandchildren in the eyes and tell them we did all we can? The future needs courage and leaders. We are relying on the EPA to lead the way.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

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GHG-114	Proforma Submission (additional text appended to CCWA Proforma)	*See the facts below. You cannot let these projects go ahead. Australia will become uninhabitable, or a dangerous place to live (it already is if you look at the fires, one yesterday less than a kilometre from our house) due to climate change. We cannot afford any more warming caused directly by fossil fuels. I feel betrayed by [Name redacted], signing off on no fossil fuels by 2050 and now pushing for this. I do believe our governments are corrupt and in the pockets of Woodside, Chevron, Whitehaven etc because these projects are not in the public interest, let alone the natural environment. They don't care about Koalas who can't move fast enough to escape bushfires.* *Please for once, protect our environment. Our children are only 11 years old, I want them to have a world for their life that isn't miserable.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-115	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the Browse Basin and North West Shelf extension projects. And I write in the light of the fires now engulfing Australia. It would be an extremely irresponsible action to approve such fossil fuel projects when the emphasis must now be for Australia, and all countries, to leave fossil fuels in the ground and support renewables and transition projects for people and communities. Surely these fires are a wake up call for all.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-116	Proforma Submission (additional text appended to CCWA Proforma)	*We have seen from the current state of our country that climate change has brought catastrophic consequences to our environment, our food industry, air quality, water supply and therefore peoples lives. This is just the beginning if we don't make drastic changes now. You are there for the people to protect us from this happening.* *Please step up and enforce these changes to enable a brighter future than we are looking at now.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-117	Proforma Submission (additional text appended to CCWA Proforma)	*I am living with bushfires and global warming is already here. Please do not exacerbate the situation. Look to renewables not fossil fuels that will heat the planet even more.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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GHG-118	Proforma Submission (additional text appended to CCWA Proforma)	*Morally this development is wrong and not complying with the community or international expectations.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-119	Proforma Submission (additional text appended to CCWA Proforma)	*Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, and proposed supporting infrastructure like the Subsea 7 pipeline bundle project for Heron Point will breach our international carbon reduction obligations, and push our national* *At a time when we are seeing the devastating results of climate change caused by rising emissions resulting in horrendous bushfires throughout Australia, it would be sheer madness to allow this expansion to go ahead.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-120	Proforma Submission (additional text appended to CCWA Proforma)	*Although not a resident of WA, our current bushfire crises confirm that we can't afford to be parochial about issues facing the planet, therefore*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-121	Proforma Submission (additional text appended to CCWA Proforma)	*While I live on the east coast of Australia, right now we are experiencing the predicted impact of a warming and drying climate due to climate change. The bushfires are horrendous. We must reverse the levels of carbon pollution we are pumping into our atmosphere or, like a billion animals on the east coast this summer, face extinction.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-122	Proforma Submission (additional text appended to CCWA Proforma)	*An ecological conversion is overdue!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-123	Proforma Submission (additional text appended to CCWA Proforma)	*It's insane to consider signing any new contracts, any extension or supporting any proposal. Fossil fuel extraction must end.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-124	Proforma Submission (additional text appended to CCWA Proforma)	*I can only change how I impact the planet, I'm calling on you to prevent the impact of others, please.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-125	Proforma Submission (additional text appended to CCWA Proforma)	*As bushfires rage throughout many parts of Australia we are brought face to face with the necessity of taking positive action to curb climate change. We desperately need to take positive steps to reduce fossil fuel use. Maybe you could invest in solar power*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-126	Proforma Submission (additional text appended to CCWA Proforma)	*What we are currently living through in the worst bush fire season in our history is telling a strong message that we simply must heed. We need to stop polluting our earth we don't have another.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-127	Proforma Submission (additional text appended to CCWA Proforma)	*As a original western Australian I am horrified you would look at granting any extension to this project. Our country is on fire and the mining and gas fracking have so much to answer for. It is clear that donations (or as we call it bribes) get many of these approved.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential processing of gas)
GHG-128	Proforma Submission (additional text appended to CCWA Proforma)	*LNG is a fossil fuel with pollution at every stage of its development and use, and cannot be considered a solution to address climate change.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-129	Proforma Submission (additional text appended to CCWA Proforma)	*We need energy - but it must be renewable energy.* *Your company's rapacious greed for profit won't be impressive when the planet is dead.* *Do you really want to go down in history alongside [Name redacted]* *Shame on both of you.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-130	Proforma Submission (additional text appended to CCWA Proforma)	*The CO_2 and other emissions already in the atmosphere have created the bushfires in eastern Australia this summer. These have resulted in 30 deaths, an enormous number of hospital admissions, the loss of livelihoods for countless small businesses, over 1 billion animal deaths, and loss of over 10 million hectares of farmland and natural habitat. The proposed project would lock in even more severe summers in the future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-131	Proforma Submission (additional text appended to CCWA Proforma)	*But of course you pollys won't listen to any of the above, as I see it you are determined to ensure all life on Earth is exterminated in the pursuit of some so-called "economy" for the already privileged. [Name redacted] himself, and [Name redacted] from marketing are living proof, Do; please prove me wrong?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-132	Proforma Submission (additional text appended to CCWA Proforma)	*At some time people who have the ability must put a stop to our continuing dependence on fossil fuels and drive the development of new and sustainable technologies. This is the time. You are one of those people, [Name redacted].*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-133	Proforma Submission (additional text appended to CCWA Proforma)	*When will stop this mindless idea of endless economic and population growth. We are doing too much damage to our planet I have seen it for years as a farmer.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-134	Proforma Submission (additional text appended to CCWA Proforma)	*We must start using our intelligence and act as a planet, for we are all in great peril!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-135	Proforma Submission (additional text appended to CCWA Proforma)	*As a previous resident of WA, I am appalled at the thought that there would be approval for fossil fuel projects in the northwest. As the ongoing drought and fires show, the country is heading on a slippery slope ride to a tipping point in destroying our way of life along with the uniquely Australian environment and wildlife.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-136	Proforma Submission (additional text appended to CCWA Proforma)	*The Burrup Hub project proposals are sheer lunacy. Neither Australia nor the world can afford the environmental and human cost. Surely the EPA cannot endorse such an enormous additional contribution to atmospheric pollution, at the very time when the need to drive emissions down is more urgent than ever.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-137	Proforma Submission (additional text appended to CCWA Proforma)	*I am astounded that the political party for which I voted would even consider the proposed development of the 'Burrup Hub'.* *This 'Burrup Hub' would be one of the largest fossil fuel developments in the world. And this at a time of our Global Heating Crisis!* *The narrow and dying interests of Woodside are desperate to exploit our resources. They are pushing this proposed development where they know there is weak governance.* *The world is now faced with a moral imperative*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-138	Proforma Submission (additional text appended to CCWA Proforma)	*PLEASE for the sake of my grandchildren and yours, do the right thing and reject Woodside's LNG projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-139	Proforma Submission (additional text appended to CCWA Proforma)	*The emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.* *The carbon emissions from the Burrup Hub will have a serious detrimental impact for decades to come.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-140	Proforma Submission (additional text appended to CCWA Proforma)	*Please find a more Natural and Sustaining method.* *The Future of the Ecosystem that supports our Race, and all other Living species are at stake.* *Seek out your Competition and Band Together.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-141	Proforma Submission (additional text appended to CCWA Proforma)	*It is time to look and preserve the sustainability of our once wonderful planet. Foe each and every creature and all flora and fauna on earth.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-142	Proforma Submission (additional text appended to CCWA Proforma)	*As a resident of Halls Head WA for nearly 10 years* *North West Shelf gas extraction is the single greatest source of air pollution in our state, dwarfing road vehicle emissions.* *In particular, uncontrolled emissions of methane during the extraction process pose a particularly dangerous threat, as they have at least 25 times as great a greenhouse effect as carbon dioxide. Natural gas companies have shown quite a lax approach to stemming such emissions.* *Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub would breach our international carbon reduction obligations and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.* *I thank you in advance for your enlightened, forward-thinking stance on this crucial issue.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
GHG-143	Proforma Submission (additional text appended to CCWA Proforma)	*The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time when Western Australia needs to be taking our contribution to global carbon emissions very seriously, and in light of the recent fires, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-144	Proforma Submission (additional text appended to CCWA Proforma)	*Do you know [Name redacted] that the temperature of the earth, land, oceans and atmosphere, has increased by 1% since the industrial revolution?* *This seems like a minuscule temperature increase, but the earth has not been this warm for over 50 000 000 years. Life on earth can therefore not adapt to such a sudden increase in temperature, which is what 100 years is in physical adaptation terms.* *Life on earth cannot survive the heating of the surface and the atmosphere of the planet because of the shortage of water on land the heating causes. Hence the droughts all over Australia and other parts of the world as well.* *The heating of the planet is caused by the burning of fossil fuels such as LNG that loads the atmosphere with CO_2. If all the forests, plants, especially the trees had not been bulldozed then perhaps the CO_2 may have been absorbed, but there are not enough trees and other plants left, to stop the planet heating.* *The oceans have been absorbing heat as well, but that absorption process has slowed down. If you would like to learn more about how the burning of fossil fuels is killing life on earth, you may like to listen to Professor Will Steffen, he's an expert on the effects of temperature increase or climate change if you will. An innocuous term that the IPCC has decided to keep on using, even though they know it is an emergency, but stupidly they do not want people to get anxious. You can ask [Name redacted] who is also a climate change expert and on the IPCC.* *The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions. The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are a lie, unsubstantiated and misleading.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-7 (Project GHG emissions estimates) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

No.	Submitter	Submission and/or issue	Response
		The carbon emissions from the Burrup Hub will have a significant detrimental impact and cause death and destruction for decades to come. At a time where Western Australia needs to be taking contribution to global carbon	
GHG-145	Proforma Submission (additional text appended to CCWA Proforma)	*As a grandmother and carer of this 1 planet that we live on, I am totally sick and appalled each day, I hear of more and more fossil fuels being spewed into the atmosphere.! Where IS the care and common sense in the world, seeming run by TOO large company's you included...that put $ before health. SHAME, shame. sad and sick! writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-146	Proforma Submission (additional text appended to CCWA Proforma)	*As a grandparent I am deeply concerned about the life-time emissions of these project. As a concerned citizen that I strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-147	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects & existing exploitation of Gorgon gas field. Evidence to date indicates that the sequestration of CO_2 is both a technical and practical failure and open reporting of progress needs to be openly reported and audited. Further, if more projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel ...*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-148	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. These projects are entirely unacceptable and irresponsible from a global and climate-change perspective!* *... development in carbon farming and the renewables sector. Gas is not part of the solution for climate-change, or the solution to sustainably power Western Australia into the future.* *Please understand, it is your climate-responsibility and global-responsibility to reject these projects, and any that are not totally and environmentally-sustainable for now and into the future (which includes all coal, oil and gas projects). Our children's lives depend on you making the moral choice for the planet. You are the Environmental PROTECTION Agency...the title of your organisation says it all. Please do not allow political or industry pressures to divert your attention from where your true and ONLY responsibility lies... protection of our environment.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

No.	Submitter	Submission and/or issue	Response
GHG-149	Proforma Submission (additional text appended to CCWA Proforma)	*Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, would breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project would make it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.* *The carbon emissions from the Burrup Hub, if allowed to go ahead would have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking its contribution to global carbon emissions seriously, approving new LNG projects that would continue to pollute at a large scale for the next 50 years is indefensible.* *The life-time emissions of such projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's proposal*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-150	Proforma Submission (additional text appended to CCWA Proforma)	*I'd like to add that this is completely contrary to caring for the health and well being of all Australians and our natural environment as demonstrated by the catastrophic events of this summer.* *Furthermore it is incompatible with concerns for closing the gap and the health of my Kimberley patients who are already marginalised and stand to suffer disproportionately from the effects of climate change.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-151	Proforma Submission (additional text appended to CCWA Proforma)	*We are supposed to be limiting pollution not drastically adding to it. Trying to slip in poisonous projects like this before the door finally slams on them worldwide ensures that the future for our children, grandchildren, etc., will be all the more dangerous.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-152	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. Decisions of this nature, made now, will overwhelmingly influence the well being of future generations. We therefore have a huge responsibility to ensure that what we decide now does not negatively impact the world we leave to our kids & theirs. The impact of fossil fuel mining on our atmosphere & climate has never been clearer then now, at this shocking time of climate emergency. Any new projects particularly as large as the proposed Burrup Hub projects, will have devastating impacts on our climate.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
		I am bound by my responsibility to the world & future generations to ask you not to allow this climate destroying program to get started. Your responsibility to inter-generational equity & your duty of care to us all as Chairperson of EPA WA, is to ensure it is not allowed.	
GHG-153	Proforma Submission (additional text appended to CCWA Proforma)	*We must leave a healthy, living, complete planet to our children. To that end I strongly urge you to reject Woodside's proposal. We should be pursuing the cheap and abundant renewable resources we have available right here in WA. I am, of course, writing regarding the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-154	Proforma Submission (additional text appended to CCWA Proforma)	*The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains any made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.* *LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change or be considered as an acceptable Transition Fuel.* *The carbon emissions from the Burrup Hub will have a significantly detrimental impact on emissions for decades to come. At a time where Western Australia needs to be taking serious action to reduce their contribution to global carbon emissions. Approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD)) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-155	Proforma Submission (additional text appended to CCWA Proforma)	*Look, I don't expect this small contribution to get anywhere BUT!! I love my country and all country for that fact. Please stop hurting this land ??* *If not for us but our next generations ??*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-156	Proforma Submission (additional text appended to CCWA Proforma)	*With the devastating impact across Australia of the recent intense bushfires caused by climate change - it is clear that we cannot continue with business as usual. Australia must meet its international carbon reduction obligations. This project is incompatible with these objectives and to allow it to proceed would be negligent in the extreme. I therefore strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-157	Proforma Submission (additional text appended to CCWA Proforma)	*If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand the LNG industry.* *Gas is no longer a viable 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-158	Proforma Submission (additional text appended to CCWA Proforma)	*I'm a Nurse, Mother, and Grandmother.* *What good is it for any of us ordinary exceptional Australians to recycle, reduce plastic, plant trees and consume less if projects like this blow any of our attempts to be responsible stewards to a healthy country and planet out of the water...literally. The Central bank is talking about stepping in to curb Australia's current leaderships disregard for real action on carbon emissions reduction and climate change action. Insurance agencies are now demanding leadership on real climate action as it's not good for business. I see that you have a real opportunity to redirect private enterprise by signalling that your department won't allow for climate polluting ventures to go ahead on your watch. Of course after you've considered the Science and are prepared to act on it. Below is the intelligently worded letter that you will be receiving in abundance by now. Every one sent is from a concerned citizen. What you do affects not just your state or even Australia it affects the world.* *Please show the country you're serious about handing on to my kids...the next generation...not a scorched Earth but a healthy future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-159	Proforma Submission (additional text appended to CCWA Proforma)	*I believe you have the opportunity to be remembered as someone who made the right choice and rejected further fossil fuel development in favour of renewables.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-160	Proforma Submission (additional text appended to CCWA Proforma)	*Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. Australia must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as Australians should be pursuing the cheap and abundant renewable resources we have.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

No.	Submitter	Submission and/or issue	Response
GHG-161	Proforma Submission (additional text appended to CCWA Proforma)	*All governments need to be extremely careful about signing contracts without clauses to get out! Locking us into the project from get go is irresponsible given the state of our environment but signing it to 2070 is negligent. Likewise not charging fossil fuel companies taxes, environmental fees or donations is again negligent!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-162	Proforma Submission (additional text appended to CCWA Proforma)	*I would like to shorten and personalise this email to persuade you of my sincerity and genuine concern. But I cannot delete any of the following comments. They are all so exactly what I want to say. I can only add that today in Victoria we are recovering from, in less than three weeks, catastrophic bushfires, furious windy days, days when we had the worst air quality in the world thanks to distant fires, drenching rains and now rain full of precious top soil, now damaging our rivers. The unexpected damage to both us and our economy are just the beginning if we do not take every drastic action we can to leave fossil fuels in the ground.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-163	Proforma Submission (additional text appended to CCWA Proforma)	*Please take your obligations to the environment seriously and don't condemn us and future generations to the consequences of more CO_2 in the atmosphere.* *How will you look your children in the eye knowing you could have stopped these emissions and didn't.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-164	Proforma Submission (additional text appended to CCWA Proforma)	*We are the highest emitters per person on this planet of greenhouse gases. By approving this project you would be increasing our emissions and contributing to the climate change and destruction of this country and the planet*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-165	Proforma Submission (additional text appended to CCWA Proforma)	*As an Australian citizen I am deeply concerned by the proposed Browse Basin and North West Shelf projects.* *If these Burrup Hub projects proceed, they will become the largest and most polluting fossil fuel projects in Australia, and one of the largest fossil fuel developments anywhere in the world.* *Climate change has had a devastating impact on the east coast of Australia and the atmosphere has no boundaries. Individuals and industry are working hard to decrease their carbon emissions and the only way we can hope to live in a world that can sustain humans is to keep all fossil fuels in the*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
		ground. The evidence suggests that there is a risk of fugitive gas emissions each step of the way in the production of LNG; including extraction, gas collection and processing. *The creation of new carbon emission sources and the extension of existing large scale ones, will be a breach of our international obligations, and an abrogation of your responsibility to the Australian people. The carbon emissions this project would produce means that the Burrup Hub is fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050.* *Woodside claims that gas a 'clean' fuel and makes a contribution to the goal of reducing emissions. The scientific evidence unequivocally refutes these claims, which are deliberately designed to mislead.* *LNG has become the most significant driver of climate change in the world; overtaking coal in 2019. As stated previously, there is pollution at every stage of its development and use and there is no basis on which it could be considered a solution to address climate change.* *All of Australia, at every level, needs to take their contribution to carbon emissions seriously. There is no Planet B. The Burrup Hub would have a significant and long lasting impact on global warming, and a detrimental effect on our very existence. Western Australia has relied on the fossil fuel industry for economic prosperity, but it is well placed to pursue renewable enery projects which will provide a safe, more sustainable future. I have travelled extensively though WA and have witnessed innovation and renewable energy sources being employed successfully from Marble Bar to Albany. Knowing that the technology exists and is currently being deployed makes even the contemplation approving any new LNG projects indefensible and a dereliction of your role to consider environmental impacts.* *With my whole heart, on behalf of all Australians, I ask you to reject Woodside's proposal. I want my children and grandchildren to have a chance at growing up in a world of opportunity and hope. The lifetime emissions of this project will directly contribute to global warming and make a huge impact on future generations. It is in your hands but I hope you have the strength and courage to think beyond the short- term economic benefits to a few, and consider the long-term prosperity of us all.*	• GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-CIR-4 (Management of fugitive emissions)

No.	Submitter	Submission and/or issue	Response
GHG-166	Proforma Submission (additional text appended to CCWA Proforma)	*THE TRANSITION TO A FOSSIL FUEL FUTURE IS IN YOUR HANDS.* *I IMPLORE YOU TO OPEN YOUR MIND AND BE PART OF THE EVOLUTIONARY PROCESS.* *BE A LEADER - NOT A FOLLOWER - AND SEND WOODSIDE PACKING!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-167	Proforma Submission (additional text appended to CCWA Proforma)	*Every day I am signing petitions and writing to ministers or CEOs about some or other environmentally disastrous decision Incredible that despite recent events we are continuing on this path to a dead planet.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-168	Proforma Submission (additional text appended to CCWA Proforma)	*The carbon pollution created by the proposed Burrup Hub projects makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. Approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.* *The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are unsubstantiated and misleading. LNG is a fossil fuel and its use cannot be considered a solution to address climate change.* *The life-time emissions of these polluting projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-169	Proforma Submission (additional text appended to CCWA Proforma)	*The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking seriously its contribution to global carbon emission, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-170	Proforma Submission (additional text appended to CCWA Proforma)	*I know the EPA isn't allowed to consider greenhouse emissions in your environmental impact assessments. Which is truly the dumbest thing I have EVER heard of, and I've heard some dumb things before now.* *So... putting aside the most obvious reason why this project should be canned, consider VERY carefully the impact on turtle breeding areas.* *Turtles are some of my favourite animals, and we are so lucky to have them in WA. They are very significantly under threat, in large part because of our warming climate. Because the sex of baby turtles is determined by the*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

No.	Submitter	Submission and/or issue	Response
		temperature of the eggs as they mature, rising temperatures are leading to greater chances of sex imbalances and more challenges for turtles to breed. *So please give this very high importance in your assessment.* *I also agree with the other points in the Conservation Council form letter, below.*	
GHG-171	Proforma Submission (additional text appended to CCWA Proforma)	*I worked as a Chemical Engineer for Woodside in the 1980's. I worked on the Burrup and in Japan on the design team of the first LNG plant. I understand the science.* *What was known then, but very much hidden, that is the impact of fossil fuel plants like this proposal on our climate, is now very much a living reality. I now live in the Blue Mountains surrounded by bushfires that are still burning, watching ecosystems and animals and the land I love destroyed. It is heartbreaking. Our whole community and many others around Australia are in shock and trauma with our evacuation bags still packed at the front door-for weeks.* *Climate change is here. There is no more time to continue business as usual.* *So, with my engineering background that I have long left, my understanding of climate science and where we are heading if we continue to develop new fossil fuel projects and burn more CO_2, and my strong request that this project be declined in the face of gathering climate change and very close tipping points, I endorse the following letter. I too urge you to decline Woodside's proposal. Thank you.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-172	Proforma Submission (additional text appended to CCWA Proforma)	*NO NO NO WOODSIDE* *As the Climate Change Created Drought,* *Rips the guts out of our precious soils here at our Quairading Farm...* *It deeply saddens me to report that our meagre twenty five year efforts here in demonstrating drought proofing in "Revisioning the Drylands W.A. Project "appears insufficient to avoid considerable present to long term species loss...*	Please refer to these responses that address the items raised in this submission: GHG-CIR-1 (Resp3onse to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-173	Proforma Submission (additional text appended to CCWA Proforma)	*I beseech you all at the EPA our "Protection" judge, to do something REAL with your children in heart.* *Regrettably Western Australia is a very very dirty player in global emissions.* *If you doubt me its not surprising, as our press here is pathetic in truth news.* *Our big business ~ mostly low tax paying multi nations, governments and you as our "mouse" EPA Environmental Protection Authority, or more honestly... "Environmental Destruction Agency" are not helping to move to the Zero Carbon Economy.* *Mother Nature has simply had enough!* *What was once called pollution, is now softly labelled as carbon tonnes... yes tonnes of massive costly problems.* *We All have no choice but to act now, to slow down her wrath.* *Dim witted delusionary politics, complacency and illusions of distraction, will not stop the horrors of slow Australian heat death, as we steer reluctantly with "Too Little Too Late" towards a "Zero Carbon Circular Unividual Society".* *One of our biggest exports is dust or top soils, jeopardising our feeding capacity.* *Global Heating is No Joke, limiting food and clean water, currently leading to poverty wars and desperate anarchy.* *Surely we must change immediately to Clean Fuels... There are immediate fast track solutions.* *So We Beseech you to not allow these dirty enterprises to compromise all of our futures. If you promote this foolish project you are simply in bed with the dinosaurs and are traitors to your esteemed occupation.* *If you value a safer, cleaner, W.A. and this World, please use your full powers, to stop this destructive, dirty, vain multinational Woodside with their partners, with their ludicrous gas proposals. Respectfully as a very outraged citizen*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

No.	Submitter	Submission and/or issue	Response
GHG-174	Proforma Submission (additional text appended to CCWA Proforma)	*Woodside could be investing in renewables rather than being so focused on creating more emissions. It is likely that within 5 years there will be international pressure and embargoes on Australia for its role in excessive global emissions. Let's not learn this lesson the hard way.* *I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources available in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-175	Proforma Submission (additional text appended to CCWA Proforma)	*I trust you are aware that Australia is burning.* *Show me your level of understanding between fossil fuels and the rising temperatures around the globe.* *Your position as a Decision Maker is most important today because it is will impact our future in either a positive or a very negative way.* *You have a challenge and an opportunity here. But your time is limited. Are you strong enough to see the crisis we are facing? The resources and technology for a rapid transition to renewable energy already exist.* *Show me what you value.* *Prove you love Australia and are willing to fight for a safe, sustainable future.* *Please reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-176	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry. Even this goal fails to meet scientific standards which would require net zero emissions by 2030 if we are to avoid catastrophic climate change.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-177	Proforma Submission (additional text appended to CCWA Proforma)	*I write in response to the the proposed Browse Basin and North West Shelf projects. , the Burrup Hub will be It will also further degrade on of the most significant human collections of art in the world.* *I've visited the Burrup peninsula as a younger man when working as an engineer in the Pilbara for Hammersly Iron. friend and I made a week long rock climbing trip to Dolphin Island. We were absolutely astounded when I stumbled (literally) on the art. The extent of it is just unbelievable. I researched it afterwards and it become even more incredible to me.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

No.	Submitter	Submission and/or issue	Response
		It transcends ices ages, climate change and tells an incredible story on anthropology. I really think it should be a world heritage site and there's more appropriate locations to build an enormous industrial hub.	
GHG-178	Proforma Submission (additional text appended to CCWA Proforma)	*I have grandchildren, do you? I would dearly love for them and their children to experience Australian flora and fauna as we have.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-179	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects, together, potentially, the largest and most polluting fossil fuel projects in the world.* *Western Australia will not be able to meet its 'policy' goal of net-zero emissions by 2050 if there is expansion of the LNG industry. Australia will also be in breach of our Paris Treaty Agreement carbon emissions.* *Gas is not a 'transition' fuel. It is similar to coal when all emissions from extraction, process, transport and use are taken into account.* *Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable energy technologies and manufacturing using clean energy.* *We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-180	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the proposed Burrup Hub and associated gas fields.* *I have no doubt that you are already aware of the following, but I believe that it will give important context to enrich my argument.* *If current trends in GHG emissions continue, the world is on track to 3-5 degrees of warming (WMO, 2019), the consequences of which will seriously impact the lives of every single Western Australian. The GHG emissions driving climate change accumulate from the emissions of many, both big and small. Australia, as the highest emitter per capita of greenhouse gases in the world, has a major role to play in what is in all honestly a struggle to preserve the liveability of our planet.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
		*To do our part in keeping emissions under 2*C, Australia must cut its emissions by 30% by 2025 (Climate Change Authority, 2015).* *In your opinion [Name redacted], how is Woodside's proposed Burrup Hub and Browse Basin and NWS extensions consistent with the urgent need to reduce this State's emissions, especially those in scope 3?* *How can the EPA justify letting these projects go ahead when Woodside willingly admits the Burrup Hub will produce more gas then has ever been extracted from the North West Shelf, when, once burnt, this carbon will contribute to the worsening of bush fires and droughts that put the lives and livelihoods of so many ordinary Australians at risk?* *Under the Environmental Protection Act 1986, the objective of the EPA is to: protect the environment. Where the environment is defined as "living things, their physical, biological and social surroundings.." My question to you, sir, is don't the humans of Australia fit into the Act's definition of the environment? Does the EPA therefore not have a responsibility to protect all Australians who will, now and in the future, be affected by climate change?*	
GHG-181	Proforma Submission (additional text appended to CCWA Proforma)	*The only moral response to Woodside's proposal is rejection. Rejection because the emissions these projects will produce, across all 3 scopes, are not consistent with the EPA's obligation to protect Australia's environment and Australia's people.* *Any social benefit derived from these projects is short term and insignificant when compared to the steps backwards they would produce from the necessary meeting our emissions reductions goals.* *Sir, I do not mean to sound patronising but rejecting Woodside's proposal will take courage. I sincerely hope that you find the courage to do what is right and necessary in the face of those who seek to profit from continuing our destructive addiction to fossil fuels. If you do find the courage to make the right decision, and I know you will, then you will have played a not insignificant role in the fight to change climate change.* *Please do not let Woodside's Burrup Hub and Browse Basin go ahead. [Name and details redacted]*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-182	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects.* *Currently Australia is experiencing extreme temperatures, long lasting drought, overall drying of the environment including the water table and surface water.* *All of these conditions are a result of too much carbon in the atmosphere which is largely a result of ignorant fossil fuel companies and governments throughout the world putting economic growth and extreme wealth for a few over the general population health and well-being. As you are well aware a balanced healthy environment is the essence of good health for animals and humans.* *It is time for you to stand up to the government and not let the short-sighted policies of getting re-elected take precedence over the survival of human beings.* *This is a turning point, please put us first and do what is right for the future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-183	Proforma Submission (additional text appended to CCWA Proforma)	*The implications for this area are therefore highly damaging and toxic. This adds to our current climate crisis.* *This area is of significant indigenous heritage. Desecration through development displays enormous disrespect and wilful oversight.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-184	Proforma Submission (additional text appended to CCWA Proforma)	*WA is crying out for leadership on climate. We need the EPA to take the strongest possible actions to prevent new fossil fuel developments, while we work with all other available processes to stop the current burning of fossil fuels and protect and restore native forests and other carbon dense ecosystems.* *Please reject the Browse Basin and NW Shelf LNG projects and help get us on track to dealing responsibly with climate change.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-185	Proforma Submission (additional text appended to CCWA Proforma)	*Please spend your money on renewable projects. They will make more money in the long term. You don't want to be left with a stranded asset.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-186	Proforma Submission (additional text appended to CCWA Proforma)	*Additionally the priceless and sacred rock art at Murujuga National Park - the world's most significant concentration of ancient petroglyphs - will suffer even more disruption and threat than it already endures should this project proceed. This rock art is an international treasure whose protection has already been mismanaged by the Western Australian government over several decades. I am lucky to regularly introduce international visitors to the Pilbara's national parks through my work in the region, and I feel intense shame to call myself Western Australian when explaining to our international guests that a gas plant has been permitted to be installed in the heart of one of the world's most significant archaeological sites. Every visitor I have hosted at the Burrup has been baffled as to why this has been allowed, especially given that our State's scale and climate present obvious alternatives for the production of sustainable fuel and power. The world is watching our State and our country at the moment, and relying on us to show leadership in regard to addressing climate change. Please do not fail them, or your constituents by supporting these repugnant, greed-driven projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-187	Proforma Submission (additional text appended to CCWA Proforma)	*Enough is enough. We must recognise the damage that carbon intense industries pose and respond appropriately to safeguard our future for us and our ancestors.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-188	Proforma Submission (additional text appended to CCWA Proforma)	*At this time when many of us mourn devastating climate changed fires, we need to pull back from such projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-189	Proforma Submission (additional text appended to CCWA Proforma)	*In relation to the proposed Browse Basin and North West Shelf projects, I urge the EPA to oppose their approval and encourage our WA government to invest in renewable energy.* *An article titled 'Bushfires Reap What Australia's Carbon Exports Have Sown' by David Fickling in Bloomburg Opinion on 7 January sums up the issue for us as a responsible global citizen.* *[The Prime Minister of Australia] focus on Australia's 1.3 per cent share of global emissions takes no account of our contribution via the export of coal and LNG. Adding exports to our total makes Australia the sixth largest global emitter, after China, USA, Russia, India and Saudi Arabia.* *WA's contributions through exports of LNG from the Browse Basin are already significant. If the proposed projects proceed, the Burrup Hub will become one of the largest and most polluting fossil fuel projects in the world and WA would not be able to meet its policy goal of net zero emissions by 2050.* *The scientific evidence is clear that LNG is not a transition fuel, creating about the same amount of emissions as coal does.* *Those who believe Australia should go on supplying the 'drug' of fossil fuels to the world argue that someone else will do it if we don't. This means we must do more than stop the supply; we must help the 'addicts' recover. In so doing, we can swap our fossil fuel exports for renewable energy.* *We can work with our major customers in Japan, South Korea, China, Taiwan, and India, and stop 'pushing' coal fired power stations in places like Vietnam. Instead we can export solar panels to remote Indian villages; wave energy to South Korea; liquid hydrogen to Japan; and solar and wind energy by subsea cables to Indonesia. These projects are within our reach, particularly with government investment in their development.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-190	Proforma Submission (additional text appended to CCWA Proforma)	*Greenhouse gas emissions are a highly significant environmental factor in your consideration of environmental significance of major projects such as this. This is the case in your consideration of the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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		Indeed I submit that we need to reach the goal of net zero emissions much sooner - by 2030. In this we need to shift to 100% renewable energy for WA as an emergency - by 2025. *In addition, the threat of air emissions of NOx and SOx by Woodside's LNG mining and others on the world class Burrup Aboriginal Rock Art must be removed. This is another compelling reason to reject the proposed Browse Basin and North West Shelf LNG as totally environmentally unacceptable.*	Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-191	Proforma Submission (additional text appended to CCWA Proforma)	*Tell the Premier what you think of his relationship with the big polluters! Or do you support this?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-192	Proforma Submission (additional text appended to CCWA Proforma)	*I am a medical doctor currently working in Perth, WA.* *We are at an 'tipping point'. Australia, as we know it, is changing. Our climate is changing - and the negative social, environmental, and health impacts of the abyss into which we stare, should not be underestimated.* *We must - Manage the Avoidable, and Avoid the Unmanageable. For without swift and decisive action - we will soon run out of options - and it will be 'unmanageable'. Just as these fires have been.* *With this in mind projects in the world.* *We have to take heed of the warnings at this time. The health impacts of the changing climate - and the impact on our vulnerable WA population will result in a Health Crisis. Heat waves, extreme weather, fire events - and the physiological and psychological damage done by this.* *If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-193	Proforma Submission (additional text appended to CCWA Proforma)	*I do hope the Australian bush fires will prompt you to be a much better environmental advocate than industry advocate. We should stop subsidising fossil fuels and subsidise things that support improvement in our environment, not the converse.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-194	Proforma Submission (additional text appended to CCWA Proforma)	*IT WOULD BE A MISTAKE OF MASSIVE PROPORTION SHOULD WOODSIDE BE GIVEN APPROVAL TO EXPAND LNG PRODUCTION IN THE NW SHELF. WE ARE EXPERIENCING THE DEPRESSINGLY NEGATIVE EFFECTS OF TOO MUCH CO_2 IN THE ATMOSPHERE AT THIS RELATIVELY EARLY STAGE OF CLIMATE HEATING. TO 'ADD FUEL TO THE FIRE' WILL BE SEEN BY FUTURE GENERATIONS AS AN ACT OF INSANITY, THE APPROVAL OF WHICH WILL MOSTLY BENEFIT A COMPANY THAT PAID NO TAX LAST FINANCIAL YEAR AND ITS SHAREHOLDERS, THE MAJORITY NON AUSTRALIAN.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-195	Proforma Submission (additional text appended to CCWA Proforma)	*The planet can no longer afford unsustainable projects like this and we need to innovate and think differently rather than committing to long term destruction.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-196	Proforma Submission (additional text appended to CCWA Proforma)	*The proposed Browse Basin and North West Shelf projects must not go ahead. Australia is already in the spotlight for our government's failure to respond to climate change, and this proposal clearly demonstrates that lack of vision. These projects would become one of the largest and most polluting fossil fuel projects in the world. How can Western Australia fulfil its goal of net-zero emissions by 2050 if we continue to expand our LNG industry?* *We have the resources and technology for a rapid transition to renewable energy, and we should be taking advantage of job opportunities and regional development these offer in carbon farming and renewables. Gas is not part of the solution for climate change or a solution for WA's power needs. A large-scale LNG project with a lifespan of over 50 years is completely irresponsible.* *At this critical time we should be investing in renewable technologies that create clean energy and rapidly divesting from all fossil fuels, including LNG. Please reject Woodside's proposal. We need to be developing the cheap and abundant renewable resources that are available right here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)

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GHG-197	Proforma Submission (additional text appended to CCWA Proforma)	*Please take these submissions seriously. It used to seem like a far-off thing to say "no jobs on a dead planet" etc, but it's all ramping up now, the consequences of what we've done previously.* *Projects like this no longer have legitimacy. We have to protect the future and the present and look for alternative ways to create energy, and to live well without destroying what's around us and what literally provides our requirements for life.* *And so, Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world - this is unacceptable.* *The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions - this is unacceptable and infuriating.* *obligations, and push our national reduction goals out of reach - why agree to goals if we are going to break them?* *The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050 which in itself is already too little too late.* *You must begin rejecting projects like this, or we will be in greater and greater strife in the coming years, and there are people directly responsible for this - don't be in this category any longer.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-198	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects.* *The bushfires, the rapid and accelerating melting of glaciers all over the world and increases in temperature show that we must transition to renewable energy fast before there is a climate catastrophe with food shortages, displacement of millions of people and increased possibilities of war. Too long Australians have done nothing or too little.* *Yet, Australia has the best conditions for going 100% renewable. Stupidly Australia hasn't realised any of these business potential.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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		We cannot continue like this. We cannot afford paying more and more in relief yet causing more and more damage to our climate. Stop the madness. *Going renewable creates many new jobs.* *All of this is a no brainer. Not knowing why there is this enormous resistance to doing what makes sense and is morally and economically sound, leaves only few possibilities: governments are bought or corrupt and really are not governing for the people.*	
GHG-199	Proforma Submission (additional text appended to CCWA Proforma)	*4 Tidal power stations can provide most of Australia's power needs.* *Please evaluate closely that option and suggest it to the state government.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-200	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. I could not believe the size of the project.* *IT BEGGARS BELIEF THAT SUCH DESTRUCTIVE PROJECTS ARE STILL BEING CONSIDERED NOW THAT WE KNOW THE DEVASTATION THEY CAUSE.* *Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. WA should be LEADING initiatives for job opportunities and regional* *I want our industries to be part of the solution NOT part of the problem.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-201	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects.* *projects in the world, which quite clearly to me is an appalling thought.* *If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-202	Proforma Submission (additional text appended to CCWA Proforma)	*If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot allow our LNG industry to further expand.* *Gas is being hailed by its supporters as a 'transition' fuel. It is not when that transition period covers decades of production. We have the resources and technology for a rapid transition (less than one decade) to renewable energy*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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		generation and storage. *We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector.* *Gas is not part of the solution for climate change, or the solution to sustainably power Western Australia into the future. A large-scale LNG project with a lifespan of over 50 years cannot be allowed to proceed.* *Western Australia can tackle its emissions through investment in renewable technologies which will create skilled jobs into the future. As we do this, we can rapidly move away from all types of fossil fuels, including LNG.* *I strongly urge you to reject Woodside's proposal when we can be pursuing the cheap and abundant renewable resources, we have available right here in WA.*	• GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-203	Proforma Submission (additional text appended to CCWA Proforma)	*The life-time emissions of these projects must be considered in light of the ongoing impacts upon the quality of life for future generations.* *It is for these reasons that I strongly urge you to reject Woodside's proposal.* *I am writing regarding the proposed Browse Basin and North West Shelf projects.* *On behalf of myself, my children, the future generations to come and the earths biosphere, I object to this project in the strongest possible terms.* *1 Fugitive emissions; Australia is at a point where we need to be reducing our greenhouse gas emissions, yet at this point our emissions are rising. The fugitive gas emissions from the extraction of Gas, particularly involving fracking and the release of Methane, will result in significantly adding to Australia's emissions.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-CIR-4 (Management of fugitive emissions)
GHG-204	Proforma Submission (additional text appended to CCWA Proforma)	*We really have to turn our abundant energies entirely towards renewables.* *Alternatively, read [Name redacted] 2009 "The Vanishing Face of Gaia". He has convinced me nuclear is the way to go.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-205	Proforma Submission (additional text appended to CCWA Proforma)	*Surely the drought and tragic bushfires are evidence enough that we need to stop approving fossil fuel projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-206	Proforma Submission (additional text appended to CCWA Proforma)	*I am a geologist writing regarding the proposed Browse Basin and North West Shelf projects.* *Fossil fuels are not the future!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-207	Proforma Submission (additional text appended to CCWA Proforma)	*The time for change is now and you, the EPA, have the ability to make this happen. We need you to protect our environment. For now and future generations.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-208	Proforma Submission (additional text appended to CCWA Proforma)	*Recent and ongoing bushfires have increased the danger the ongoing use of fossil fuel will make the planet uninhabitable not just for man but for all mammalian species.* *Governments of Australia must come to the realisation that the wealth created by the income from fossil fuels production is at the expense of the survival of all of us and of all creatures great and small. The duty owed is to the people.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-209	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford not to expand our LNG industry. CSIRO regards gas is a 'transition' fuel. CleanState and other environmental activists who have no clue claim it isn't. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in gas as the solution for climate change, and the solution to sustainably power Western Australia into the future. A large scale LNG project with a lifespan of over 50 years should obviously go ahead.Western Australia must tackle its emissions through the creation of clean jobs and investment in transition fuels and renewable technologies. I strongly urge you to accept Woodside's proposal as we should be pursuing the cheap and abundant resources we have available right here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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GHG-210	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. I would like to urge both the State Government and Federal Government to reject these projects. The science could not be more clear - to have a hope of keeping warming within a safe range, we need to be peaking carbon emissions as soon as possible and reducing emissions rapidly. The scale of the Burrup Hub would mean that this project would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to have any hope of meeting its policy goal of net-zero emissions by 2050, we cannot allow the LNG industry to expand. The reality of climate change requires us to leave fossil fuels in the ground. Despite attempts to brand LNG as a 'transition' fuel, it is still a fossil fuel, emitting large amounts of carbon emissions. In Western Australia, we have the resources and technology to enable a rapid transition to renewable energy. To be part of the 21st century, in this State and across Australia we need to embrace the potential for job opportunities and regional development in carbon farming and the renewables sector. LNG is not part of the solution for climate change. LNG does not have a future in a world that is genuinely transitioning to a low carbon future. At this point in history, it seems incredible that we could even be considering approving a large-scale LNG project with a lifespan of over 50 years. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-211	Proforma Submission (additional text appended to CCWA Proforma)	*The proposed Woodside Browse Basin and Burrup Hub gas mega-projects would produce carbon pollution equivalent to 32 coal-fired power stations every year for 45 years, making it Australia's largest and dirtiest new fossil fuel project. The carbon emissions are four times those of the proposed Adani Carmichael mine in Queensland. The science is clear, and Australia has signed on to the Paris Agreement to keep global warming to below 1.5C. We can't do this if we continue to open massive fossil fuel basins. I am calling on the EPA to reject Woodside's dangerous new gas project, which would make the climate emergency much worse. We know from international reports that we have only 12 years to reduce our emissions to a level commensurate with global targets. This would be impossible to achieve, if your government will support and invest in this project. We are in a climate emergency, and*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-4 (Management of fugitive emissions)

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		we urgently need serious climate action across the world and here in WA. Climate scientist have produced global evidence gas is simply another fossil fuel that, when burnt, inexorably will add to the green-house gas burden of our planet and add to the serious health risks of climate change. The use of gas in power generation has been promoted because it has a significantly lower carbon footprint than coal but when fugitive emissions from well-heads and transit and distribution of gas are measured, the carbon footprint may be little better than coal. There are viable options for economic development and transitioning from these types of invasive and destructive developments particularly because there is extensive supply of renewable energy in the northwest. I urge our government to uphold their fiduciary duty to protect the citizens of our state and invest in our human right to live in a clean environment as a matter of Climate Justice. Respect and Goodwill	
GHG-212	Proforma Submission (additional text appended to CCWA Proforma)	*Nyikina Warrwa Traditional Owner – Kimberley*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-213	Proforma Submission (additional text appended to CCWA Proforma)	*This is my personal submission in opposition to the proposed Browse Basin and North West Shelf projects which would make the Burrup Hub one of the largest and most polluting fossil fuel projects in the world. If approved, the Western Australia Government would fail to meet its policy goal of net-zero emissions by 2050. Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. Western Australia should embrace the potential for job opportunities and regional development in carbon farming and the renewables sector. It is time to move beyond all types of fossil fuels, including LNG. Woodside's proposal should be rejected so our government can progress to renewable resources that we have in abundance in WA, without further delay. Yours*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-214	Proforma Submission (additional text appended to CCWA Proforma)	*The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-215	Proforma Submission (additional text appended to CCWA Proforma)	*And wherever we live - the repercussions will affect the whole planet. Now is the time to be developing well known and proven sources of clean energy not introducing new production programmes for the old polluting processes. Time is running out to make -what are now urgent - changes to protect the planet on which we all depend.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-216	Proforma Submission (additional text appended to CCWA Proforma)	*I'm sure you will receive many submissions drowning in detail and facts & figures. I simply believe that the environment cannot afford the emissions that this project will release. I do not believe that gas is the answer to "clean" fuel nor that WA can afford this extra pollution and how this will allow us to meet our so called "net-zero" emissions in the future. Why on earth with our natural sun, wind & tides would we want to pollute more? Can't WA lead the way in renewable energy. Surely there would be job opportunities for both local, regional and interstate employment for more than 50 years. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-217	Proforma Submission (additional text appended to CCWA Proforma)	*I beg you to dig deep and really think about the future of Australians and our planet. If you had a sore tooth and went to the dentist and he told you, you've got to have it pulled out, you're very likely to trust him. Same with a podiatrist or cardiac specialist. Why are we not listening to the advice and dire warnings from scientists who literally dedicate their lives (like other professionals) to their line of work. WHY do your profits come before our livelihoods and the livelihoods of native Australian animals? There is literally no need for exploration. Scientists have the answers so please listen to them.* *Gas is a fossil fuel, and if we continue to burn these, the world gets hotter and weather events worsen. This is literally what all environmental, atmospheric, conservation, (etc) scientists learn in their first year of study. Please, for the love of my life, listen to them. Of course, these trace gases are naturally present in our atmosphere but humans pumping it into an atmosphere that's already warming and suffering is so irresponsible. This is scary.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-218	Proforma Submission (additional text appended to CCWA Proforma)	*I would like to make a submission to you in response to the proposed Browse Basin and North West Shelf projects. At a time when scientists are telling us in the strongest terms that we cannot afford extract and burn any more fossil fuels if we are to have any hope of keeping global temperature*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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		rise to under 1.5 degrees, we simply cannot allow this project to get the green light. I thank you for the opportunity to provide this submission and strongly urge you to reject this proposal.	
GHG-219	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. I am a mother of two young children and deeply concerned about the climate crisis which has been driven by fossil fuels, and the industry itself has known how it is heating the planet to dangerous levels for decades - 1. I am shocked to learn that you are considering approving one of the largest and most polluting fossil fuel projects in the world. No amount of money or jobs make this a reasonable decision. Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy.* *I live in South Australia and find myself moved to write to you about this - your decision has long-lasting and serious ramifications for all Australians and beyond. The decision you are making is appalling economically and ethically and the risks are KNOWN - 2. Look to how South Australia is leading in renewables. You can reap the benefits of moving in this direction too. I strongly urge you to reject Woodside's proposal. Think of the future. Be wise. Show true leadership and stand up against fossil fuels.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-220	Proforma Submission (additional text appended to CCWA Proforma)	*I was recently explaining the concept of a dystopian society to my 14 year old and he asked if we lived in a dystopian society. I said we didn't, but he thought the push of governments to continue to do things that wreck the planet that will make it uninhabitable for future generations sounded pretty dystopian. I guess really, he's right!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-221	Proforma Submission (additional text appended to CCWA Proforma)	*A large scale LNG project with a lifespan of over 50 years cannot go ahead. I am not a citizen of WA, but I believe this is a national issue - as a nation we must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. And WA has a chance to lead the country. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources available in WA.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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GHG-222	Proforma Submission (additional text appended to CCWA Proforma)	*Please get your Energy Policy into THIS century!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-223	Proforma Submission (additional text appended to CCWA Proforma)	*Gas is not part of the solution for climate change, or the solution to sustainable power Western Australia into the future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-224	Proforma Submission (additional text appended to CCWA Proforma)	*Furthermore, the price for alternative energy projects has significantly reduced and is not a viable alternative.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-225	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing to you from New South Wales to object to the proposed Browse Basin and North West Shelf projects. I may not live in Western Australia anymore (though I spent my first 28 years there), but the emissions from these projects will have a global impact and are contrary to numerous scientific recommendations that the world needs to decarbonise rapidly to have any chance of retaining a safe climate.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-226	Proforma Submission (additional text appended to CCWA Proforma)	*The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-227	Proforma Submission (additional text appended to CCWA Proforma)	*I am deeply concerned and writing in response to the current consultations on the proposed Browse Basin and North West Shelf (NWS) expansion projects and the catastrophic effect these would have on the ancient petroglyphs of the Burrup Peninsula. I teach Australian art history at university level and with a particular focus on ancient aboriginal art in Western Australia. I urge you and the EPA to consider the longevity and well being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-228	Proforma Submission (additional text appended to CCWA Proforma)	*I am adding my own concerns to the formatted letter below, because* *if we can't turn to, & rely on, our Environment PROTECTION Authority, who on earth can we turn to? WA has the WORST carbon emission in Australia BECAUSE of gas.....* *Australia is already bottom of the carbon emissions reduction pile of countries who pledged to reduce their CO_2.....* *This is shameful. Countries with far less natural resources, like SUNSHINE... are doing better than us.....Climate change is happening NOW. In Australia fires, destruction, death, like never before.* *Floods, droughts, & golf ball hail stones that hit Canberra just as the smoke cleared.....Other parts of the world are experiencing extremes like never before too...* *THIS WILL CONTINUE TO GET WORSE -* *UNLESS OUR ACTION GETS BETTER.....This IS crisis time. The iceberg has tipped.....And it is releasing the deadly methane gas as it melts.....This is suicide. or is it genocide.....? as people do know, but don't do enough to prevent it.So the idea that Woodside want to add to our already worst polluting State...is preposterous!* *Some 'body' in an official capacity needs to use their GOOD power to STOP IT. Read below how the GOOD IS OUTWEIGHED BY THE BAD. Think of your children. Your grandchildren. Thanking you IN HOPE.....*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-229	Proforma Submission (additional text appended to CCWA Proforma)	*The Zero emissions target for 2050 or any other rapid de-escalation of fossil fuel use is essay for the health of humans and the environment. More gas with high methane levels is not where Australia needs to be heading. How about a solar PV powered cable from the Kimberley to SE Asia?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-CIR-4 (Management of fugitive emissions)

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GHG-230	Proforma Submission (additional text appended to CCWA Proforma)	*I would also like to add that as a very proud Australian and concerned parent, this is not the legacy I would like to pass onto my son and grandchildren.* *Australia was once the 'lucky' country where mateship and concern for our community was our driving force. Now there is no concern for community or our 1st Nation indigenous history or culture. I would like to think that these concerns as well as those affecting the environment would also be important when making the decision about this proposal. We have a voice and would like to be heard, we do not want this for our country or our state, when there are so many other environment and community friendly ways to produce the energy needed.* *We should be leading the way in reducing emissions not adding to them.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-231	Proforma Submission (additional text appended to CCWA Proforma)	*I consider it truly appalling that Australia is still embarking on projects that are absolutely polluting the Earth's environment. All this is done so that some very large businesses and some extremely wealthy people can continue to make their enormous profits (and often do not pay tax on those profits) at the expense of the environment. It is, indeed, a very short term outlook.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-232	Proforma Submission (additional text appended to CCWA Proforma)	Dear [Name redacted], I am almost 80. I was not born here. I am now an Australian, a West Australian at that! I have worked in Advertising/Marketing in London, Sydney and Perth. However in the 80's decided It was a young person's game! I did something I always wanted to do...three years at the well respected Claremont School of Art. On graduating knew full time endeavour was not for me, but I made a damn good administrator working for the WA Government, Crafts Council, City of Perth etc. and during that time fell in love with art of the First People of this country as a close friend took a job working with an Aboriginal organisation in the Kimberley. He took me out with his friends to Crocodile Hole. Amazing. Quiet. An experience etched in my mind. Forever. It then really struck home I had been with people who had lived on this land for 50,000 years at least. Wow. And from there I collected, visited, advised a number of communities in the Kimberley and Pilbara, plus Hopevale Arts Centre in FNQ.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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		Of course, I visited the Burrup Peninsula...what can I say. I am not going to talk re. CCWA, they do great positive work, and you know full well what they are on about! I just want to remind you of what touched me so very deeply. We live with a community of people who have lived here, in broken, for over 50,000 years. What they have to say is etched over many years on those Burrup Stones. It is their legacy, it is our legacy. Please respect the Elders, their Elders, and their Elders.	
GHG-233	Proforma Submission (additional text appended to CCWA Proforma)	*In my role as Convenor of the Cockburn Community Wildlife Corridor.* *Our community group of some 80 members and over 300 supporters works locally to help protect and restore TECs in our local urban bushland. These communities are under continual attack by developers and Main Roads. We feel strongly that it's time to draw the line on the continued destruction of our natural heritage in the name of jobs and growth. Our work and efforts (and the efforts of many other ordinary Australians and forward-looking sustainable industries who care for the environment) will be cancelled out by the extent of the emissions that would result from gas collection and processing at the Burrup Hub.* *These polluting projects need to be stopped. The life-time emissions of these projects must be considered. The future lies in the development of renewable energies. Australia could lead the way. It is for these reasons that I and the CCWC strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-234	Proforma Submission (additional text appended to CCWA Proforma)	*Dear [Names redacted] am writing to you from the NSW Southern Highlands, in response to the current consultations on the proposed Browse Basin and North West Shelf projects. Firstly please read and consider this short personal account of life in bushfire affected NSW. This is the first opportunity I have had in weeks to communicate to you my deep concern about the proposed Woodside LNG hub. For myself, and thousands of others, the first weeks of 2020 were an endless round of fire preparation; packing cars and leaving for safer locations, returning and monitoring for flareups and embers, being awakened during the night with alerts when fires flared again, constantly monitoring nearby fires and keeping in contact with neighbours. Since early November 2019, the region I live in has been*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

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		impacted by the Currawon Fires (1 and 2), the Green Wattle Creek Fire and finally the Morton Fire which destroyed homes, property, endangered the lives of residents and firefighters, killed stock and innumerable wildlife in our bush and National Parks. Tragically, four firefighters in our immediate area died. For myself and neighbours, we are lucky, experiencing only minor property damage and returning to habitable houses only thanks to the availability and skill of firefighters. Why is this relevant? It is because Australia's coal and gas industry is one of the factors which can be managed and changed. These fires were finally declared 'Out' only in the past few days after rainfall of between 200 and 600mls or more in the past week. Yes, drought and lightning strikes were contributing factors to these bushfires, but are only partial explanations. Arson has been discounted as a significant factor. All reports are that the scale and intensity of these fires is unprecedented. Increasingly fact and science based information points to human induced climate change as a significant factor in creating the conditions which contributed to these bushfires. None of this information is new. All has previously been made known to government, at all levels, and decisionmakers, such as yourselves. I am one of the increasing number of voting citizens who are fed up with inaction on the part of our elected representatives and those who provide advice to them. Unfavourable global attention has rightly been drawn to Australia's lack of effective policy and action in relation to our fossil fuel industries and exports. In writing this to you I have carefully considered the following points, endorse them fully and recommend the following for your urgent consideration in relation to the proposed Browse to North West Shelf Project.	
GHG-235	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing to oppose the Browse Basin and North West Shelf projects. My primary reason is the contribution that will be made to worsen climate change. I include in my concerns not just the gas produced and then burnt or otherwise processed, but critically the methane and other greenhouse gas leakage and other production contributions to climate change. These impacts of both the gas sold and the production impacts are massive - significant on an international, national and state scale. Plus there are the negative local impacts on rock art, traditional owners and other people's wellbeing. I am concerned that any public money supporting these projects will effectively be used to prop up a dying industry, stranded assets. It may take 10 or 20 years but the future harm that these projects will contribute*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-CIR-4 (Management of fugitive emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions:

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		to will devalue these projects significantly. No public money should in anyway support or subsidise these. Nor should any legal precedent be created which creates a financial obligation on the state to directly support these projects. Just paying for the harm they will cause will impact people globally. Supporting these/this project will result in a transferral of wealth to Woodside and partners, and wide-scale environmental harms plus social harms most affecting those marginalised. There is clear literature about the impacts of climate change on marginalised people. Supporting this project will increase those impacts direly. The life-time environmental and social (including cultural heritage) impacts of these projects must be considered. Given our political context, the donations by fossil fuel companies to major political parties, it seems inevitable this project will go ahead. If it does, I request you attach conditions of environmental remediation that includes fully offsetting the atmospheric greenhouse gas impacts with some form of greenhouse gas removal e.g. Widescale tree plantations, and landscape remediation. Further, that these actions are a condition of ongoing operation with review schedules included in the licence conditions spaced at 2-4 years checkpoints, such that where the license is contingent on ongoing net zero greenhouse/carbon gas production.	• SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-236	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the proposed Browse Basin and North West Shelf projects. Given the terrifying prospects the world faces as a consequence of greenhouse gas emissions, we would be completely PROFLIGATE to allow a 17.2MtCO_2-e per annum impact, expansion of our LNG industry. With an impact of 7.MtCO_2-e per annum for the Browse project from venting and pumping this will be the most polluting LNG project in Australia. Furthermore, It is still worse, as this LNG is exported and impacts much more on the environment as further GHG emissions and abundant, wasteful and harmful, cheap plastic production. I understand these impacts are not part of your assessment, which I do not agree with. As this represents an EVEN bigger impact on Australia. I am not aware of any meaningful GHG controls applying to this project, previous GHG controls (eg Gorgon) have been ineffective and not enforced. This speaks to the failing of a social licence for this industry to operate. Gas is not a 'transition' fuel. We have the resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector. .*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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GHG-237	Proforma Submission (additional text appended to CCWA Proforma)	*I have a fundamental problem with #fossilfuels extraction adding to global warming, additional CO_2, Metgane & other greenhouse gases. The size of this proposed operation will not contain Australia's emission targets. However the immediate damage to Scotts Reef is a real and present danger to sea life as mentioned above. As indicated in my concern above, the Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-238	Proforma Submission (additional text appended to CCWA Proforma)	*At this point in history the future of the fossil fuel industry is looking more and more tenuous and also need to preserve the remaining natural habitat is critical. I agree we cannot close the coal gas and oil industry overnight but we must avoid the temptation of starting new projects for short term gain. We must swing our efforts toward preserving what is left and changing to a carbon neutral or carbon negative world as soon as is humanly possible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-239	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in regards to the proposed Woodside Petroleum drilling project. The recent, terrible Australian fire season was greatly exacerbated by carbon pollution induced global warming. In light of this and the many other climate change induced natural disasters occurring around the world at present, any proposal to extract more fossil fuels is ludicrous, and adds greatly to the threat currently facing the world we live in. The fact that the proposed site is an untouched wilderness, a last haven for all kinds of endangered sea life, makes the threat to Australia's diverse natural heritage all the more severe. Were any mishaps to occur, the damage not just to the local ecosystem but the entire Australian coast would be devastating, but any industrial activity would have irreversible effects and may well spell the end for many of the species that call Scott Reef their home. Furthermore, as the rest of the world rapidly transitions away from fossil fuel, the project also makes no economic sense. I urge you to protect Australia's natural heritage, and to approve projects that help provide a just transition to a fossil free economy for Australian workers, rather than approving last ditch attempts by fossil fuel barons to line their pockets at the expense of the Australian public's beautiful places and natural heritage.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)

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GHG-240	Proforma Submission (additional text appended to CCWA Proforma)	*I have off grid power and it works well. There is no reason to keep overcharging us for something that we can do ourselves without your interference. Why keep stuffing everything up when we have the technology to deal with everything ourselves. We do not live in a democracy when you keep pork barrelling every project you touch. Over paid politicians combined with over paid Public Service who contribute nothing but financial loss to our lives. You are all overpaid have no experience in the real world yet insist on telling us what to do.* *You represent the biggest loss to our middle class, the environment and to our way of life as you all leach on us, guide us into wars in past etc. You continually lie to us but now reality strikes and you all do not know what to do and keep coming up with hair brain schemes put forward by your so called "experts". Here is an idea! If you take all the taxes , duties off of Off grid power it will encourage people to invest in it and the need for grid power will shrivel in demand drastically. Why won't you do it?* *But that will cut down the wages and conditions of your mates eh? [Name redacted] and his mates will lose the next election as we are sick of you acting like your doing something and producing nothing. Refusing to listen to our people shall be a big mistake as you have lost our respect. Gas and coal usage along with the suggestion of nuclear power generation is not welcome or wanted. Are you getting the message?* *The sun that produces light is our saviour to produce clean power. Stop importing people stabilize our population and guess what? And all your problems go away in the most important thing we have faced. That is saving our planet! Are you listening? Tell all your idiot experts to come and have a look at our system of 10 KW. It works well and we live by it!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-241	Proforma Submission (additional text appended to CCWA Proforma)	*A global climate emergency is in place. We must stop destructive and polluting fossil fuel projects like this! Please do not release these proposed immense carbon emissions.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-242	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing regarding the current consultations on the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-243	Proforma Submission (additional text appended to CCWA Proforma)	*Western Australia is the biggest contributor to greenhouse gas pollution. More than any other state. Let that sink in for a moment. Also, remember the last mining boom. The most mishandled resource sector boom ever? Why are you selling off the country, bit by bit, with no pay back for us? Are we a country, or a corporation. And to be honest, WA Labor, we see you. We SEE you, and with an election coming up, people are not impressed. You can ban puppy mills, but not your mates money mills. Which side of history are you going to be on? We need money to rebuild our power grid, for example, but instead of raising that through mining, you let companies take the spoils, while we get left with the heavy lifting.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-244	Proforma Submission (additional text appended to CCWA Proforma)	*I am not a resident of WA, but I have visited WA and I love WA's natural environment. WA's beautiful natural environment is already at risk from climate change. New fossil fuel developments like these will further push the world towards catastrophic climate change, and risk irreparably harming WA's magnificent and unique natural beauty. It will also have impacts across Australia and the world. Western Australia and the world needs to urgently transition to 100% clean energy. You must uncategorical reject these gas projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-245	Proforma Submission (additional text appended to CCWA Proforma)	*With the current bushfire disaster (caused by years of drought, due mostly to the usage of fossil fuels), and the destruction of so much wildlife habitat on land already, but also the pollution of nearly all waterways and the oceans with toxic chemicals and garbage caused by the severe flooding... With the eyes of the world on the government, now even more than before, this government and the industry cannot afford anymore environmental disasters and the making of decisions in favour of the fossil fuel industry!!! Environmental disasters that you cannot guarantee will never happen, and negative effects on the wildlife in our precious waters, you can also not guarantee that will never happen!!! Discharges of wastewater and pollution from oil spills will contaminate marine ecosystems with toxic heavy metals and other chemicals. I urge you also to not propose these developments anywhere else, and start investing and earning your money with renewable energy sources. This, as it is the future and is what not only Australia, but also the rest of the world wants and has to happen!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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GHG-246	Proforma Submission (additional text appended to CCWA Proforma)	*I write as a health professional. Climate change is recognised as one of the most serious threats to global health of our century. Climate change has and will increasingly have enormous impacts on human health, both directly and indirectly. It is vital that Australia, and all nations, collaborate to reduce the pollution that drives climate change. Most existing fossil fuels need to stay in the ground in order to maintain a reasonably safe climate for future generations. It is dangerous to develop new gas resources. I understand that, if the proposed Browse Basin and North West Shelf projects proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry.* *Gas is not an appropriate 'transition' fuel. It is less polluting than coal at the point of combustion, but its primary constituent, methane, is a highly potent greenhouse gas when leaked. Instead of gas, we should be developing resources and technology for a rapid transition to renewable energy. We should be embracing the potential for job opportunities and regional development in carbon farming and the renewables sector.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-CIR-4 (Management of fugitive emissions)
GHG-247	Proforma Submission (additional text appended to CCWA Proforma)	*Take a look around you and see that the world is literally dying because of this sort of crap.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-248	Proforma Submission (additional text appended to CCWA Proforma)	*In 2019, LNG overtook coal as the most significant driver of CO_2 pollution increases across the globe. LNG is a transition fuel and should be seen as necessary in the journey to decarbonisation - however in line with the EPAs own recommendations all new developments should be carbon neutral. UNLESS Woodside commits to ensuring that the project is carbon neutral (and this is enforced). Woodside has the resources to ensure carbon-neutrality, but this will come at a cost and therefore it won't implement this voluntarily.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-249	Proforma Submission (additional text appended to CCWA Proforma)	*By implementing carbon neutrality Western Australia will become a world leader in large scale carbon-mitigation technology, and set an example of how to balance the requirements for energy and climate change control.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-250	Proforma Submission (additional text appended to CCWA Proforma)	*Dear (Chairperson Environmental Protection Authority WA), [Secretary Department of Environment and Energy], and [Name redacted] DWER: After reading Woodside's documents RE: their proposed Browse Basin - North West Shelf (NWS) extension project, and the two associated offshore components (wells and bringing the gas to the Burrup Peninsula for processing), I am extremely concerned about the devastating effect these would have on the Murujuga rock engravings. The rock art is internationally significant and part of Australia's cultural heritage. It should not be degraded or destroyed in the interest of profits and at the greater expense of increased global emissions of greenhouse gases. Importantly, the emissions from these proposed projects contain substantial amounts of sulfur and nitrogen dioxides which form sulfuric and nitric acids when the emissions mix with atmospheric moisture. These acids break down the patina on the rock surface which of course destroys the rock carvings. In order to truly evaluate the environmental impact of these industrial emissions, it is imperative that the total cumulative emissions from industries on the Burrup Peninsula must be calculated, considered, regulated and monitored. Furthermore, the Burrup Hub proposals should not be approved until the promised monitoring program has been initiated by the WA government's Rock Art Strategy Stakeholder Committee, and they have real data to comment on the consequences of an increased pollutant load. The emissions from processing, transporting, and burning the LNG are a huge source of carbon dioxide and methane which Australia must curtail. I am also very concerned about the health impacts of industrial emissions on local workers and residents of the Burrup Peninsula and Karratha region, given the high levels of air pollution that are consistently visible on BOM images. Much of this could be reduced if Woodside and other industries were forced to have the highest possible level of scrubber and other technology to reduce emissions -- some of their huge profits could be reduce harm to the petroglyphs, human health and wellbeing. EPA has a responsibility to Aboriginal Australia, as well as the entire population, to protect the irreplaceable cultural heritage contained in the Murujuga petroglyphs rather than facilitate the short-term profits of the gas industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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GHG-251	Proforma Submission (additional text appended to CCWA Proforma)	*As a Science and Agricultural Sc teacher with over 40 yrs experience, I am well aware of the impact this project will have. I have 6 grandchildren and I would hope that they would be able to experience this wonderful world as I have done.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-252	Proforma Submission (additional text appended to CCWA Proforma)	*I am very concerned about the proposed Browse Basin and North West Shelf projects. If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel projects in the world. If Western Australia is to meet its policy goal of net-zero emissions by 2050, as part of the 2015 Paris agreement we cannot afford to expand our LNG industry. Gas is not a 'transition' fuel. A large-scale LNG project with a lifespan of over 50 years is going to be a considerable contributor to global warming and this is something we cannot accept. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. . Our children need a safe, clean future. Any development in the fossil fuel industry is more than a backwards step. It seals our fate for the future.*	Please refer to these responses that address the items raised in this submission: • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-253	Proforma Submission (additional text appended to CCWA Proforma)	*More fossil fuels? You are proposing to kill even more sea life. When will the killings stop? When the last sea creature has died? And the seaweed has turned to stinking slime? It's just not worth it; SO STOP THE KILLING BEFORE YOU KILL THE WHOLE PLANET!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-254	Proforma Submission (additional text appended to CCWA Proforma)	*Spend 10% of the amount proposed for this ecologically damaging & insensitive project, on refining renewable energy alternatives. In the long term, so much lore will be obtained.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-255	Proforma Submission (additional text appended to CCWA Proforma)	*Also, we do not need gas! Other parts of the world are easily moving beyond gas by banning natural gas in new developments like Berkley (induction cooktops and electric heat pumps!) and banning ICE vehicles (yes, even [Name redacted] likes EVs)*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-256	Proforma Submission (additional text appended to CCWA Proforma)	*It would appear to me as a result of taking an active interest in the wider debate connected with human activities and the environment, that not only scientists, but also the business world , economists and the general public are becoming increasingly aware that there are better alternatives to fuel energy needs. Why then would oil companies want to waste their resources*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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		by drilling for oil that may not be required in the future.? Would it not be better to encourage money to be invested in more acceptable alternative technologies which would prepare them for inevitable changes ahead and avoid further damage to a vulnerable ecosystem?	
GHG-257	Proforma Submission (additional text appended to CCWA Proforma)	*Please sirs, listen and see what is happening to the climate on Earth. Temperatures are rising. Australia has seen and is seeing catastrophic droughts and fires.* *Human-driven pollutants in the air have contributed to rising temperatures. I'm concerned about the proposed Browse Basin and Nor-West Shelf projects.* *These are fossil fuel projects, polluting projects.* *Because WA has plans for net-zero emissions by 2050, the State needs to reduce LNG projects rather than starting up new projects. The State has already made moves towards renewable energy. I urge you to encourage further development of technology and investment in renewable energy. Jobs will be created and there will be benefits for the State. Reduce emissions rather than creating more. Our world cannot afford further rising in temperature. Please reject Woodside's proposals for these projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-258	Proforma Submission (additional text appended to CCWA Proforma)	*Oil and gas operations should surely be a thing of the past given the cost to life and the economy of this summer of fire. Will next summer be the same as this one? More fires, more devastation. Cancel the overseas contract for gas and let us use the gas we have in WA within Australia. No more drilling, no more fracking*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential sources of gas)
GHG-259	Proforma Submission (additional text appended to CCWA Proforma)	*The time is now to act in response to the clear threat to our environment of continued preferencing of mining for carbon producing products over sustainable eco systems. Please exercise your influence to contain this out-dated pattern.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-260	Proforma Submission (additional text appended to CCWA Proforma)	*I am a retired academic geologist. Given the effects of global warming, bushfires, and coral bleaching we must stop using fossil fuels as soon as possible, and that means NO NEW DRILLING.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-261	Proforma Submission (additional text appended to CCWA Proforma)	*I implore you to insist on better protection of the ancient Murujuga petroglyphs in the face of expanded development. I am sure there are technological solutions that our Government could require of the companies involved. The site is of global significance and we Western Australians are its custodians.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-262	Proforma Submission (additional text appended to CCWA Proforma)	*Our destruction of our environment, and decimation of our wildlife by unprecedented climate change weather events means we cannot add any more destruction to our important ecosystems, which are under great threat.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-263	Proforma Submission (additional text appended to CCWA Proforma)	*At a time where Western Australia needs to be taking its contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-264	Proforma Submission (additional text appended to CCWA Proforma)	*It is time for all governments to act responsibly and do what the people want, and not just what the gas, oil and mining industries want. Sustainable, green energy will create more jobs for everyone in the long run.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-265	Proforma Submission (additional text appended to CCWA Proforma)	*In the midst of our climate crisis, knowing only that the world's climate will become hotter and more unpredictable with time, this development is the last thing that this country needs. It is time for regulators and governments to take a stand and protect our environment, and place it above the exploitation and ruthless desire to make money that has seen so many marine and other environments destroyed or severely degraded. My understanding is that I am told that Make a decision for the children of this world and their children, together with all our wonderful wildlife - rather than a decision to line the pockets of a multinational company and those that are already rich and well-off.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-266	Proforma Submission (additional text appended to CCWA Proforma)	*Hi. I know form letters aren't the greatest way of communicating with politicians at times, but in this case I think the information below is worth repeating. I'm just a South Aussie who has loved the Northwest on my visits so far, and can't wait to get back up there. We are currently fighting Oil & Gas expansion along my pristine home coast as well, so I just wanted to add my voice to those urging you to do what you can to block more of*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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		it up there. The science is clear that we can not globally afford more fossil fuel development, and I reckon we are one of the countries best placed economically/technologically to ramp up the transition to 'green' options. All we need is the political will & bravery to draw a line in the sand and begin. So please be part of that process.	
GHG-267	Proforma Submission (additional text appended to CCWA Proforma)	*Since oil and gas are dying industries it is wastefully destructive to drill in this fabulous environment.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-268	Proforma Submission (additional text appended to CCWA Proforma)	*Australia has just had massive, widespread fires due to climate change, brought on in significant part due to fossil fuels. We need to stop this reliance on fossil fuel energy and we need to stop destroying the world in the name of money.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-269	Proforma Submission (additional text appended to CCWA Proforma)	*What are these people's problem? The world is at a tipping point MOSTLY because of fossil fuels and here they are wanting to put the final nail in our collective coffins! Extreme weather events EVERYWHERE in the world. Bushfires in the Arctic for Christ's sake! Billions of native Australian animals wiped out over the last six months! And many more to die because they no longer have a habitat all due to the burning of fossil fuels. Are you the Environment PROTECTION Authority or not? Stop it! Do you want to have the death of our planet on your conscience for the rest of your life???*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-270	Proforma Submission (additional text appended to CCWA Proforma)	*I know there is an economic cost to not going ahead with this project, but … when are we actually going to start looking after our environment. At every opportunity, we are pounding our beleaguered environment, and there are signs that it is now really struggling with the weight of human consumerism. Please, do not go ahead with this project. I would like to see the world change its direction in favour of living sustainably with our environment.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-271	Proforma Submission (additional text appended to CCWA Proforma)	*Western Australia is to meet its policy goal of net-zero emissions by 2050, we cannot afford to expand our LNG industry. Gas is not a 'transition' fuel, that opportunity was lost 20 years ago.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)

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GHG-272	Proforma Submission (additional text appended to CCWA Proforma)	*[Name redacted]* *As a WA constituent, I am seriously concerned that the Burrup Hub development will lead to a major new fracking industry in WA, with devastating consequences for groundwater, communities and the natural environment. Woodside's own documents reveal that significant additional gas volumes will be required beyond the offshore Scarborough and Browse proposals identified the carbon pollution created by this project alone makes it *fundamentally incompatible* with Western Australia's policy goal of net zero emissions by 2050 and national and global efforts to maintain temperatures at safe levels. Given the unacceptable risks of gas fracking AND the carbon pollution and environmental impacts of the Burrup hub development, I urge you *in the strongest terms* to REJECT Woodside's proposed Burrup hub developments. The future is not in fossil fuels of any kind!* *We MUST put every effort into persuading our energy suppliers to re-tool for a zero emissions future as soon as possible.* *The machinery of government has many ways to make that move palatable to the big polluters.* *It is your responsibility to look after ALL Western Australians, not just the big end of town. What future do you want for your grand-children?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) Items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential processing of gas)
GHG-273	Proforma Submission (additional text appended to CCWA Proforma)	*We are already experiencing the negative impacts of a changing climate so to even consider opening up what could be one of the most polluting new projects on earth surprises me. I oppose the proposal for the Burrup Hub, Browse Basin and North West Shelf LNG projects and links to the project to the spread of onshore gas fields across farming regions of WA. Thank you for the opportunity to have my say on the proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-274	Proforma Submission (additional text appended to CCWA Proforma)	*I can hardly believe that this is even on the table! The environmental and human health risks of fracking are widely documented and recognised, and even if fracking was totally safe, the end result is MORE FOSSIL FUELS BEING BURNED. Our planet is facing a climate crisis as a direct consequence of our use of fossil fuels as a power source; why on earth are you considering adding to the problem? Australia is blessed with abundance of renewable energy sources (sun, wind, wave power); we need to transition to renewable*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)

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		energy NOW, and leave all remaining fossil fuels in the ground! We are all in this together, and there is no Planet B! What sort of planet do you want YOUR great-grandchildren to be born onto?	• GHG-CIR-2 (Renewables and zero/low carbon energy future) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential processing of gas)
GHG-275	Proforma Submission (additional text appended to CCWA Proforma)	*This is important. Please read to the end. Instead please put your attention to growing kelp forests that can be used as biofuels, cleans the water, takes CO_2 out of the atmosphere and creates marine sanctuaries to help grow the fish population. See [Name redacted], Tasmanian University and his TED talk about the research about seaweed.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-276	Proforma Submission (additional text appended to CCWA Proforma)	*None of this adds up in the long term as environmental impacts will exceed all possible benefits. Reject this project or you will have blood on your hands - including that of your own kids and grandkids. What else really needs to be said?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-277	Proforma Submission (additional text appended to CCWA Proforma)	*I am DISGUSTED that in 2020 we humans STILL think we have a Right to DESTROY this PLANET. We are in a CLIMATE EMERGENCY and yet we get big corporations that think they can go out and DESTROY this PLANET for GREED, at the rate that us humans are PUTTING PRESSURE on PLANET EARTH. We All won't have a Planet to call Home. We are LITERALLY wiping OURSELVES of this PLANET, unless we STOP this STUPIDITY from Woodside proposal. SAY NO TO WOODSIDE.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-278	Proforma Submission (additional text appended to CCWA Proforma)	*We are at a unique time in the world's history with the centuries old technology's of oil and coal threatening our worlds climate and environment and the new technology on the very cusp of evolving to replace them imminently. Our children deserve the right to enjoy the natural world that we have taken for granted and exploited as a young country finding its position among the nations of the world. We have developed and should now lead as a nation at this critical time in our world's history for all our children's sake. This oil and gas resource will not disappear if it is mined in the short term and in the longer term, we may develop safe ways to mine it if needs be but give our children a chance to have a future rich in natural resources.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

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GHG-279	Proforma Submission (additional text appended to CCWA Proforma)	*It's just not right. Everything that I do each day is about me thinking about whether I can reduce my carbon footprint. I'm doing the work. For my children and my future grandchildren (I hope). I expect the WA govt and big business to have the same line of thinking. We should not be undertaking any business enterprises that increase our carbon emissions. Why don't you build an electric car plant and make money from that e.g.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-280	Proforma Submission (additional text appended to CCWA Proforma)	*I am also concerned that atmospheric greenhouse gases are already too high for any new fossil fuel project to recover it's establishment costs before being shut down due to loss of commercial viability, in which case the proponent may not be able to fund clean-up and restoration works.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-281	Proforma Submission (additional text appended to CCWA Proforma)	*I am really worried about the future of life on earth. For over 30 years we have been warned about climate change but little has been effectively achieved. I believe that we are in the tipping point as [Name redacted] and others have warned.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-282	Proforma Submission (additional text appended to CCWA Proforma)	*Enough is enough, human greed is ruining our beautiful planet and it needs to stop now. We need to look to new ways to do things without destroying the planet and its inhabitants.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-283	Proforma Submission (additional text appended to CCWA Proforma)	*What could be more important than the safety and conservation of our planet? If you say profits then you're the number one problem wrong with the human race.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-284	Proforma Submission (additional text appended to CCWA Proforma)	*The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-285	Proforma Submission (additional text appended to CCWA Proforma)	*Dear [Name redacted] Enough! When does culture become more important to than profit? Today you have the power to show the world, our First Nations people & general Australian community that culture is more important than profit. Woodside owes this country a duty to protect Aboriginal art & our environment. Destruction or preservation? What will be your legacy?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-286	Proforma Submission (additional text appended to CCWA Proforma)	*We must learn quickly that this type of development is both dangerous to the environment and will increase Climate Change. As a Victorian who has watched in dismay the damage that has occurred over this summer, first with terrible fires and now with floods, we must stop raping the earth and turn quickly to renewable energy.* *Change to renewables now and your company will flourish with the new technology and will help relieve the dangers that will come with your proposed development.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-287	Proforma Submission (additional text appended to CCWA Proforma)	*This proposed project is daft, environmentally irresponsible and plainly economically stupid.* *Politicians who allow or champion projects of this type can take warning: you will pay a heavy price at the ballot box for putting the narrow interests of big business before the broad and urgent challenges of the environment.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-288	Proforma Submission (additional text appended to CCWA Proforma)	*Please don't let only economic gains be the point of your decision, allow the ecological stability and natural beauty hold weight . The future of humanity needs decisions on relationship between energy and nature to be innovative design , not old outmoded and polluting fuels.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-289	Proforma Submission (additional text appended to CCWA Proforma)	*seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-290	Proforma Submission (additional text appended to CCWA Proforma)	*seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible. The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge (and trust) you to reject Woodside's*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-291	Proforma Submission (additional text appended to CCWA Proforma)	*I'm just adding a brief note to this pre-generated email - I'm not an expert and so haven't memorised the relevant scientific information provided below. I do want to have my say as a West Australian, and to let you know that the preservation of the local and global ecosystems, including this incredibly precious rock art, is infinitely more important to me than any financial benefit related to the fossil fuel industry. We should be positioning ourselves as global leaders in the rapid transition to renewable energy*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions:

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		sources, instead of sacrificing irreplaceable cultural sites to a dirty, dying fuel. The climate crisis will exacerbate the existing chasm between the quality of life of the most wealthy and the most impoverished in Australia and around the world - governments' duty ought to be with elevating the disadvantaged, not pandering to the already wealthy. Anyway, the rest of the pre-generated email text follows.	• SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-292	Proforma Submission (additional text appended to CCWA Proforma)	*I have visited the Burrup with my family and was speechless when viewing the incredible wealth of petroglyphs there. I was also speechless to see the inappropriate development in the area. Industries producing sulfur and nitrogen dioxide emissions are the worst kind of neighbours for the petroglyphs. The state and federal governments should be reducing the impacts in this special area to protect the heritage values. Please consider a World Heritage recommendation so this treasure can be preserved into the future. Industrial developments should be located in more suitable areas. I concur strongly with the information below:*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-293	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing to you even though I live on the east coast: this issue affects all Australians. Gas is not a transition fuel - that time is long past. Our planetary atmosphere needs immediate stabilising and gas is a major contributor to green house gases. I also live in a region that was nearly fracked, and I know the dangers that it presents to water, soil and air quality. As desertification spreads across the planet, arable farming land needs to be regenerated and protected from inappropriate development. For these reasons, plus those mentioned below, I want to show my support for the people in Western Australia who oppose this project, and to also voice my objections. I'm alarmed about the industry reports that this proposed gas hub could also be connected farmers across WA to fracking gas fields is well known to the Government. It is totally inappropriate for the Government to be considering this gas hub proposal without fully*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential processing of gas)
GHG-294	Proforma Submission (additional text appended to CCWA Proforma)	*I am amazed that I and many others need to write to you regarding the proposed Browse Basin and North West Shelf projects. How can it even be considered as viable in our current awareness? If these projects were to proceed, the Burrup Hub would become one of the largest and most polluting fossil fuel Gas is no longer a 'transition' fuel. We have the resources and technology for a rapid transition to completely renewable*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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		energy. This aim is what we need to be embracing with the potential for job opportunities and regional For Western Australia to sustainably prosper, tackling its emissions through the creation of clean jobs and investment in renewable technologies it an imperative. We can and need to rapidly move away from all types of fossil fuels, including LNG. I therefore strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA.	
GHG-295	Proforma Submission (additional text appended to CCWA Proforma)	*The professional letter follows however in simplest terms we need to transition from carbon based and all fossil fuel sources for energy. It needs to be left in the ground. We need you and all who have the capacity to support significant change for the benefit of all living beings on earth so recognise this HAS TO HAPPEN NOW. Why corrupt and pollute a relatively pristine environment which will be a key area to rehabilitate and maintain ocean diversity to benefit a very small number of shareholders. Please amend your thoughts. Make decisions that benefit all species on earth. You have been tasked with a great moral and ethical decision not a corporate or financial one. Please err for the benefit of the greater good.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-296	Proforma Submission (additional text appended to CCWA Proforma)	*It breaks my heart that we the people are constantly having to protect each and every piece of land from the greedy corporations seeking to take in the name of money and power instead of moving forward with technology that respects our home and nurtured her to renewal. It is exhausting and infuriating is causing anxiety in much of the population that we are seemingly powerless and must stand by and watch as our future is destroyed and anything of significance culturally especially silly takes a back seat to lining the pockets of the already super elite. These companies are a disgrace to mankind and the earth in which they depend upon to live Shame on you for continuing to allow this destruction May you stand before the children of the future and explain yourselves.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-297	Proforma Submission (additional text appended to CCWA Proforma)	*Having visited the Pilbara 18months ago as a guest artist for Red Earth Arts Festival 2018 I was incredibly moved by the history and deep richness of this area. In addition, I was graciously exposed to Rock Art and national treasure by [redacted] and his family. The rest of this letter is pre- drafted as I cannot express any better my deep distress that this ancient historical world class site is not being valued or managed with best practice measures in mind or action.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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GHG-298	Proforma Submission (additional text appended to CCWA Proforma)	*If we must burn gas for power then burn it here in WA and export the electricity via high voltage DC current. This will result in far fewer ghg emissions and require far less gas than would be required to liquefy the gas and export it via ships. Of course these companies want to use their ships but that is not something the EPA should be worried about. Don't forget that there are fugitive emissions from these projects. These emissions are far more potent greenhouse gases than carbon dioxide so although smaller in quantity they still would make a huge contribution to our greenhouse gas budget.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions)
GHG-299	Proforma Submission (additional text appended to CCWA Proforma)	*To (Chairperson Environmental Protection Authority WA) and, Secretary Department of Environment and Energy Gentlemen, we rely on you and the Department Heads in the Public Service to take control of the "Climate Change" situation because our politicians are completely "out of their depth" and don't know what to do. I believe the scientist as I hope you would and their advice is we don't need more gas and we don't need more coal. For the sake of future generations, please say no to any increase is exploration and development of gas and coal resources.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-300	Proforma Submission (additional text appended to CCWA Proforma)	*As an international citizen who is informed and concerned about environmental issues and who is aghast at the destruction of Australia's unique species and ecosystems by the recent fires, I write regarding the proposed Browse Basin and North West Shelf projects*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-301	Proforma Submission (additional text appended to CCWA Proforma)	*To knowingly allow activities that threaten this rock art is a cultural crime, Any actions will be recorded, remembered and judged by future generations, please don't let our generation be seen to have been party to, or to have facilitated this.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-302	Proforma Submission (additional text appended to CCWA Proforma)	*Surely it is time to concentrate on totally renewable energy sources and cease the continued destruction of our wonderful marine creatures.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

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GHG-303	Proforma Submission (additional text appended to CCWA Proforma)	*No matter where we live, there is a strong need to take care of our world.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-304	Proforma Submission (additional text appended to CCWA Proforma)	*I am deeply concerned that yet again the Murujuga National Park and Rock Art is threatened by further industrial development. An Internationally recognised Petroglyph site, of World Heritage value, must struggle with the destructive outfall from fossil fuel industrial waste, despite the scientific evidence that such pollution can destroy these ancient artefacts. This is part of Australia's (and the world's) significantly ancient human story, that should be preserved and respected. And just as the destruction upon the Australian continent for "mining resources" has wreaked havoc upon the unique environment, so too to enter the water off shore for gas extraction places at risk the unique coastal water environments that provide a base for the tourist and fishing industries. This is a "balancing act" fraught with terrible consequences. To top it all off, rather than reducing global carbon-based emissions to reduce the impact of global warming, this would increase emissions and have a greater impact on global warming, creating a more expensive situation to then address global warming problems. A short term profit for the companies involved and a long term problem for the people of the world and a very, large recovery/adaptation bill for the government(aka the taxes of the Australian people, money that could be better spent elsewhere).At this stage in the history of the planet, what actions are taken to control fossil fuel emissions are the important matters of the day. Adding newer and bigger amounts of fossil fuel wastes into the atmosphere is criminal, given all the scientific evidence on the impact this will have worldwide. The recent fires on the East Coast already a significant warning of what some are calling the "new normal", adding further fuel to this "normality" is an unconscionable act of greed before humanity and the planet. Every effort must be made to reduce emissions and stabilise global warming, this is what the science has been asking governments to do. Rated 57 out of 57 on our "current" efforts to address the global emissions problem, the Woodside proposal is anathema to all that needs to be done to honour our global agreements to reduce emissions. The scientific reality*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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		of future temperatures and weather conditions and their impacts upon the whole planet are only just beginning to come home to roost. That we are struggling to responsibly contain emissions now and would add greater emissions to the equation beggars belief. The only responsible action to be taken with regard to the Burrup Hub Proposal by Woodside is to stop the process immediately. The WORLD cannot afford the additional pollution and inaction this project would involve. We cannot keep adding more fuel to the global warming fire and expect it to "get better", it can only exacerbate the problem in much worse ways. The definition of Insanity is repeating the same thing and expecting different results, adding more fossil fuel emissions to the atmosphere/environment will not resolve global warming. If the science can recognised in every other sphere of human usage, it is time it was recognised when it comes to Climate Change/Action. No Woodside Hub at Burrup!	
GHG-305	Proforma Submission (additional text appended to CCWA Proforma)	*In the measure of its true task, the EPA must be more than what its currently lessened regulatory power enables it to do - to safeguard the stability, ecological integrity, and beauty of this land and water for many generations to come If this proposal is accepted, then this sets the tone for even further regulatory weakening and 'capture' by corporate interests that we have seen in developing in other nations - most notably the rollback of environmental protection in the USA, right at the time of the critical juncture between now and meaningful action addressing catastrophic climate change to come. Please do not fail us.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-306	Proforma Submission (additional text appended to CCWA Proforma)	*The proposed Browse Basin and North West Shelf projects will significantly increase global carbon emissions. We have already passed the point where we need to be reducing our emissions towards zero, as soon as possible.* *Emissions from these projects will accelerate global heating and ensure that Western Australia and many more vulnerable countries will experience increasingly severe weather events. The southern half of WA will continue to heat up and dry out and make the current water stress in Denmark and other southern Shires significantly worse.* *These emissions combined with those from other parts of Australia and the world will render more areas of WA uninhabitable to humans and will extinguish many species, especially in our prized biodiversity hotspots.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

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		These will just get hotter. *Expansion of gas extraction when the science is clear that phasing out is essential to the survival of so many species and habitats is unconscionable.* *Please use all your powers to reject these proposals*	
GHG-307	Proforma Submission (additional text appended to CCWA Proforma)	*Please reject Woodside's proposal for the Burrup Hub project. It must be stopped. We are all trying to reduce our environmental impact personally yet, big companies like Woodside get away with emitting more damaging emissions than anyone and all for their own profit and at the detriment of our world. Please see below information which I haven't written but I have read and researched and could not have articulated myself better so am using. Please do not consider this is a lack of interest on my behalf rather sensibly using a response that is more succinct than I can write personally. I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-308	Proforma Submission (additional text appended to CCWA Proforma)	*My son is 9. We are hoping next year to have 3 months travelling and camping in WA. I can't wait to show him the amazing environment you have. But I am so worried about our environment. Having lived through the bushfires over East, I know we have to take action now if we want to have anything resembling the environment I was privileged to grow up in. My son's favourite animal is turtles. Please don't jeopardise their future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-309	Proforma Submission (additional text appended to CCWA Proforma)	*Every developer is squeezing every dollar they can wring out of this weary country and it's the silent dwindling natural environment that always suffers. Everyone holds the environment very dear to their hearts. Everyone except the developers and politicians who allow them to risk ruining the land or sea*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-310	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. The risk to irreplaceable marine environments and Indigenous world-class heritage worthy sites is too great. When the rest of the country is already burning, or coral reefs dying because of human long term behaviour, it is necessary to preserve those places that we have left. It might be too late to remove existing projects in these areas, but it is irresponsible to permit expansion of them. WA has the chance to take a significant position in saying enough is enough - our land and sea that sustain life on this planet, has to come first - WA and Australia can still*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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		become a world leader in saving this planet from irreversible damage. Show the world that Australia's politicians, through government policy, that they can (despite their track record so far) do the brave thing for once, and finally say no to big business. Protect the natural environments we have left and refuse the approval of these projects, please.	
GHG-311	Proforma Submission (additional text appended to CCWA Proforma)	*please show some leadership and reject woodside's lng as this season's bushfires have highlighted, climate change is here and now and we need to halt all fossil fuel projects immediately and instead invest in renewables. on behalf of our children and our planet, i urge you to see sense. thank you!!!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-312	Proforma Submission (additional text appended to CCWA Proforma)	*It is extremely important that such proposals offer carbon capture, or abatement. In the absence of a capture plan to harness 95mtpa of carbon & other greenhouse gases this proposal must not be approved. The extent of the emissions that would result from gas We have seen the effects of Bushfires this past 5 - 6 months that global warming has had on the Eastern sea-board of Australia, Queensland, South Australia, including Kangaroo Island and in Western Australia. Devastating fires of the like never before seen by professional firefighters with many decades experience. Our country should not be subjected to proposals that will increase our carbon & methane emissions, that is directly attributable to increased severe weather events.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-4 (Management of fugitive emissions)
GHG-313	Proforma Submission (additional text appended to CCWA Proforma)	*I am personally appalled at the lack of respect for the environment on which we and all life depend, being shown by greedy, profit-motivated resource companies. They don't appear to care about the damage they do, and the fact that governments just let them do what they like, is an unconscionable disgrace. No wonder there is so much anxiety amongst the young people !The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-314	Proforma Submission (additional text appended to CCWA Proforma)	*PLEASE ACQUAINT YOURSELVES WITH THE SCIENTIFIC ASSESSMENTS OF THE CONSEQUENCES OF CONTINUING CARBON EMISSIONS. THE REQUIRED RATE OF REDUCTION OF EMISSIONS TO PROVIDE SOME POSSIBILITYOF AVOIDING CATASTROPHIC CLIMATE CHANGE NECESSITATES AN END TO ALL NEW FOSSIL FUEL DEVELOPMENTS*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

No.	Submitter	Submission and/or issue	Response
		AND THE CURTAILMENT AS RAPIDLY AS POSSIBLE OF EXISTING MINES AND GAS EXTRACTION. I AM 76 YEARS OLD AND FEAR FOR MY GRANDCHILDRENS' FUTURE, AND EVERYONE ELSE'S FOR THAT MATTER.	
GHG-315	Proforma Submission (additional text appended to CCWA Proforma)	*The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual residents and industry seeking sustainable ways to reduce their ecological impact. Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, will breach your international carbon reduction obligations, and push the national reduction goals of Australia out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change and ecological destruction. The carbon seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible. More importantly, the construction of the facilities themselves will involve the destruction of local ecosystems. I lived in Australia from 1970 to 1992. Since I did not wish to be part of a country in which the large-scale destruction of natural habitats, logging of forests and extermination of native animals continue to take place and which is the result of genocide against indigenous peoples, I returned to my country of origin, Croatia, and encourage others to do the same. I also avoid products from such countries. I am campaigning against an LNG terminal that is planned in Croatia that could involve the import of gas from Australia or North America. All the ecological impacts for the life-time of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-316	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. I have written many letters to many politicians and decision-making entities for twenty years regarding the environment. I have yet to see any of them really listen or respond in a meaningful way. I humbly ask you to consider, really consider, this letter, and the concern I share about this project and others like it with thousands around the country. If the proposed Burrup Hub projects proceed, the Burrup Hub will be I have sent too many letters of this kind, and I am weary. It's time for us to move on to new energy sources, and stop emissions from sources that will inevitably run out anyway.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-317	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. I understand that if the proposed Burrup Hub projects proceed, the Burrup Hub will be. With all the knowledge we have today, the implications of this project amount to ecocide. There is a moral and human rights case against further industrial development of this nature. We cannot afford to add to the destruction of nature, animals and life support systems. People around the world are already suffering from the devastating impact of the fossil fuel industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-318	Proforma Submission (additional text appended to CCWA Proforma)	*The Burrup Hub project should not go ahead as it will not only breach our international carbon reduction obligations, but also risk the health of the Australian coastline since more earthquakes are expected in this region and more severe tropical cyclones are becoming the norm, which would risk damaging the structures put at sea.* *Please consider the impact this project would have both in the short term and the long term on the environment and tourism industry.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-319	Proforma Submission (additional text appended to CCWA Proforma)	*When will ever care enough for the future of our children, the planet and the wildlife?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-320	Proforma Submission (additional text appended to CCWA Proforma)	*We have just one chance to survive on our Earth.* *Projects like the one proposed here are greatly diminishing our chances at success, and are likely robbing our children and grandchildren of a joyful secure future.* *People around the world will not tolerate the blatant destruction of our Habitat in a misguided folly like this one.* *The zombies that are perpetuating these acts of mindless self sabotage will be judged harshly in the very near future, by themselves as well as the rest of us.* *We all MUST change our daily rigmaroles and directions, to a long-term sustainable path.* *There are NO second chances in outer space !* *And that is exactly where we all are.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

No.	Submitter	Submission and/or issue	Response
GHG-321	Proforma Submission (additional text appended to CCWA Proforma)	*world Protection of this sensitive, nationally significant marine environment is a paramount conservation priority*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-322	Proforma Submission (additional text appended to CCWA Proforma)	*Please do not proceed with this plan. There is still time to move in a different direction and save yourself.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-323	Proforma Submission (additional text appended to CCWA Proforma)	*In addition, the rock art on the Burrup peninsular is extremely vulnerable to current industry already. Further development would cause more damage to one of the most significant sites of human culture.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 3(Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-324	Proforma Submission (additional text appended to CCWA Proforma)	*As an Australian citizen who is very concerned about the climate emergency and the state of our environment. At this time in human history, this project is a really bad idea. It is obvious that gas is a fossil fuel, and arguments that it is less polluting than coal belie the fact that we need to be focusing our development of renewable energy, not extracting more fossil fuels! The extent of the emissions that would result from gas Please consider the responsibility that current generations have in ensuring a liveable world for those to come. Australia is already experiencing a climate emergency and releasing more gas can only make matters worse, as well as setting a very poor example to the rest of the world. Yours extremely [Name redacted]*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-325	Proforma Submission (additional text appended to CCWA Proforma)	*How much have they greased your pockets with you spineless cretins? I studied political science in 2002 and 2003 and dropped out because I saw how the Iraq war played out despite massive public outcry against a war for oil. Millions in the streets and millions of petitions were overturned because the corporate power runs the government and not the government for the people. In the years since my initial disillusionment I have seen both spineless sides of 'government' be bought out by the interests of the oil and*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
		mining lobby well in advance of any elections and I grew so sick of it that I can't think about the problems facing this country as being directly caused by this pathetic excuse for democracy. For [Content redacted due to use of profanities] do the right thing and stop approving billion dollar demolitions of our fragile environment and start making these arrogant companies change their direction in favour of sustainable development.	
GHG-326	Proforma Submission (additional text appended to CCWA Proforma)	*Seriously the planet is in enough trouble without more destructive practices such as this,. World Leave something for the future. Our greedy era must stop*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-327	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. At a time when we are globally supposed to be divesting away from fossil fuels, it is inconceivable to me that the governments of Australia would approve, and invest in, coal projects like this to see us into the future. Other, smarter, governments, are shutting down coal plants and investing in renewable energy and Australia should be doing the same. Most importantly, Australia should not be digging up reserves to pass onto irresponsible countries to burn at their discretion. Indeed if we have any hope of keeping global warming below 1.5-2 degrees Celsius, Australia is in a particularly important position as we have the power to stop flooding the global market with cheap fossil fuels. The proposed Burrup Hub, if approved, will be collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon footprint. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are unsubstantiated and misleading. There is no such thing as clean fossil fuels. Please don't play us, the public and people of Australia, for fools.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD))
GHG-328	Proforma Submission (additional text appended to CCWA Proforma)	*Given that it is no longer plausible in this country to deny climate change and given what the scientific consensus tells us about our carbon emissions it is either suicidal or idiotic to proceed with new massive fossil fuel projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-329	Proforma Submission (additional text appended to CCWA Proforma)	*So bloody tired of government's head up its bum attitude to OUR environment. Wake up and listen to the people!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-330	Proforma Submission (additional text appended to CCWA Proforma)	*Re: the current consultations on the proposed Browse Basin and North West Shelf projects. It's time to step into a new era! If the proposed Burrup Hub projects proceed, the Burrup Hub will be .NOT what the world needs now. The extent of the emissions that would result from gas both the creation of new, and the extension of existing, large-scale projects such as the proposed Burrup Hub, will breach our international carbon reduction obligations.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-331	Proforma Submission (additional text appended to CCWA Proforma)	*STOP THIS CRIMINAL INSANITY! !!.world*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-332	Proforma Submission (additional text appended to CCWA Proforma)	*This is insanity on steroids! It is also a criminal offence according to the UN Human Rights charter. Look it up.* *The Dutch have already created a precedent and won their case in The Hague. All Australian citizens have to do is follow suit.* *How anybody can even contemplate an action like this, so against everything that needs to be done to reverse climate change and protect rapidly declining wild life and flora is absolutely dumbfounding.* *Are you people aware that Australia is on fire; that we've already lost lives, flora and fauna that can never be replaced, businesses, properties, communities have been utterly devastated, that nature, indigenous trees and bush and re-greening of the planet is our only way to survive and mitigate climate change, and yet Australia's conservative local and federal governments appear to be doing everything they can to tip is over into the abyss? Didn't know you were a conservative,[Name redacted]!* *There are no words to express the grief, rage and frustration of the majority of the population over the criminal actions of conservative climate deniers. But things are turning around, and you people should be very afraid. The precedent has been set in The Hague. Ecological vandals will no longer have free reign; they will be brought to account.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-333	Proforma Submission (additional text appended to CCWA Proforma)	*LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-334	Proforma Submission (additional text appended to CCWA Proforma)	*Following is the "proper" letter with the intellectual reasons, but first I want to express the emotional reasons for sending this. Are you crazy????Coal & oil are reaching their use-by dates. Are you so afraid of the idea of change that you will commit this country to both the dishonour & the rusting & stranded assets that this will produce, not to mention the environmental destruction along the way!!For goodness sake, if you're not up to the job, then as Bob said "If you can't lend a hand Then get out of the way, For the times they are a changin'."*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-335	Proforma Submission (additional text appended to CCWA Proforma)	*I'm just going to add a quick note to this otherwise pre-generated email. Expanding fossil fuel production in WA is unethical, a direct attack on the futures of all vulnerable people without sufficient money to insulate themselves from the worst effects of climate change. We need to reduce carbon emissions as drastically and quickly as possible, not increase them. Other governments have already faced legal action for failing to act on climate change, there is no reason to suppose this won't also happen in Australia. Please, don't allow these projects to proceed. We could be a world leader in renewable energy, if we could just put science and human rights ahead of ideology and the short-sighted interests of the fossil fuel industry. I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)
GHG-336	Proforma Submission (additional text appended to CCWA Proforma)	*Incidents of failure occur and at rare times damage beyond compression like the Sidoarjo mud flow or Lapindo mud which may keep discharging for 25 years. Fossil fuels including gas are in themselves dangerous for life.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-337	Proforma Submission (additional text appended to CCWA Proforma)	*I doubt you will though as I suspect you're both [Content redacted].*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-338	Proforma Submission (additional text appended to CCWA Proforma)	*Furthermore, I consider, these proposal to be tantamount to criminal actions and those responsible should, at some time in the future, be held responsible in an international court of law!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-339	Proforma Submission (additional text appended to CCWA Proforma)	*We want renewable energy (solar thermal and wind) not any new coal or gas.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-340	Proforma Submission (additional text appended to CCWA Proforma)	*Start living and planning in this century and for the future.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-341	Proforma Submission (additional text appended to CCWA Proforma)	*I lived in Geraldton for years and people don't want mining & gas like the Pilbara. They want clean energy & jobs. The mid-west could become a hub for renewables. They have plenty of wind & sun*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-342	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing to you because I am deeply concerned by the proposal for the Burrup Hub and the Browse Basin development. I'm alarmed that this hub could also be connected to several new major onshore gas projects in the farming region. The serious opposition from regional communities and farmers across WA to fracking gas fields is well known to the Government. Hence It also reflects poorly, given that we are already experiencing the negative impacts of a changing climate, to even consider opening up what could be one of the most polluting new projects on earth.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential processing of gas)
GHG-343	Proforma Submission (additional text appended to CCWA Proforma)	*I am disappointed in the WA Government's feeble approach to fracking: there should be a total ban and that should be the end of it. In the name of basic human dignity, there must be limits to GREED.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Items raised in this proforma submission not related to Greenhouse Gas Emissions: • O-KIR-4 (Potential processing of gas)

No.	Submitter	Submission and/or issue	Response
GHG-344	Proforma Submission (additional text appended to CCWA Proforma)	*In addition, Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of Thank you for your urgent consideration of all this.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-345	Proforma Submission (additional text appended to CCWA Proforma)	*I urge you and the EPA to consider the longevity and well-being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry. Yours [Name redacted]*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
GHG-346	Proforma Submission (additional text appended to CCWA Proforma)	*I don't understand why we have to keep on fighting this. Surely by now you have realised that this isn't the way forward only the way backwards. We need to think for ourselves and not follow in the world's footsteps, instead lead the way forward in a new positive direction towards renewable energy sources. It is just upsetting that these emails and protests have to continue to be written over and over again. The funny thing we all put this much effort without monetary gain. Yet, the people that we appoint/get appointed won't make the hard decisions we the appointees put them there to do. So the only thing I can see going on is that there is some extra monetary gain for those appointed other then what we the people are aware of! Are you not tired hearing "this is just the world we live in and there's nothing we can do about it". Well there are people who can do something about it and those are the ones in power that need to grow a set and stand up for what needs to happen.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-347	Proforma Submission (additional text appended to CCWA Proforma)	*At a time when hydrocarbon energy sources are becoming 'the bad thing of the past', we should channel future energy developments toward renewable.* *For the future of our species.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

No.	Submitter	Submission and/or issue	Response
GHG-348	Proforma Submission (additional text appended to CCWA Proforma)	*Think about the future of our planet as we need clean environment for us to live healthy lives ...WA is only interested in the DOLLAR...THEY DON'T CARE ABOUT THE ENVIRONMENT COAST LINE OR THE AIR...STOP NOW SELL YOUR SHARES*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-349	Proforma Submission (additional text appended to CCWA Proforma)	*A large scale fossil fuel LNG project with a lifespan of over 50 years simply cannot be allowed while we're already experiencing the effects of climate change in Australia. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. We must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as we should be pursuing the cheap and abundant renewable resources we have available right here in WA*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-350	Proforma Submission (additional text appended to CCWA Proforma)	*In addition, it is patently obvious that continued use of fossil fuels is increasing the risk of further Climate Change as witnessed by the WORST bushfires Australia has ever experienced. The dubious benefits of your proposals would be more than offset by the losses of homes, lives and the killing of huge numbers of animals and denude the land of tree cover as the next wave of fires continue to destroy Australia.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-351	Proforma Submission (additional text appended to CCWA Proforma)	*The following sets out the scientific arguments, but basically my response is: how dare you. How dare you consider another attempt at genocide? This proposal should be rejected out of hand with a message that the future of life on our planet requires an approach sympathetic to all life forms, and our species survival relies on the survival of all of them.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-352	Proforma Submission (additional text appended to CCWA Proforma)	*Are you mad???*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-353	Proforma Submission (additional text appended to CCWA Proforma)	*Climate change is the existential threat to our planet and our human species. Now is the time to ACT not when the damage has been done and it cannot be reversed.* *Woodside has taken enough wealth out of Western Australia. It's time to stop the exploitation and greed and to focus on protecting our planet.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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GHG-354	Proforma Submission (additional text appended to CCWA Proforma)	*I recently returned from Germany with a copy of Die Zeit weekly. This is one of the world's few remaining deeply researched and highly regarded newspapers. This included a world map in 80 years, by the year 3000 - that is, within the lifetime of our/your grandchildren, when most of Australia, all of South America, most of the US, all of Europe below the latitude of the German city of Bonn, all of Africa, will be uninhabitable due to drought and/or catastrophic weather. This will be our world if we continue as Australia (badly) and most countries in failing to meet the 2015 Paris Climate Agreement limits on carbon emissions. Australia, with the devastating and widespread bushfires, and now with towns evacuated earlier because of fires, now being evacuated due to floods, represents the world's canary in the mine, en plein air, that is, in full sight of the world, for the massive destruction of habitat and of over a billion animals. Miners and gas explorers need to change their business model: there will be NO world to exploit within decades! Shame, shame, shame! Greta Thunberg is one of the few speaking up for what is clearly right (read and reflect on "The Emperor's New Clothes" story?): "How dare you take away our future?"*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)
GHG-355	Proforma Submission (additional text appended to CCWA Proforma)	*I acknowledge this is a " form" letter and in public consultation processes such as these receive a discount.* *However the letter fully represents my views and I request that it receive the same weight as any individual letter.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-356	Proforma Submission (additional text appended to CCWA Proforma)	*Please DO NOT allow the Brows basin Development.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-357	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in relation to the current consultations on Woodside's Browse Basin development. This is appalling betrayal on the people of Australia. We have had enough of mining companies ravaging our lands and pushing us into drought. Coal mines consume enormous amounts of our precious water, and drain our land of moisture and nourishment. Coal emissions are rising and any new coal mines would push Australia's emissions even higher. Woodside's proposed activities threaten the sensitive and irreplaceable marine*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors) • GHG-394 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
	Proforma Submission (additional text appended to CCWA Proforma)	*After 1.25 billion animals have been burned alive you need to take their lives seriously, and ours. Every day we suffer another trauma from the continued push of coal. It is killing us and our land and our oceans. Enough. This is not what the people want and you need to reject this disgusting proposal. Land or water our wildlife must be protected and any new coal mines will simply kill us all.* *After a summer of watching our forests and animals burn alive this proposal is an attack on the Australian people and our precious home.* *Woodside might not care if we burn alive and have no water, but we do!!* *And to suggest ravaging our precious Reef, and a major tourist attraction, is again another attack on us. Clearly Woodside has no respect for us and sees our country as its quarry. We are not.*	
GHG-358	Proforma Submission (additional text appended to CCWA Proforma)	*This matter is very important.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-359	Proforma Submission (additional text appended to CCWA Proforma)	*Please do not approve this proposal. It is heartbreaking to have seen first-hand the terrible damage to our Australian habitat during these last fires and any future development that risks damaging any other natural environment should not be allowed. It is obvious these developments benefit few yet risk so much.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-360	Proforma Submission (additional text appended to CCWA Proforma)	*I can no longer sleep at night!!* *what will it take ??????????????????????????????????????*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-361	Proforma Submission (additional text appended to CCWA Proforma)	*Save what is special about Australia please.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-362	Proforma Submission (additional text appended to CCWA Proforma)	*Please help save our planet*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-363	Proforma Submission (additional text appended to CCWA Proforma)	*Please say "No way" to Woodside!*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-364	Proforma Submission (additional text appended to CCWA Proforma)	*There is an urgency now to transition from oil and gas to more sustainable energy sources in order to reduce the impact of climate change. Right now climate change is placing increasing pressure on the survival of marine ecosystems. Therefore, the EPA must implement the Precautionary Principle in this matter as a priority. Scott Reef is also an area used for scientific research, and has beneficial uses for tourism and social purposes.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-5 (Principles of Environmentally Sustainable Development (ESD))
GHG-365	Proforma Submission (additional text appended to CCWA Proforma)	*Climate change is socialism in disguise*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-366	Proforma Submission (additional text appended to CCWA Proforma)	*Australia is lucky to have such a beautiful asset as the Scott Reef. We MUST NOT let Woodside or any others drill in such a delicate ocean system.*	This concern is not relevant for the NWS Project Extension. Please refer to the Browse to NWS Proposal for a response.
GHG-367	Proforma Submission (additional text appended to CCWA Proforma)	*WON'T you ever learn .... I am appalled that we the citizens, still have to write against projects of the sort.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-368	Proforma Submission (additional text appended to CCWA Proforma)	*In short put the environment and our future first and gas and coal and oil in the ground where it belongs*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-369	Proforma Submission (additional text appended to CCWA Proforma)	*EMISSIONS AFFECT EVERYONE AND EVERYTHING. Obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
GHG-370	Proforma Submission (additional text appended to CCWA Proforma)	*Oil and gas are fossil fuels which contribute to climate change (and coral bleaching), and as active contributors to this environmental crisis need to be scaled back and not increased through new extraction approvals such as what Woodside is proposing.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-371	Proforma Submission (additional text appended to CCWA Proforma)	*I am a father and grandfather deeply frightened and concerned for the futures of my grandchildren and children and our environments in a world exposed to the consequences of fossil fuels pollution in global heating. We are living the climate crisis already. I want ecological protection and thrival to be our no 1 priority in all assessments we do on any project. Do No Harm! Next, the health and well-being of our communities. Only once these are guaranteed, ought investors be permitted any activities in our environments and only on the precautionary principle of DO NO HARM*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-372	Proforma Submission (additional text appended to CCWA Proforma)	*Fossil fuels are killing the planet. But the most frustrating thing is, if fossil fuel companies spent half as much effort on switching to renewables as they do on starting new fossil fuel projects, they would make as much, if not more, money and do the planet and everyone on it a favour.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-373	Proforma Submission (additional text appended to CCWA Proforma)	*Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of* *PLEASE REJECT THIS PROPOSAL FOR THE SAKE OF OUR PLANET, HUMANS & WILDLIFE.* *PLEASE REPLY TO THIS.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors
GHG-374	Proforma Submission (additional text appended to CCWA Proforma)	*'HOW DARE YOU!"*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-375	Proforma Submission (additional text appended to CCWA Proforma)	*Another horrible report last week about our global omnicide threat has not been widely circulated in mainstream media but we really should be concerned as islands go underwater, the seas acidify and desperate climate refugees take to the boats. Please reject the anachronistic proposal to undertake oil and gas development on or around Scott Reef.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors

No.	Submitter	Submission and/or issue	Response
GHG-376	Proforma Submission (additional text appended to CCWA Proforma)	*YES THE BELOW IS A STANDARD LETTER - BUT PLEASE PLEASE PLEASE - BE AWARE THAT THIS BEING A POINT IN TIME OF SUCH SIGNIFICANCE AFFECTING FUTURE GENERATIONS WHO WILL JUDGE US, EVERY 'DIRTY' PROJECT IS AN INSULT. WHAT WILL BE YOUR LEGACY?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-377	Proforma Submission (additional text appended to CCWA Proforma)	*Fugitive emissions will directly threaten the viability of this important habitat.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors • GHG-CIR-4 (Management of fugitive emissions)
GHG-378	Proforma Submission (additional text appended to CCWA Proforma)	*I am sending this because the climate science says that unless we (people of earth) stop using fossil fuels we might as well kiss Mother Earth as we know it goodbye. I grieve for what has been lost already and for my grandchildren.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-379	Proforma Submission (additional text appended to CCWA Proforma)	*I am writing in relation to the current consultations on Woodside's Browse Basin development. Enough is enough. As a nation we have lost so many native animals to fires. The wanton destruction of our animals and habitats must stop. We are close to nothing left.* *You have a responsibility to the people of Australia and our future.* *We need our wildlife and natural beauty-habitats more than more oil and gas fields. How much will go off shore?* *We are not stupid and your days of telling us that 'worlds best practices are in place' are over.* *Stop this oil and gas madness now.* *Stop being a mouth piece for the fossil fuel companies and do your job in support of Australia today and tomorrow.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-380	Proforma Submission (additional text appended to CCWA Proforma)	*The world cannot afford to pump more greenhouse gas emissions into the atmosphere. Extracting of fossil fuels must end now if we are to have a viable climate for future generations.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

No.	Submitter	Submission and/or issue	Response
GHG-381	Proforma Submission (additional text appended to CCWA Proforma)	*I think its time our government showed real inspired leadership & made our environment top priority before its too late. Its time to make a transition from 20th C technology to 21st C technology & create jobs in the new domains that emerge as we create a sustainable (not growing but sustainable) environment for all life in this country & for that matter the planet.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-382	Proforma Submission (additional text appended to CCWA Proforma)	*In fact gas is just another fossil fuel and must not take the place of coal in environmental destruction.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal)
GHG-383	Proforma Submission (additional text appended to CCWA Proforma)	*"It is difficult to understand why any company would be looking at this development when so much evidence points to the detriment of the environment, our unique wildlife and the future health of the citizens of Australia.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors)
GHG-384	Proforma Submission (additional text appended to CCWA Proforma)	*What a disgrace this is even being considered!* *We are losing our children to suicide due to hopelessness and why the hell would any of us participate anymore? What is the point of toeing the line when it just doesn't matter? If this goes ahead don't be surprised at the backlash. A breaking point is imminent if not surpassed already.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-385	Proforma Submission (additional text appended to CCWA Proforma)	*PS: Stop listening to the overwhelming energy lobby, that has a choke grip on all government elected representatives and on public servants advising on all technical and economic details.* *PPS New hydrocarbon source exploration must stop all over the world.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-386	Proforma Submission (additional text appended to CCWA Proforma)	*I used to live in WA and cannot believe the WA government is even considering this proposal. Have we not done enough damage to Australia with mining already, invest in solar/wind. WA certainly gets an abundance of both. I now live in the ACT and we have been in the middle of the firedevastation happening all around us in NSW and now here as well and have had some of the most toxic air in the world over the last 2 months, can we not learn something from what is happening to Australia, everything we do to our environment has some impact on it which we never consider until*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future

No.	Submitter	Submission and/or issue	Response
		its too late. Please listen to the community & Australians like myself and not the money hungry, greedy few who own the mining companies. *I know you probably won't even read this but on the off chance someone does*	
GHG-387	Proforma Submission (additional text appended to CCWA Proforma)	*If it's a joke it's a bad one. If not how ashamed is this! What will you tell your children and grandchildren , great grandchildren destroying their precious Heritage. It is priceless. Is money the only motivation? You have no pride, you have no value, you have no integrity, you are a monster. I hope it s a joke and you're not all this*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])
GHG-388	Proforma Submission (additional text appended to CCWA Proforma)	*If the project is rejected, there will be a cost which can be calculated in dollars, based on lost jobs, royalties, taxes, and so on. Very persuasive.* *If the project goes ahead, there will be a cost which cannot be calculated in dollars - based on damage to us, the people affected by future damage to the air, oceans and land; and to plant, microbe, animal, insect, bird - all life forms. This cost will be huge, incalculable. But already we feel and see real consequences of poor decisions in the past - decisions that ignored, were blind to, or criminally negligent of the consequences that were forecast - now increasingly real.* *How lucky we are to experience uncontrollable wildfires in non-flammable rainforest!* *How lucky to see red sky, or black sky, by day or night, in our holiday destinations, our suburbs, our towns and cities.* *Or choking smoke, or animals with their feet burnt off, or extinguished as a species - or families, businesses, buildings, budgets...* *How lucky to learn so much about how fireworks, how people band together to protect and support each other in times of lethal crisis.* *You've heard a lot of arguments? You may be dead before the real effects of your decision.* *What brings you to make the best decision for those people who live IN the effects of your decision?* *- The largest and most polluting fossil fuel projects in the world?*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD])

No.	Submitter	Submission and/or issue	Response
		- Net-zero emissions by 2050? *- Expand our LNG industry?* *- Repair and regeneration of damaged environment and lives?* *Please reject the Woodside proposal.*	
GHG-389	Proforma Submission (additional text appended to CCWA Proforma)	*We are all aware of how drastic the global environmental crisis is and more and more of us are taking steps in our own day-to-day lives to reduce our energy footprint and live more sustainably. We look to our leaders and decision makers such as yourselves to absolutely set an example that we can trust. Please, inspire us through wisdom and decisions made taking in the long-term view, respecting the environment we call home! I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf projects. If the proposed Burrup Hub projects proceed, the Burrup Hub will be Australia's largest and most polluting fossil fuel project, and one of the largest fossil fuel developments anywhere in the world. The extent of the emissions that would result from gas collection and processing at the Burrup Hub would cancel out the gains made by both individual Australians and industry seeking sustainable ways to reduce their carbon emissions. Allowing for both the creation of new, and the extension of existing, large-scale carbon pollution sources such as the proposed Burrup Hub, will breach our international carbon reduction obligations, and push our national reduction goals out of reach. The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero emissions by 2050. The claims made by Woodside that gas is a 'clean' fuel contributing to reduced emissions are unsubstantiated and misleading. In 2019, LNG overtook coal as the most significant driver of pollution increases across the globe. LNG is a fossil fuel with pollution at every stage of its development and use and cannot be considered a solution to address climate change. The carbon emissions from the Burrup Hub will have a significant detrimental impact for decades to come. At a time where Western Australia needs to be taking contribution to global carbon emissions seriously, approving new LNG projects that will continue to pollute at a large scale for the next 50 years is indefensible. The life-time emissions of these projects must be considered. It is for these reasons that I strongly urge you to reject Woodside's proposal.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
GHG-390	Proforma Submission (Lock the Gate Alliance)	*This proforma submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section within this document. Concerns raised in relation to Greenhouse Gas Emissions are:* *It is also out of line when we are already experiencing the negative impacts of a changing climate to even consider opening up what could be one of the most polluting new projects on earth. WA needs to do better, stop growing the flow of polluting gas and get serious about economic opportunities from clean renewable energy and renewable energy exports.*	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future
GHG-391	Proforma Submission Received (Australian Marine Conservation Society)	This proforma submission primarily related to the Browse to NWS Project and isn't addressed by Factors relevant to the NWS Project Extension. The proforma and associated submissions made comments relating to the Greenhouse Gas Emissions Factor. The proforma submission is as follows: Header: *Assessment # 2191/2186: Proposed Browse to North West Shelf Project (Commonwealth and State Waters)* *To (Chairperson Environmental Protection Authority WA) and Secretary Department of Environment and Energy,* *I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine environment of Scott Reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.* *Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. Five species of whales visit the area, including Humpback whales and Blue Pygmy whale and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals.* *In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low*	In response to the general concerns raised in the proforma and associated submissions relating to Greenhouse Gas Emissions, please refer to these responses that address the matters raised: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future • GHG-KIR-8 (Climate change impacts on human health and environmental and social receptors • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-4 (LNG as a transition fuel and the displacement of coal) This proforma and associated submissions, while submitted to the NWS Project Extension as a public submission, makes comments regarding the marine environment that relate solely to the Browse to NWS Project (EPA 2191). As such the reader is referred to the Response to Public Submissions for the Browse to NWS Project Proposal for a response. The NWS Project Extension Development Envelope or associated activities associated with the NWS Extension are not associated with potential direct impacts to marine life of Scott Reef, from factors such as noise, lighting, vessel traffic or oil spills. Furthermore, there is no oil or gas drilling associated with the NWS Project Extension.

No.	Submitter	Submission and/or issue	Response
		frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. Discharges of wastewater and pollution from oil spills can contaminate marine ecosystems with toxic heavy metals and other chemicals. Woodside's own risk models predict that a mixed gas and oil spill would last 77 days, spreading across the reef, and as far as 800 km from the site, at concentrations lethal to marine life. *In addition, the Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem.* *Protection of this sensitive, nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal.* *I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.*	
GHG-392	Proforma Submission Received (Australian Marine Conservation Society)	Variations in proformas: The following text is also present in some proformas provided via the Australian Marine Conservation Society. *In particular I am concerned that Woodside's proposed activities threaten the sensitive marine environment of Scott Reef and will harm marine fauna and irreversibly degrade critical marine habitats and the marine life that is dependent on those habitats.* *Scott Reef supports a diverse range of marine life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle, the green sea turtle. Five species of whales visit the area, including Humpback and Blue Pygmy whales and at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals.* *In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency*	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. *Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would add to the problem significantly.*	
GHG-393	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I have signed this letter to show my total opposition to projects such as this that threaten such important pristine areas. It is time for everyone stand up and say enough is enough. We cannot continue to treat our planet with such disdain. Time for greedy mining companies to be held accountable for the destruction of our planet before it's too late.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-394	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Our waters are home to the most incredible wildlife, please don't put these ecosystems in danger and help preserve our natural habitats for my children and their future children.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-395	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Furthermore, as a fairly regular visitor to the Kimberley and to the Ningaloo Reef area, I personally plead with you to not spoil these amazing areas off our magical coastline. Swimming with whale sharks, fishing way off the coast - absolutely amazing. Our Great Barrier Reef is failing - we need to preserve what we have. Tourist dollars will pay more in the long term than mining for LNG.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-396	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I ask that you truly consider what a sanctuary is, why it was set up and what most Australians expect of it. Oil and gas exploration and development do not fit at all. As a concerned citizen, I expect you to honour protection of this sanctuary which is fundamentally threatened by the Browse Basin proposal.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-397	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Additionally, the region has a huge and as yet not fully classified range of marine life from algae to corals, fish species and crustaceans as well as the larger mammalian marine creatures. All of these contribute to and maintain the health of the marine and coastal environs. Gas drilling will not contribute in any way to this. Its only contribution is $$$ but the cost to the future health of the region and to the future is beyond pricing.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-398	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	You have so many people giving you good reasons not to allow this project to proceed. I won't repeat what they all say. Instead, I ask you to please consider putting the environment first. We can't breathe money. We can't drink it. We can't eat it. It is but a fleeting affair. If recent events have shown us anything, it is that we must revegetate and create arks of those ecosystems that remain. Please, we are one species among thousands who all have equal rights to life, yet no say in what happens to their homes. I implore you.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-399	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular, I am concerned that Woodside's proposed activities threaten the sensitive marine Scott Reef supports a huge array of sea life from across the Indian Ocean and the Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low-frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

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GHG-400	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am beyond concerned that Woodside's proposed activities threaten the obviously sensitive marine environment of Scott Reef and will disturb, injure and kill marine fauna and irreversibly degrade critical habitat for endangered marine life. As Australia is already burnt, on fire and trying to recover in every way-you can see how adding to this already horrific situation is irrevocably damaging and horrendously stupid for every soul included.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-401	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	My personal view is this is NOT NECESSARY for humans... only for faceless multi-nats. It is obscene to prostitute the Wilderness for profit. It is a LOSER. In the long run. Bad NEWS indeed. I am writing in relation to the current consultations on Woodside's Browse Basin development. I do not believe we can breathe or eat profits that COULD be generated, especially as it seems.. these big companies PAY NO TAX.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-402	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	" There is not one reason in the known universe to justify degrading our planet, Mother Earth. "" Thought before profit. "" Think, Woodside, think! "	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-403	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am most concerned that Woodside's proposed oil drilling activities will threaten the sensitive marine You would be aware that The EPA noted, in 2010, that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting of hatchling and adult turtles and other endangered marine life.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

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GHG-404	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I write about Woodside's proposed Browse Basin development. This is madness. Drilling for oil and gas near a reef! It beggars belief. Scott Reef is home to an amazing quantity of sea life and includes critical nesting habitat for the green sea turtle. Five species of whales visit the area, and at least 10 species of dolphins. Noise pollution, discharged chemical pollutants and general disturbance will naturally play havoc with all the creatures that call Scott Reef home. Feeding, migration, and breeding are all drastically affected. Woodside's own risk models predict that a mixed gas and oil spill would last 77 days - that's over two months! - spreading up to 800 km from the site, at concentrations lethal to marine life. Furthermore, Woodside's proposed Browse Basin and Burrup hub proposal is a mega-development which will contribute around four times the pollution of the proposed Adani coal mine. It's unthinkable. Please REJECT any proposal to drill for oil and gas on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-405	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	How awe inspiring and absolutely precious are our natural environments - our oceans, our flora and fauna - this is what makes us proud to be Australia. With so much of our heritage under threat, I am therefore writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-406	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Subject: Woodside's Browse Basin development. Scientists confirm that we face a climate crisis, caused by emissions from burning fossil fuels including gas. Gas extraction projects such as the proposed above development also pose enormous environmental risks. Those risks include destruction and/ or pollution of precious marine habitat and unchecked and unrecorded gas leakage. But most of all, the inevitable increase to Australia's Ce emissions due to this development and other similar ones proposed for WA and NT would most certainly kill off any prospect of Australia meeting the commitments it made under the 2015 Paris Agreement to play its part in keeping global average temperatures to less than 2.0 C. In 2010, the EPA itself noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. In 2010, Woodside's own risk models	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

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		predicted that a mixed gas and oil spill would last 77 days, spreading across the reef, and as far as 800 km from the site, at concentrations lethal to marine life. Can the EPA, in good faith accept such a risk? The absurdity is that we have cleaner, safer and in the long run more economically beneficial alternatives. We can develop our vast renewable energy resources and promote the establishment of a hydrogen from renewables export industry. In the public interest, the EPA must exercise its authority to reject such a dangerous, out of date and out of touch proposal and open the way for clean, safe and forward-looking alternatives. I urge you to reject Woodside's Browse Basin application.	
GHG-407	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am currently working in Western Australia and want to express my strongest objection to gas and oil exploration such as that proposed by Woodside's Browse Basin development. There is no doubt that we have extraordinary wildlife and it must be protected. We have seen how our ecosystems are depleted, and they face ever-growing risk. I am concerned that Woodside's proposed activities threaten the sensitive marine environment.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-408	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. I am concerned that Woodside's proposed activities threaten the sensitive marine environment of Scott Reef and will irreversibly destroy critical habitat for marine life. Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea:- Critical nesting habitat for one of the most endangered species in the world, the green sea turtle. - Five species of whales visit the area, including Humpback whales and Blue Pygmy whale.- At least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals. Drilling activities for oil and gas will impact on marine life:– Pollution can disrupt the nesting and behaviour of hatchling and adult turtles. - Persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. – Woodside's OWN RISKS MODEL predict that a mixed gas and oil spill would last 77 DAYS, spreading across the reef, and as far as 800 km from the site, at concentrations LETHAL TO MARINE LIFE. In addition, the Woodside's Browse Basin and Burrup hub proposal is Australia's most polluting fossil	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

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		fuel mega-development which will contribute about FOUR TIMES the pollution of the proposed Adani coal mine. Protection of this sensitive, nationally significant marine environment is a paramount conservation priority. We need our oceans to stay healthy in order to sustain not just marine life but human life as well. We need to preserve what we can so that we can have a positive future.	
GHG-409	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Where I live oil rigs are most like going to be approved in the Great Australian Bight, more madness for no economic gain or purpose.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-410	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Why is this development even being considered???? The reef in one of a decrease number of places on earth that are relatively pristine and allow for numerous creatures to breed and raise their off spring. Woodside, even if it had a stainless record should not gain approval for this development. The cost is too high in terms of loss.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-411	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	It has come to my notice that your company may be about to wreak ecological damage on Scott Reef. In these fragile times, such a move is unconscionable. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine environment of the reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-412	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. I strongly oppose the proposed Woodside development and any such similar development. Unfortunately, humans are so aggressively and irresponsibly dealing with the natural environment that they can be easily classified as VERMIN. They are also multiplying like vermin. Human behaviour MUST dramatically change if we want our children and grandchildren to enjoy normal life and not seriously degraded	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-391 (Response to Proforma from Australian Marine Conservation Society)

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		environment, which will not be able to provide reliable economy and food, but only struggle and misery. We are well on the way to this point. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef as well as similar future applications for such developments.	
GHG-413	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	It's time to wake up and use the sun, spread the wealth into alternative power sources. I want my grandchildren to have a beautiful safe planet not a poisoned earth , that's the way it's going, please say no to more pollutants. We cannot do without our beautiful oceans they cannot absorb any more pollution.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-414	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Another example of environmental destruction to the ecosystems in Australia. This follows a pattern to the decay of these systems during the last 30 years. Shame on you!!!!!!	Please refer to these responses that address the items raised in this submission: • GHG-391 (Response to Proforma from Australian Marine Conservation Society)
GHG-415	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	This risk is unacceptable! I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef and place a higher priority on developing the huge economic opportunities found with renewable sources of energy.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-416	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Regarding the proposed Woodside Browse Basin development. Woodside's proposed activities are BOTH a direct threat to sensitive marine environment s, and ALSO are contrary to any rational investment in future energy requirements. The research alone will disturb, injure or kill marine species and permanently damage critical habitat for endangered marine life. The world's reefs are already struggling against the damage caused by fossil fuel emissions !! Is this proposal anything more than continuing stupid greed	Please refer to these responses that address the items raised in this submission: GHG-392 (Response to Proforma from Australian Marine Conservation Society)

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		of a small sector while destroying the habitats and life-expectancy of all species, including humans ?I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef, and all such proposal for new fossil fuel developments.	
GHG-417	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Please consider the needs of our precious wildlife and put them above profit before our already stressed environment is totally destroyed. Time to think of the Big Picture...money is useless if there's nobody left on the planet to spend it.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-418	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As a deeply concerned mother of two Wiradjuri First Nations person, I strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. For the sake of our children, let's make them proud of us & our future generations, please listen. Its is critical.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-419	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	It is a matter of fact that the marine habitat where Woodside are proposing to drill for gas and oil is a sensitive and vulnerable environment and home to threatened marine species. How can any economic benefit compare to the long term negative externalities of these types of projects?	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-420	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. I am extremely concerned that Woodside's proposed activities threaten the sensitive marine I strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-421	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As a World citizen I am appalled! Protection of this sensitive, globally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-422	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Scott Reef is a magical, wild place - we must protect it. Teeming with unique and endangered marine life off the remote Kimberley coast, the remote reefs and lagoons of Scott Reef are a haven for sea turtles, whales, huge pods of dolphins, dugong and many other species of endangered marine life. We cannot let a once pristine ecosystem be overwhelmed by the industrial noise, pollution and heavy shipping that comes with dirty marine fossil fuel extraction. Woodside's own models predict a mixed gas and oil spill would last 77 days and spread for up to 800km - far outstripping the ability of the reef to cope or the wildlife to flee. What's more, if this immense destructive development went ahead its direct and indirect carbon emissions would make it one of the most polluting fossil fuel projects in the world! It would cancel out global efforts to control global heating, accelerating the destruction of critical habitats and the wildlife that depend on them. Now, more than ever, we must protect the Australian wildlife we love so much.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-423	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Woodside's Browse Basin development would threaten the sensitive and extraordinary marine environment of Scott Reef. Marine fauna would be altered and overtime, negate habitat for endangered marine life. Moreover, the Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development which will contribute around four times the pollution of the proposed Adani coal mine. This is the time to preserve not not develop for industry. Consultation must protect this nationally significant marine environment which is fundamentally threatened by the Browse Basin proposal.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-424	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Below is a very long email urging you to protect the environment at Scott Reef. This email has come to me from the Australian Marine Conservation Society, an organisation I support financially. I am endorsing the form email below and add that I am simultaneously disappointed and outraged that the West Australian government is open to new oil and gas exploration that can only lead to greater threats to global climate change. Please do all you can to prevent any new fossil fuel development in Western Australia Thank you	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-425	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I have the honour of addressing you in relation to the current consultations on Woodside's Browse Basin development. I must express deep concern. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine . I cannot believe Australia's disdain for our sea life: whales and dolphins and the threatened species; the green sea turtle, which Scott Reef supports.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-426	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As I tourist, I would not be interested in coming to the west Australian coast if it has numerous mining as industrial areas. I will go elsewhere.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-427	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	This is not acceptable given Australia's current environmental challenges. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem. The reef must be given time to recover.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-428	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I have actually spent three days in a small boat exploring the waters around Scott and Seringapatam Reefs in the mid-1980s, including the infringing coral reefs and walking on the islands themselves. It is one of the most remote, unspoilt wilderness areas I have visited. The life, both marine and on land, was wonderfully abundant.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		Three years later I heard that the reef had largely been destroyed by a warming of the seawater. This warming was almost certainly an example of what global warming has in store for coral reefs world-wide. I believe that Scott has largely, if slowly, recovered. But as warming events become more common and more extreme, such recovery will be less and less likely. And it is the developed world's endlessly increasing use of fossil fuels that is a major cause of this warming. And now Woodside are planning to build a large number of oil-wells in this once, and possibly still, pristine wilderness. I say a thousand times no!	
GHG-429	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I'm really just asking that you do your job thoroughly and respect the rights of our environment to not be destroyed through human greed. After all that the world has been through with our earth suffering from the consequences of mans impact. It must stop and this is where it stops, you must do your job - the one that EPA stands for and not be swayed or influenced to downgrade the impacts you know these types of operations cause.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-430	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. Fundamentally it is more and more clear additional fossil fuels to those already being "harvested" are not necessary to see us through the transition to renewables worldwide, and they would be much better being left in the ground as sequestered carbon. On top of that are the obvious environmental effects as described by AMCS below. " In particular I am concerned that Woodside's proposed activities threaten the sensitive marine. I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef." Together it seems a no- brainer to prevent this project	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-431	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I cannot believe that in 2020, in the middle of the sixth mass extinction of life on earth, I have to write to the EPA & the Sec of Environment & energy (well there's the problem writ large - you cannot serve the environment while also enabling fossil fuel extraction and use) in relation to the consultation on Woodside's Browse Basin development. The EPA knows that Australia cannot afford any new Oil and Gas projects if we are to keep warming to below 1.5 degrees - current forecasts have us heading for 3 degrees with our existing behaviour! That is not a life-enhancing prospect. It will be a dangerously unstable environment to try to live in as we can see the effects of just 1 degree of warming right now. You could save a heap of money and time by just rejecting outright any new fossil fuel projects or extensions. It is insanity to have to consider them and reckless for profit-driven companies to suggest them. I am livid that Woodside's proposed activities threaten the sensitive marine world. Woodside's proposed Browse Basin and Burrup hub proposal is Australia's MOST POLLUTING fossil fuel mega-development which will contribute around FOUR TIMES the pollution of the proposed ADANI coal mine. Scott Reef has already suffered the impacts of bleaching events from climate change and this would sign its death warrant. I urge you to take a stand for our children. They will have no chance of living on a safe planet if we carry on destroying the earth's ecosystem. Please reject the criminally negligent, ecocidal proposal to undertake oil and gas development on or around Scott Reef. From fellow human,	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-432	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I also urge you to reflect on the state of Labor nationwide and how their credibility regarding the environment and sticking with promises to NOT increase damage and emissions is at an all time low with voters. Reefs and breeding grounds globally are under threat to the point one cannot say this small area if damaged will not be significant. We need to ensure we are not destroying entire species for a corrupt few who have been hiding the truth about their companies destructive footprints for decades. Labor has a chance to shine once more and be the global citizens we need or it can follow the Coalition into extinction as the full extent of climate change strikes harder and we turn on those who irresponsibly managed and sacrificed what we hold precious for these corporate parasites. Tourism also relies on pristine environments NOT oil and gas wells and accompanying sludge!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-433	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. I holiday in that area and if you haven't seen the beauty of the area yourself, I suggest you do before you make a decision.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-434	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	My prime concern is the severe lack of regard for the unrelenting consumption of Fossil fuel. The year is now 2020, has any regard been shown for the year 2420, 2620, 3020, 3820, 4800. Or are we going to finally have consumed the last mammal on our planet and all that will be left is cardboard and cockroaches. The pursuit of a computer screen with a profit of trillions of zeros on it, will be of little consequence to the generations of people left alive. With nothing left to Eat, but cardboard and cockroaches. Left with a ever increasing population, with no food, and no way of leaving, dead Oceans and parched poisoned soil. With no resources left will the CEOs of the past be there to stop the Cannibals from bringing Hell to life. year 5000ad. We are generating our worst Nightmare, slowly heating the pot of water up and explaining to our grandchildren," Why is that frog Dead Grandpa ?" Only pure arrogance gives the Executive order to keep going. [Content redacted as it includes physically threatening language] . For every LNG tonne of compressed gas exported from Australia, one Tonne of gas / one glass of Mercury. Because some [Content redacted , gave Chevron permission to sell $$, Pure liquid - Mercury to be placed, in Amalgam fillings to be used in dental fillings in Australia. How in God's name is that possible Two words, Corporate Genocide.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-435	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	DRILLING IN BEAUTIFUL PLACES FULL OF ANIMALS THAT WE CANNOT BE KILLING IS SO UNECESSARY. IT NEEDS TO STOP. FIND SOME OTHER WAY TO GET OIL OR USE SOMETHING DIFFERENT. JUST STOP. OUR PLANET CANNOT TAKE ANYMORE.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-436	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Protection of WA's environment and development of its economy should not be nothing more than a numbers game. Proforma submissions as provided by the Conservation Council of WA in opposition to exploration for oil and gas as per above should be dismissed as lacking substance and hence not be considered by the EPA when assessing the project. I therefore urge you to assess the merits or otherwise of any project on the substance of the development proposal and on the basis of evidence put forward by submitters.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-437	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I want to express my concern about the Woodside Browse Basin development. Surely it is clear by now that human interference with the Earths ecosystems that have developed over millions of year is unsustainable and can no longer be countenanced. The specifics are below but the bottom line must be a rejection of this proposal on the grounds of unacceptable risk to the environment that supports an entire interdependent ecosystem - one which is necessary for the survival of so many, including we humans. Surely the bushfires have taught us this much. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine .Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle in the world	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-438	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Be careful with our marine life. Marine permaculture has a portentously to draw down Caron, provide food and a healthy habitat for our marine life so please stop mucking around with nature!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-439	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	world It is long past the time when Australian governments could get away with the destruction of our wildlife and their ecosystems. We should be responsible and protect them. More and more Australians are recognising this. The environmental Protection Authority should do that instead of paving the way for these industries which are destroying our environment.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-440	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	For goodness sake read what is written below and think about what it is saying. Where is a line going to be drawn? Stop putting our precious irreplaceable natural ecosystems and animals at risk. We hate the lies and the fake environmental impact statements that you pay for to claim these projects are not harming the environment. Do what is right and look after the depleting natural environment that we have. This is in relation to the sensitive marine environment of Scott Reef and the proposed project that will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.	Please refer to these responses that address the items raised in this submission: GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-441	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Although I live in NSW, I think this matter concerns all Australians. I am aware that the federal government is on a pro-gas agenda. I am also aware that major international monetary funds are divesting from fossil fuels on the basis of economic decision making. I am also aware that our fossil fuel industry is heavily subsidised by our taxes. These three things, plus the fact that climate change has arrived in Australia, is caused by increased warming gases in the atmosphere and that fossil fuel is a direct contributor to this effect, means that I have a stake in this. Not only this, I am a diver and recreational enjoyer of the ocean, and a lover of marine life. My body has as much water in it as the earth. I owe my life to it. So do you. Onward to the following points: I am concerned that Woodside's proposed activities threaten the sensitive marine .world (And, as is seen by the great garbage islands in the Pacific, and modelling on the currents from the Great Australian Bight, the ocean moves and takes things from here to there.) And in case you didn't notice, our entire country, every state, including WA, is burning. That's climate change.	Please refer to these responses that address the items raised in this submission: GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-442	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Thank you for accepting my email with regard to the North West Shelf Project. Surely with current climate change statistics across Australia this summer Australia needs to be focussing upon expanding renewable energy and all the innovations such as are currently occurring in institutions such as La Trobe University at 4 sites and Monash University passive housing. Surely, at the same time we must reduce Australians reliance on energy across the nation, such as improving energy efficiency in buildings. I refer you here to housing developments such as the Cape in Victoria requiring ER7 plus. The NCC has written new codes for Volume One 2019, and is also writing	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		new codes for Volume Two 2022 for better thermal performance therefore greatly reducing a buildings reliance on energy for heating and cooling. The Department of energy and the environment is developing energy efficiency requirements for existing homes to be released 2020 to improve energy efficiency of older homes and businesses. For years the government sponsored EneryCut organisation has been helping industry reduce their reliance on energy sources. However, with all this in mind I am specifically writing in relation to the current consultations on Woodside's Browse Basin development. Please note that this is a stranded asset industry and apart from the environmental issues discussed below, can be a huge waste of money In particular I am concerned that Woodside's proposed activities threaten the sensitive marine .world the proposed Adani coal mine. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to this problem. Innovation in energy performance of buildings can be the growth industry of the future offering new products, new businesses and jobs by the thousands for the millions of buildings which demand upgrades.	
GHG-443	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Fighting to protect precious marine life and habitat from oil and gas is a worldwide issue!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-444	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Here in America we fight for NO offshore drilling anywhere off any coast Atlantic, Pacific, Gulf or Alaska! NO seismic blasting or other oil gas exploration! Our oceans and marine life worldwide must be protected from oil and gas destruction by the U.S. or Australia or anywhere on the planet! Australia has the added responsibility of protecting the greatest areas of the world's reef systems.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-445	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	The life in our sea is decreasing. We need more marine sanctuary zones, to protect and increase numbers and breeding, not more ways to destroy our oceans and sea life!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-446	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I believe that we need to keep the reefs of our world as pristine as possible and so	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-447	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Additionally, Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development and will contribute around four times the pollution of, I urge you to take a stand for the environment, for the generations of Australians to come, and for the sake of the ocean, the reef, and the many animals and plants: reject the proposal to undertake oil and gas development on or around Scott Reef - PLEASE!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-448	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-449	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Please think of our future generations & protect our reefs	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-450	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I think we can no longer ignore environmental harm and I believe that as well as altering irrecoverably Scott reef by drilling in it (hard to believe)!!! That it is also no longer possible to keep putting money into an antiquated energy supply source such as gas and oil.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-451	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I write in relation to the current consultations on Woodside's Browse Basin development. In particular I am deeply concerned that Woodside's proposed activities threaten the sensitive marine. Protection of this highly sensitive, nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal. Chris	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-452	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-453	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Would it be possible for the WA Environmental Authority to actually protect, with some useful certainty, the very significant ecological values it has in its charge? To this end	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-454	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-455	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We need our reefs.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-456	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We've got to do better than this. We have to do better than this. It's our children's future.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-457	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am HORRIFIED ABOUT the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-458	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing to ask that consider Woodside's proposal and reject it. We must leave some of the natural environment intact for future genera day this incessant development threatens these pristine areas and all of the marine life contained therein.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-459	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	It's a critical nesting habitat for one of the most endangered species of marine turtle in the I urge you emphatically o reject the proposal to undertake oil and gas development on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-460	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am bewildered how this is even a topic for conversation with the devastation we are seeing around the world to our environment. Australia should be leading the world in habitat preservation.	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)
GHG-461	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Do we really need to disturb the marine environment around Scott Reef? Yes, you must get sick of people that are concerned about the planet banging on about 'protecting' it for future generations, but we need to be mindful of the impact we are having on the planet. Please reject the proposal for oil and gas development on or around Scott Reef. Please think about the future you are creating...yes, we need oil and gas but not at this price.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-462	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles. Discharges of wastewater and pollution from oil spills can contaminate marine ecosystems with toxic heavy metals and other chemicals. If there was a spill accident, Woodside's own risk models predict a mixed gas and This is just unacceptable.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-463	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	There comes a time in the history of the human race where we (YOU) have to stop prioritising money over habitat.....our habitat and that of all creatures. The lure of an easy buck is strong but the will of the people WILL win the day (and it might not be pretty for the money men.....be warned).	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-464	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We have recently seen so much destruction of natural habitat across Australia with drought, fires and floods. I know we need to protect what is left and to stop and reflect on any plans for any activities or explorations in any sensitive areas.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-465	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I understand that a proposal for Woodside Petroleum to drill on Scott Reef in the Kimberley region is under consideration. I have visited the Kimberley region, inland and along the coast, and the Broome area on several occasions. I was asked recently what my favourite area of Australia is. It's a very difficult question of course but my answer was 'The Kimberley'. The land, coastal and marine environments are all incredibly beautiful and ecologically significant. They contain many threatened species of animals and plants. The culture and history of the region, particularly the Indigenous culture and history, are unique and precious. The environments and ecologies of the world, Australia and the Kimberley are threatened in so many ways: for instance climate change, pollution, loss of habitat, and loss of biodiversity. It is highly regrettable that we would allow the natural environment to be destroyed in these ways but it is almost unbelievable that we would do it also knowing that we are in the process destroying the conditions that make life possible for humans on planet earth. It is easy to think that each bad decision such as allowing oil and gas drilling in the Kimberley is just a small decision affecting a small corner of the world but we know that all such small decisions over the last 200 years are adding up to make the world an unstable, unhealthy and threatening place. We must stop making decisions that provide short term gains for a small number of people and yet threaten the very survival of humanity. I find it incredible and incredibly disappointing that in 2020 Australia might still be prepared to drill for oil and gas in the Kimberley. It is even more incredible (and irresponsible) when one takes climate change into account. The evidence is clear that to keep global warming to under 1.5C we cannot burn all the fossil fuels that we currently have access to. We do not need any additional sources of fossil fuels.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society) Please refer to these responses that address the items raised in this proforma submission not related to Greenhouse Gas Emissions: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

No.	Submitter	Submission and/or issue	Response
		I very much hope that you will reject this proposal outright because of the damage it will do to the Kimberley and because it is entirely inappropriate to site such drilling in a largely untouched area. Should you proceed with considering the proposal, I trust that you will ensure that comprehensive environmental and health impact assessments are conducted by independent, appropriately skilled organisations/ individuals before any decision is made. I am confident that should such assessments be conducted, the only reasonable decision will be to reject the proposal. I fully support the submission made to you by the Australian Marine Conservation Society of which my wife and I are strong financial and practical supporters. I would be grateful if you could acknowledge receipt of this submission and keep me informed of progress with decisions about the proposal. I have no objection to my submission being made public. In summary, I urge you to reject completely the proposal to undertake oil and gas development on or around Scott Reef.	
GHG-466	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	It is time we started protecting our coastal systems because without them where are we?! It is up to you people to stop this development and start the process of protection not destruction. Say a big NO!!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-467	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	The carbon pollution created by this project makes it fundamentally incompatible with Western Australia's policy goal of net zero	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-468	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Just because very few people have been privileged to see dugongs and sea turtles in their natural environment does not mean that you can take them for granted or destroy their home. The public at large recognises that such animals are indicative of a healthy environment, and that even if we never see them the protection of their environment is essential. It is not possible to isolate one section of the sea, or to contain damage. Ordinary members of the public can see that an action on one part of the planet has repercussions globally. I hope your clever engineers haven't forgotten this.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-469	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I travel to WA regularly for work and holiday reasons... and you should be doing the utmost to protect such a wonderful environment and place to visit. That said decisions like this impact all of Australia - clearly from the denigration of environment and climate we need to do far more to look after our fragile scenario.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-470	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As someone who has lived and travelled in WA, and is a keen sailor in more remote areas,	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-471	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	[Name redacted] and I are writing in relation to the current consultations on Woodside's Browse Basin development. In particular we are very concerned that Woodside's proposed activities threaten the sensitive marine We urge you in the strongest possible terms to reject the proposal to undertake oil and gas development on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-472	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am very concerned that Woodside's proposed activities threaten the sensitive marine Considering the terrible devastation on marine life from plastic pollution, the threats to our reef, and the incomprehensible toll on wildlife from bushfires, further threats to natural ecosystems and wildlife should not be pursued.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-473	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Re: Woodside's Browse Basin development. In an era when we should be walking away from fossil fuels altogether, it is sheer LUNACY to contemplate operating any extraction sites that DO go ahead, anywhere near biodiversity hotspots such as Scott Reef. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-474	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Though not a WA resident, I cannot fathom how your government can enter into consultations re Woodside's Browse Basin proposal to drill in a pristine ecosystem across the Indian Ocean and Timor Sea. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine The Australian Marine Conservation Society's analysis (of the impact on marine life that such drilling and extraction) is compelling.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-475	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	You know the idiom 'evolve or die'? We need your help to urge the evolution of both thought and practice regarding energy production. Evolve what is permitted, what our standards must be so that we progress as a nation, as a ripple, as a planet. Or we die.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-476	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	This MUST be a joke, right? That Woodside thinks it's OK to drill for Gas and oil HERE. I say NO, and I plead that you also say NO, don't allow it, its completely unnecessary, there is much to be done, use alternatives, follow that, not this old and failed way of finding oil and gas. WE DONT NEED IT!!!!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-477	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	The proposed oil and gas developments are totally against marine's conservation recommendations. They are also totally against the wishes of more than 50% of the voting public. I join with the thousands of others who are vehemently against the proposed developments	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-478	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing as someone who lived and worked in the Kimberley for over 10 years. During that time I visited many beautiful places along the coastline of Western Australia, from north to south. What I saw and experienced during that wonderful time is the reason I am signing this protest petition against allowing Woodside Petroleum- or any other company - to drill along the coastline for their Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-479	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Australia has a global responsibility to protect all endangered species and natural habitats, which we have not done ad are still not doing. There should be a blanket prohibition on all such drilling and exploitation in any such environment, without exception. We have also seen in numerous examples both in Australia and around the world that companies like Woodside do not take adequate precautions to protect the environment or aquifers or anything else, even when they promise to do so, they do not undertake the remediation they are expected or required to do in the event of spills and other damage, they do not provide full financial compensation for damage they cause, we cannot bring back species once they have become extinct, and Australia has some of the most toothless and incompetent regulation of these activities of any country imaginable. Neither the companies nor government can be trusted. It is in this government's interest to approve this application, not to oppose it. That does not mean that it is in the interests of either the environment or a majority of the Australian public. In addition to this, the continuing approval of such applications demonstrates that Australia still has no credible policy on reducing carbon emissions to zero	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		(including those of other countries to whom we sell or who are allowed to exploit our resources) and transitioning our economy completely from dependence on fossil fuels, which we need to do as quickly as possible in order to limit the effects of climate change. There is now overwhelming public support for much stronger and more rapid action in this country, which is incompatible with the continued approval of such projects. Either we start acting responsibly on climate change, or we continue to destroy the planet and render ourselves extinct, but approving Woodside, after Adani, after Equinor, after other new projects, is not the way to respond to climate change and preserve what can still be preserved. Such approval would be undemocratic and morally unconscionable.	
GHG-480	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. This is a ridiculous proposal for an ecologically rare and special place full of endemic species, both in the sediments and in the water column. The research and monitoring I did of this region uncovered many rare and endemic benthic species, some were previously unknown to science (An investigation of benthic sediments and macrofauna within pearl farms of Western Australia in Aquaculture 319(3):466-478 · October 2011). I am very concerned that Woodside's proposed activities threaten the sensitive marine environment of Scott Reef which supports a huge array of sea life from across the Indian Ocean and Timor Sea. This includes critical nesting habitat for one of the most endangered species of marine turtle.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-481	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I vehemently oppose drilling for gas and oil on the Scott Reef. I have dived there as a tourist in WA, and besides the economic loss to tourism (especially when the Great Barrier Reef is essentially dying), it's an extremely irresponsible thing to do. The drilling process and the risks of mining the Reef are far too great for a short term economic gain.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-482	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	There is no Planet B!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-483	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	The Bjelke-Petersen government in QLD rightly decided against oil and gas mining the Great Barrier Reef 50 years ago. Nothing has changed since - in such irreplaceable areas these proposals can never justify the risk. It seems our pollies these days are asking more and more for tourists to visit. The damage in the last 12 months has been monumental. What are they going to see? - signs saying this is where things used to be? In particular you need to look at this in context of a changing ocean environment which is less and less friendly to coral reefs. Any impact from mining will be magnified by what is already occurring. Another alternative is to take the view that the reefs are stuffed so we might as well trash them anyway. A lot of people seem to be taking this approach these days - not sure why they keep dropping their kids off at school of a morning however.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-484	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We've done enough damage, as a Nation and worldwide, as ignorant humans to our environment here, so unique yet vulnerable On planetary terms meaning survival of us as a species Don't Do Any More Damage!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-485	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	My name is [Name redacted] and I am a biologist with 40 years of professional experience with environmental issues.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-486	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Finally, I draw your attention to the limitations and prohibitions of the Federal Government's Environmental Protection and Biodiversity Conservation Act which affords you the authority to terminate Woodside's plans in total. Of anywhere, Scott Reef qualifies under the Act's definition of "critically endangered ecological community." The Act and the Guidelines are specific about the inclusion of marine environments (See p.14 of the Guideline). The Guideline states specifically "The proposed action should be considered at its broadest possible scope. This includes all stages and components of the action, all related activities, and all related infrastructure..." Specifically commenting on Marine Environments it says that an action shall not "modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results [or]...have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (for example, breeding, feeding, migration behaviour, life expectancy) and spatial distribution Petroleum mining cannot proceed without spill risk. The ONLY effective way to remove that risk is to not permit the action to take place at all. Mitigation after the event is a shoddy second alternative, and it completely flies in the face of the EPA's Federal directives. You know and I know this is a last 'hurrah' for petrochemicals. Do what you can to stop it. No last hurrah's for Woodside.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-487	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	No, no, no. Instead, think of the future..... Save the environment, marine life and the future welfare of all on this planet. Environmental Protection Authority WA) and [Name redacted]Department of Environment and Energy,	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-488	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am adding my personal plea to you to help protect us from further degradation of our planet and to encourage work that is sustainable for the only environment we have to live in. We have to live with the consequences of our decisions.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-489	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	This reef is too valuable as a natural treasure to risk damage to it from the extraction of fossil fuels, which in itself is an activity harmful to our atmosphere. Thank you for acting to protect this valuable part of our natural heritage.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-490	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We are already moving away from gas and oil and need to do more to protect the ocean and habitats.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-491	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Earth is not only our home, we are all a part of this ecosystem and ripple effects will reach all of us.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-492	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Would it be possible for the WA Environmental Authority to actually protect, with some useful certainty, the very significant ecological values it has in its charge? To this end	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-493	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Survival of our environment should be the overriding aim of any State or Federal Government. That includes both land and water.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-494	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I have read the letter prepared by the Australian Marine Conservation Society in opposition to the proposal and adopt its contents. In addition, I add that I have been a frequent visitor to this part of Western Australia. This sort of development will jeopardise tourism by degrading the environment.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-495	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Even more disastrously, Woodside's proposed Browse Basin and Burrup hub proposal is Australia's most polluting fossil fuel mega-development. It will contribute around four times the pollution of the proposed Adani coal mine and also impact severely on Scott Reef which has previously suffered the impacts of climate change through bleaching events Oil and gas operations such as the Browse Basin development are	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		incompatible with the sensitive marine environment of the Scott Reef and its survival as we know it. Protection of this sensitive, nationally significant marine environment is of paramount conservation importance. The Browse Basin proposal forces a choice between fossil fuel extraction and the associated greenhouse emissions, and the degradation of a unique Australian environment. I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.	
GHG-496	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in hopes of influencing and preventing a dire decision in the current consultations on Woodside's Browse Basin development. The entire project should be denied, for obvious reasons of fossil hydrocarbons having a biologically dangerous effect on the Entire earth and the climatic stability now being destroyed. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine Because completely protected oceanic areas are essential for recovering fish and other aquatic organisms, and the toxicity of undersea drilling for fossil fuels is proven and repeated constantly since the inception of the practice, Scott Reef is FAR more valuable than any direct or private exploitation can be. Governments exist to protect the future from such destruction	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-497	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	In a time of Climate Emergency the world needs to be moving right away from new oil and gas as well as Coal. These are all fossil fuels whose carbon has been sequestered eons ago. We have used them profligately for the last 50 years and now must move away from them. The bushfires of 2019-2020 have only added to CO_2 levels in the atmosphere and so will aggravate Global heating. Even if the mining of this gas or oil were not adding to the climate problem the granting of license to Woodside Petroleum to drill in the Scott Reef area should not be granted for the reasons which follow. I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-498	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	*******Look at this fact: ********** ---Did you know that Woodside's proposed Browse Basin and Burrup hub will contribute around four times the pollution as that of the proposed Adani coal mine!! 4 Times! --And Australian know ALL about the Adani controversy! !!! OMG not again. Please stop this proposed development from proceeding. --Oil drilling is hugely disruptive. To wildlife, the oceans, and ultimately our world as a whole is affected. We are all linked to what happens in WA. It will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life. Really! *** Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-499	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Please read this email to the end. I am signing because I cannot believe drilling would be allowed in such a significant area of our coast endangering our marine animals.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-500	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing from Brisbane. Although I am a long way from the Browse Bay site matters such as Woodside's proposed activities are of concern to all Australians as it is imperative we maintain sensitive marine environments of such as Scott Reef which is a critical habitat for endangered marine life. Oil and gas operations such as the Browse Basin development are totally inconsistent with maintaining the safe climate conditions that Scott Reef and other marine environments	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-501	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-502	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I would not object if Woodside Petroleum would absolutely guarantee 100% that they would not cause any pollution and that if they did so they would pay a fine of 500 times the total clean-up bill	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-503	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Please put right before profit.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-504	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I have worked in the oil and gas industry and it's not as safe and clean as you think. Every time we have a spill it's always reported as 19.9 litres, not the 199 litres that was lost.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-505	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I also would urge that this company has no 'social license' to do anything in Australian waters. This company has been involved in trying to rip off one of the most impoverished countries in the world - Timor L'Este; and not satisfied with that also doing everything to ensure they pay little or no tax in Australia.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-506	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	What will your children and grandchildren think of you if you approve The Woodside's Browse Basin development? Will they be proud that your decision approved Woodside's proposed activities that will threaten the sensitive marine environment of Scott Reef and will disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life? I know my children, and in time their children, would not be proud of me if I approved the destruction of such habitats particularly in pursuit of fossil fuels.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-507	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	No, no, no!!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-508	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Soon we will not have any marine areas of any quality left and of course the world's oceans are like a large bowl of soup that is getting degraded beyond rehabilitation. This affects the quality of life of all life on earth.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-509	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	ALL FOR MONEY AND U CANNOT EVEN TAKE IT WITH YOU..ONE FOOT IN THE BANK ANOTHER IN THE GRAVE..MAY GOD HAVE MERCY ON YOU IN ETERNITY WHEN THE TIME COMES AND HE SAYS "ENOUGH" AND YOU HAVE DONE THIS AND DESTROYED OUR PLANET	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-510	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing as a doctor concerned about the current consultations on Woodside's Browse Basin development. In particular I am worried that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-511	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Please, please don't allow oil and gas development (drilling) on Scott Reef. It's imperative that we, as stewards of the planet, protect habitat to allow the Earth's creatures to thrive. [Name redacted]	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-512	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	What an amazing natural wonderland!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-513	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I have worked in the oil & gas industry most of my working life & have worked for Woodside on the Angel project. Times are changing & it is time to review how resources are exploited. We should not be risking this valuable place adding more carbon emissions.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-514	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Around thirty years ago, my family from SA took a camping holiday around WA, and one of the most impressive things we observed was a HUGE turtle laying her eggs in the sand just after twilight on a remote beach near Exmouth. We watched in awe as she laboriously dug her hole in the sand with her flippers, then laid her eggs, then covered them carefully with the sand she had displaced. We were transfixed by the whole process, and it was an experience my husband and I, and our two children (now adults with children of their own) will never forget. So I am writing to you now in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		For these reasons, I am urging you to reject the proposal to undertake oil and gas development on or around Scott Reef, and take steps to preserve your beautiful, unique marine environment and its amazing creatures, so that generations to come may be able to enjoy and experience the awe and wonder that we did on that Spring evening so long ago.	
GHG-515	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Australia is becoming re-known for destroying natural habitats and killing off wildlife to the point of species extinction. Do you want to be known as one who has sent more animals to extinction?	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-516	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I cannot believe at this critical state Australia is in that ANY GOVERNMENT in their right mind would even consider this abomination ..."Have the recent disasters taught you nothing?" This government continues to not do the right thing...and will not listen to the voting public.....WE SHARE THIS PLANET WITH ALL OF GODS CREATURES NOT OWN IT AND ALL THAT'S ON IT ....These areas DO NOT belong to any government, but to all Australians and future generations... How dare you think you can do 'willy nilly' whatever you like without giving a damn about the natural marine life and the future health of this planet.... Enough is enough...no amount of Money would ever be enough to qualify the rape and destruction of these habitats... Please stop this lunacy and do the right thing...	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-517	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am extremely concerned that Woodside's proposed Browse activities threaten the sensitive marine environment, particularly Scott Reef and will negatively impact marine fauna and irreversibly degrade critical habitat for endangered marine life. Scott Reef is a WA state treasure and should be protected. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-518	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am so over wrecking our environments when it is unsafe for all creatures to co-exist with the effects of our human needs, (gas and oil). There has to be a better, friendlier way please try to find one? Selling my shares, can't keep supporting the impacts of this any longer.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-519	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	This area is between very valuable marine protected areas, so any pollution, whether accidental via oil spillage, or incidental from wastewater or other means, must affect those valuable adjacent areas. As for drilling on a coral reef, I thought Australia had abandoned any suggestion of that since the 1960's! This area is being studied by a number of international, as well as Australian universities (University of Sydney's Australian Centre for Field Robotics, the University of Rhode Island (URI) Graduate School of Oceanography, the Woods Hole Oceanographic Institution (WHOI), the Massachusetts Institute of Technology (MIT) School of Aerospace, the University of Hawaii, Australian Marine Ecology (AME) and Evologics Gmbh) showing how important it is.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-520	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Just think about all the money made from people going to see the wild life, which will grow and go on for ever, while after the oil and gas companies are finished destroying it all they will just move on to their next path of destruction. There will be no wild life to see and no one paying.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-521	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I understand you are filling your own pockets to facilitate Woodsides permission to drill in these areas however I take offence when those in charge of protecting our fragile environment are making decisions not reflective of what the community wants or needs, if you okay this process then shame on you.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-522	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	The conservation of the ecosystem matters, but reducing the supply of fossil fuels matters even more	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-523	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As a marine biologist, WA-loving tourist and parent,	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-524	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	IF NOPSEMA FINDS CONSTANT FAULT WITH WOODSIDE, HOW CAN YOU IGNORE IT?	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-525	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am a citizen resident in Queensland who feels that the coastline and waters surrounding Australia belongs to all Australians and not just the interests of a the few.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-526	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Firstly and above all I find it a little bit disconcerting that the general public needs to be on our toes ready to defend fragile environments or endangered species, be they flora or fauna. This job is supposed to work the other way around. The Woodside proposal to drill in the vicinity of Scott Reef for the environment is a no-brainer. It bothers me personally that such places	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		even have an exploration lease over them. I believe the EPA should have already cordoned off such areas and it should be the exploration and mining companies that seek to do the risky work to put it by the general public before any proposal is even looked at by the EPA. I am with everyone else against this proposal in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	
GHG-527	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Your decisions will affect the planet forever. Now is the time to stand up for what's left of our wildlife. The ethical question here is: What ought one to do? It's a no brainer.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-528	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Below are words written by the Australian Marine Conservation Society that I wholeheartedly agree with. I would also add that should any oil spills or damage be done to such an environmentally sensitive area, it will be known by future generations that YOU allowed such a monumental error to happen. Too many places around our planet are being destroyed in the pursuit of more and more profit, it is a madness that is undeniably destroying the only planet we humans can exist on. You are in a unique position to protect the environment as you title suggests so Please do NOT allow drilling in this area because if it is damaged it cannot be replaced and going by how these petroleum companies work in their mad pursuit of more and more profit, they will take short cuts or use inferior materials, have no doubt, short cuts that increase their profit also increase the very real possibility of irreparable damage to our magnificent coastline. In Australia we are blessed with a relatively clean environment in which to live in, please let us not go down the path of other countries who have allowed theirs to be destroyed by international companies that have no respect to the laws of that country to which we all abide nor the magnificent beauty of the Earth. It was once thought that life	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		was abundant throughout the universe, now with technology astronomers and scientists have now come to believe that a planet like the Earth with such an abundance and diversity of life is not as common as they once thought. It is rare and unique and an absolute gem that should be treasured and looked after not trashed and destroyed.	
GHG-529	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Finally, Australia is not getting anything from drilling but a terrible environment for All to live in.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-530	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	PLEASE DON'T FOLLOW [the President of the United States] MODAL OF NOT CARING FOR OUR ENVIRONMENT AND THE REST OF THE ORGANISMS WHO ALSO LIVE ON THIS PLANET! SHORT TERM OIL AND GAS EXPLORATION WILL LEAVE OUR FUTURE GENERATIONS A WORLD THAT IS BARREN AND NO LONGER TEEMING WITH LIFE	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-531	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Hasn't Australia and its wildlife seen enough disasters for one decade? Why encourage more? I cannot urge you strongly enough to reject the proposal to undertake oil and gas development on or around Scott Reef. Fossil Fuel exploration is from the past, to whatever extent in transitioning to other power sources we continue to allow it, it must not be in our more critical ecology regions. Please give Woodside a firm NO along with and don't ask again ...	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-532	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Is Scott Reef to support a huge array of sea life from across the Indian Ocean and Timor Sea or is it just for mining Such remote regions are physically isolated which enables critical nesting habitat for one of the most endangered species of marine turtle in the It does not exist nor should it as simply a mining site as it is far too important for that. Yet, we have good reason to fear the political influence	Please refer to these responses that address the items raised in this submission: GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		of this multinational giant, which relies for its operations on political compliance locally and nationally. It is its political influence over the environmental decisions that is at the heart of its political networking. Woodside's Browse Basin and Burrup hub proposal is one of Australia's major polluting fossil fuel mega-development. Scott Reef has already suffered the impacts of climate change through bleaching events and this proposal would significantly add to the problem. Oil and gas operations such as the Browse Basin development are incompatible with a sensitive marine environment like the Scott Reef and are totally inconsistent with maintaining the safe climate conditions that Scott Reef and other marine environments I strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef.	
GHG-533	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I SAY NO, NO, NO TO WOODSIDE EXPLORATION AT SCOTT REEF!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-534	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	If there is a 100% guarantee that there will be no spills or pollution at all then I would not object to this proposal.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-535	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	There is a need for vision and protection of the environment for our children and grandchildren. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-536	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Don't drill Scott Reef. Build renewables and leave the wildlife alone.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-537	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. "	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-538	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	PLEASE DON'T RUSSIAN ROULETTE TO BE PLAYED WITH OUR REEF!!	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-539	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am deeply concerned that you are considering the possibility of endorsing Woodside's Browse Basin development. I am 70 years old and have watched my beautiful planet raped and pillaged by oil companies and have watched as our precious environment has been decimated to a point at which in many instances there is now no return. You yourself are probably too young to remember the abundant beauty and diversity with which I was fortunate enough to experience in my earlier life. I am begging you not to endanger the remaining diversity by allowing money to override the future of our planet and wildlife. We now know there are other less harmful ways to create the energy we think we need to survive … please put your energies into finding alternate solutions and place ecosystems above profit before it is too late.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-540	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I urge you to please reject the proposal to undertake oil and gas development on or around Scott Reef, for the sake of our children. We can't be seen as the generation who ignored the science and destroyed the natural environment for corporate greed.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-541	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	"I am a petroleum geologist. I went for an interview with woodside in the 90s came 2nd.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-542	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Despite this, based on what I know, which is little re the environment if Scott reef I would say that just like Gt Barrier Reef it should be excluded from oil and gas exploration. It is a unique habitat with great wildlife and needs to be protected on that basis."	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-543	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I WANT YOU TO KNOW I THINK BEING AT A MOMENT WHERE WELL BE JUDGED, THIS IS YOUR CHANCE TO DO THE RIGHT THING BY THOSE TO COME. Environmental Protection Authority WA) and [Name redacted] Secretary Department of Environment and Energy	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-544	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	STOP PUTTING SHORT TERM PROFITS OVER LONG TERM ENVIRONMENTAL HEALTH!!! DO YOU HAVE A FAMILY? GRANDCHILDREN? WHY POLITICIANS ARE SO SHORT SIGHTED MY CHILDREN ARE INHABITING A DYING WORLD! MONEY WON'T FIX EVERYTHING!	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-545	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	It is time to actively and publicly start protecting our fauna on land and in the sea. Fossil fuels are polluting and slowly destroying this world. Let's conserve our world and let go of fossil fuel use.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-546	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Some places must NEVER be "developed" and this is one of those.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-547	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	We cannot continue to destroy the ecosystem and the world with the polluting fossil fuels. Think of your children and grandchildren's world in the future.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-548	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. The "impregnable" oceans are in serious trouble for a number of reasons. Fossil is a deathly, dead end. Why this risk? Once, years ago now, the prestigious Australian Academy of Science and CSIRO, and BOM, warned that the risk of continued fossil use was too, too far to take, it bound all. Without the guidance of a "think tank" we are flying blind, entailing an incredible risk. Those bodies' position should have been and be the governing factor.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		However, in the ensuing period of inaction, the supreme bodies, in the field have seen the change, over many years - that is seen it, "face-to-face". They are the US National Oceanic and Atmospheric Administration and David Attenborough. The only difference between the modelling and what they are seeing is that the change is faster. I worked very closely with the leading representatives of energy companies in the 1980s, of the ExxonMobil warning bulletin, and 1990s, of the Shell bulletin. It was assumed that people would heed the warning. It is inexplicable this has not been the case. So I have been put in the box seat to see what was covered, then play out, in the last incomprehensible 30 years. I urge you to reject the proposal to undertake oil and gas development on or around Scott Reef, on the basis of the reef's welfare, alone and the wider madness of continued fossil use.	
GHG-549	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	In light of the recent devastation to the environment caused in part, if not all, by the actions of entities from the resources sector...only an idiot would suggest that any project that threatens the environment, is acceptable.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-550	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Earth is not only our home, we are all a part of this ecosystem and ripple effects will reach all of us.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-551	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As a marine scientist with more than 40 years' experience diving on corals reefs, including Scott Reef, I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned with information provided by AMCS that Woodside's proposed activities threaten the sensitive marine I can attest from personal experience that It also acts as an important 'stepping stone' in connecting populations of marine species along the WA coast and Timor Sea more generally.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-552	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Woodside's Browse Basin development is being discussed at the moment, and I'm very worried About the effect Woodside's proposed activities will have on the fragile marine environment of Scott Reef. My understanding is that it could disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-553	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I respectfully strongly urge you to reject the proposal to undertake oil and gas development on or around Scott Reef. Thank you for listening to me, even though I am not an Australian.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-554	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Our beautiful reefs are one of the biggest reasons people visit WA and Australia in general. We are so lucky to live in a country with so much diversity in wildlife and marine life that we should work hard to keep it that way. In a time where most Australians are fearing for the future of our country and precious wildlife and marine life, you have the opportunity to step up and be a leader in this space. Be a leader that we can remember, one that puts our pristine, precious marine environments first rather than one that destroys it. Reject the proposal and keep Australia beautiful! Thank you and kind regards	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-555	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	In 2010, the EPA noted that light pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-556	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	You have the details of previous studies showing the dangers to the environment. Australia is already a heavy polluter on a per capita measure. Please don't be responsible for enabling further fossil fuel development Scott Reef already shows impacts of climate change through bleaching events and this proposal would significantly add to the problem. I might live in the eastern part of Australia but I regard myself as a responsible Australian citizen. My grandchildren deserve to be able to see the wonders of this area and I hope they can through your wise decision making.	Please refer to these responses that address the items raised in this submission: • GHG-KIR-5 (Principles of Environmentally Sustainable Development [ESD]) • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-557	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am a qualified marine Biologist, and teach Biology and Ecosystems to adults intending to go to University. The amount of data showing the damage done by exploratory drilling and echo-sounding alone is extensive, and well-documented. And as a scuba diver , with multiple dives on the West Australian coast, I am aware of the delicacy of the narrow reef systems there. The value of the Reef to the tourist economy long term far outweighs the return from oil, which will have a limited life, and cause permanent damage and possible destruction of the ecosystem.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-558	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I write regarding the current consultations on Woodside's Browse Basin development. In the light of everything we know about Climate Change, and the imperative to REDUCE emissions from Fossil Fuels, it is foolhardy to allow further drilling for gas and oil to go ahead at all, let alone in such a sensitive marine habitat. Woodside's proposed activities threaten the sensitive marine environment of Scott Reef and will likely disturb, injure or kill marine fauna and irreversibly degrade critical habitat for endangered marine life.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-559	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	As an international citizen who understands the importance to the world of Australia's unique marine species and ecosystems and the terrible pressures they are under, I write in relation to the current consultations on Woodside's Browse Basin development. In particular I am concerned that Woodside's proposed activities threaten the sensitive marine.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-560	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I was horrified to learn that Woodside Petroleum is seeking approval for no less than 54 oil and gas wells in Browse Basin. Not only would creating and excavating these significantly threaten the sensitive marine environment of Scott Reef, but burning any fossil fuels extracted from them would inevitably exacerbate global warming - thereby ensuring that all of Australia's bushfire seasons for the foreseeable future will be even worse than the current one. world, the green sea turtle. Five species of whales also visit the area, including Humpback whales and Blue Pygmy whales, and at least 10 species of dolphins are found there in pods that each contain hundreds of individuals. The proposed activities would seriously disturb, injure or kill all or most of the local marine fauna and irreversibly degrade critical habitat for surviving creatures. In 2010, the EPA noted that sunlight pollution from activities such as subsea oil and gas drilling can disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Additionally, persistent low frequency noise from gas extraction is known to affect feeding, migration, and breeding behaviour in sea turtles, and adversely impact the migratory patterns of whales. oil spill would last 77 days, spreading across the reef and as far as 800 km from the site - at concentrations lethal to marine life.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-561	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	For the sake of future generations, please reject the proposal to undertake oil and gas development on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
GHG-562	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	There are ALWAYS disastrous spills and leaks where oil is dripped, plus toxic pollution released into the water.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-563	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. In particular I am greatly concerned that Woodside's proposed activities seriously threaten the very fragile and sensitive marine Considering your role, you are surely fully aware that Scott Reef supports a huge array of sea life from across the Indian Ocean and Timor Sea. Please remember that this includes highly critical nesting habitat for one of the most endangered species of marine turtle in the world, the green sea turtle. You will also know, that five species of whales visit the area, including Humpback whales and Blue Pygmy whale and that at least 10 species of dolphins are found at Scott Reef in pods numbering hundreds of individuals. Please recall that in 2010, the EPA noted that even so called "light pollution" from activities such as subsea oil and gas drilling are likely to disrupt the nesting and behaviour of hatchling and adult turtles and other endangered marine life. Clearly, this poses an unacceptable risk to the marine life. Additionally, it is well known that persistent low frequency noise from gas extraction will affect feeding, migration, and breeding behaviour in sea turtles, and impact the migratory patterns of whales. Also, of unacceptable impact is the discharges of wastewater and pollution from oil spills that will contaminate marine ecosystems with toxic heavy metals and other chemicals. Please take note that Woodside's own risk models predict that a mixed gas and considering all the irreversible consequences to the marine life, I very strongly urge you to fully reject the proposal to undertake oil and gas development on or around Scott Reef.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		Assuming that you too love Australia and all its natural environment, I trust that you will do everything in your power to provide the ongoing protection it requires. Thank you	
GHG-564	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am someone who loves Australia and its environment and am appalled to think that this project could be approved. We travel the W.A. coast regularly and love spending time there - and our money! But, if this proceeds, we will be thinking twice.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-565	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I include the generic email below. In my own words, this drilling mustn't be allowed to proceed. Time and again profit is being out before sensible action. We can't have more fossil fuels dug up and there are many alternatives . Enough is enough As an Australian citizen I am asking you not to approve this drilling project.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-566	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	Yes, this is a 'form letter'. It is sent with the hope that you and the Authority will do all within your powers to halt Woodside Petroleum in its attempts to drill in the Scott Reef. Surely, with all the different Anthropocene impacts currently assailing our Planet, it is time to be very cautious when considering any activity which further impacts the natural environment. . . . . isn't it?	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)
GHG-567	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. 1.0 Subsea drilling proposed In particular I am concerned that Woodside's proposed activities threaten the sensitive marine 2.0 Reduce Australia's Carbon footprint	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

No.	Submitter	Submission and/or issue	Response
		Our current carbon footprint per person is at the top of the world footprint per person table. This is because of the huge exports of huge quantities of LNG, and coal in its various forms. Australia must reduce its carbon foot print to help reduce the human effect on climate change that is so well documented in the 2015 Paris Agreements. These must be signed immediately by Australia. Please take these 2 factors to heart when deciding on the Woodside proposal.	
GHG-568	Proforma submission (additional text to Australian Marine Conservation Society (GHG-391 & GHG-392)	I am writing in relation to the current consultations on Woodside's Browse Basin development. Are you both crazy? The money we get from tourism and the jobs generated by tourism far outweighs any money or jobs from this proposal. Remove the subsidies you give the oil industry and it would be uneconomic. Apart from the financial side, Woodside's proposed activities threaten the sensitive marine Oil and gas operations such as the Browse Basin development are not compatible with a marine environment like the Scott Reef and are totally inconsistent with maintaining the safe Protection of this nationally significant marine environment is a paramount conservation priority which is fundamentally threatened by the Browse Basin proposal. It makes sound economic and environmental sense to reject the proposal to undertake oil and gas development on or around Scott Reef. As an Australian I request you reject it.	Please refer to these responses that address the items raised in this submission: • GHG-392 (Response to Proforma from Australian Marine Conservation Society)

3.3 Social Surroundings (Heritage)

3.3.1 Agency Comments

No comments were received from the WA EPA. Comments received from DAWE and Woodside's response to these are provided in Table 3-8.

Table 3-8: Response to Agency Comments in Relation to Social Surroundings (Heritage)

No.	Agency	Comment	Response to Comment
SS-DAWE-1	DAWE	*The impact of industrial emissions in proximity to the rock art remains contested. No long-term credible data or peer-reviewed studies and methodology with high assurance has determined the effects of industrial emissions on the rock art. The Department does not support the conclusion made by Woodside that it is unlikely for the proposal to have a significant impact on the NHL values for the life of the action. The precautionary principle should be considered (section 391 of the EPBC Act) when considering the discussion of scientific uncertainty.* *There is a high level of uncertainty regarding accelerated weathering impacting on the distinguishability of petroglyphs across the region based on the current available data and peer reviewed information. The possibility of industrial emissions accelerating the weathering on the distinguishability of the petroglyphs will be further investigated through the implementation of the MRAS and the Murujuga rock art monitoring program.* *The Department considers Woodside need to clarify if:* • *the damage assessed in IHS audit only relates to physical condition (e.g. movement of rock art) rather than condition from emissions. Woodside should provide the 2019 audit as part of the ERD.* • *they have considered only heritage on site, or does this include heritage adjacent to the Woodside site.* • *Woodside need to clearly outline and commit to implement the management strategies to:* • *measure the long-term cumulative impacts of emissions on the National Heritage Place*	**Impact assessment** The scientific studies reviewed by Woodside provide confidence that despite multiple extensive scientific studies, there remains no peer-reviewed evidence that there has been any observable change to the petroglyphs of Murujuga as a result of industrial emissions. This is supported by the EPA in their recent Assessment report of the Yara-operated TAN Plant (EPA Assessment Report 1782-19) '...that there is currently no compelling scientific evidence which indicates that there is an immediate material threat of serious or irreversible damage to rock art from cumulative industrial air emissions within the Murujuga airshed.' In the NWS Project Extension ERD, Woodside acknowledged the concerns regarding the risk to rock art from the multiple theorised impact pathways that may lead to an acceleration of natural weathering processes (e.g. Section 6.5.4.1). The draft ERD provides a comprehensive overview of the risks, predicted impacts, and mitigation measures in relation to this potential accelerated weathering. **Murujuga Rock Art Strategy** Key outcomes of the 2018 Senate Inquiry resulted in the establishment of the MRAS. DWER has primary responsibility for implementing the MRAS, to be undertaken in partnership with the Murujuga Aboriginal Corporation (MAC) in, representing the Traditional Owners of Murujuga, and in consultation with stakeholders, including the community and industry. The Strategy outlines a long-term framework to guide the protection of the Aboriginal rock art located on the Dampier Archipelago and the Burrup Peninsula. Key aspects of the Strategy are to: • develop and implement a robust program of monitoring and analysis to determine whether change is occurring to the rock art on Murujuga.

No.	Agency	Comment	Response to Comment
		• *indicate the potential impacts of an additional 50-year exposure of the same levels of emissions* • *mitigate the risk of damage to the rock art from extended exposure to industrial emissions in line with findings of MRAS and Murujuga rock art monitoring program* • *demonstrate how they will implement the MRAS/adapt the Proposal to the findings of the monitoring program, including the findings of the 5 yearly reviews and achieve the outcome of emissions being below that which lead to unacceptable levels of impacts to the rock art.* *Prevent / adaptively manage emissions. This may include uptake of technology to minimise emissions over the operating life of the proposal. Woodside to clarify if/how/how much the proposed NW Shelf extension will result in emissions reductions from the facility. If no reductions are expected, further explanation is required as to why this is not the case.*	• commission scientific studies to support the implementation of the monitoring and analysis program and management against EQC. • establish governance communication processes that involve key stakeholders • establish an EQMF that includes developing guidelines and standards, based on sound scientific information, which will provide warning of potential harmful effects and if management actions are required to protect the rock art from harm. The Strategy is intended to provide a 'transparent, risk-based and adaptive framework for monitoring and managing environmental quality to protect the rock art on Burrup Peninsula from industrial emissions' (DWER, 2019a). It is understood that implementing the MRAS, Framework and Monitoring Program (DWER, 2019b) will remove much of the uncertainty surrounding potential pathways linking industrial emissions and accelerated weathering and allow for timely investigation and management where required. This will ensure that risk is minimised and remains at an acceptable level. Woodside fully supports the implementation of the MRAS through membership of the Murujuga Rock Art Reference Group and will provide funding associated with the Murujuga Rock Art Monitoring Program. Woodside has already committed more than $1 million in funds to support implementation of the strategy. Recognising the complexity of the science underpinning the assessment of impacts of industrial emissions to the accelerated weathering of Murjuga Rock Art, Woodside is conducting additional scientific monitoring [which will be shared with DWER and the Murujuga Rock Art Strategy (MRAS) Reference Group] to complement studies being undertaken as part of the MRAS. This includes establishment of a series of nitrogen deposition monitoring stations and an assessment of historical rock acidity (pH) monitoring data. **Requested Clarifications** *the damage assessed in IHS audit only relates to physical condition (e.g. movement of rock art) rather than condition from emissions. Woodside should provide the 2019 audit as part of the NWS Project Extension ERD.* Reports produced as a result of the audits may contain culturally sensitive images or information which should not be made public and remains the intellectual property of Indigenous participants. For these reasons Woodside does not intend to publish these reports.

No.	Agency	Comment	Response to Comment
			they have considered only heritage on site or does this include heritage adjacent to the Woodside site. IHS audits are not limited in the scope of impacts that may be assessed. Any visible impacts to sites or changes from baseline records are noted. This would include any visible changes consistent with the theoretical impacts of emissions. Audits occur at all Woodside-operated lease areas, including operational and non-operational areas. The NWS Project Extension ERD considers impacts beyond Woodside's leases and across the Burrup Peninsula and on the National Heritage Place. *Measure the long-term cumulative impacts of emissions on the National Heritage Place* Woodside has formally committed to supporting all aspects of the MRAS, including the Rock Art Monitoring Program and Atmospheric Deposition Monitoring Network. This is formalised in Management Actions described in the CHMP (Appendix D) and AQMP (Appendix B). Woodside has recently re-established a series of ambient air quality monitoring stations on Murujuga and in Dampier to monitor for the presence and concentration of contaminants of potential concern. As part of the AQMP, Woodside has made a commitment to continue to monitor ambient air quality and report results to DWER. DWER describes the results from previous air quality monitoring programs as 'reliable and targeted'; however, DWER has recommended that improvements could be made to inform a detailed cumulative spatial analysis (DWER, 2019b). It is appropriate that a single agency leads the monitoring of cumulative industry impacts, rather than a single proponent, as suggested by DAWE. *Indicate the potential impacts of an additional 50-year exposure of the same levels of emissions* The scientific studies reviewed by Woodside provide confidence that despite multiple extensive scientific studies, there remains no peer-reviewed evidence that there have been observable changes to the petroglyphs of Murujuga as a result of industrial emissions. Continued operation of the NWS Project Extension will be at emissions levels at the same or lower than current levels. Appendix H of the draft ERD describes the extensive body

No.	Agency	Comment	Response to Comment
			of research that has been performed in relation to understanding and quantifying any impacts to petroglyphs on Murujuga. The absence of any published peer-reviewed studies that identify measurable or observable changes to the condition and integrity of rock art as a result of industrial emissions supports the outcomes of the risk assessment presented in the ERD. This assessment found that at assessed emissions levels, no impacts were predicted. However, there remained a moderate risk that accelerated weathering of rock art may occur, recognising the uncertainty associated with the effects of industrial emissions on petroglyphs of Murujuga. *Mitigate the risk of damage to the rock art from extended exposure to industrial emissions in line with findings of MRAS and Murujuga rock art monitoring program* Woodside will take reasonable and practicable measures to minimise emissions to air and therefore further minimise the risk of significant impacts to rock art. The draft NWS Project Extension ERD includes commitments to reduce NOx emissions by 40%, and substantially reduce VOCs by 31 December 2030. The NWS Project has currently been operating for more than three decades and over this time Woodside has developed a robust understanding of how the NWS Project interacts with the environment. Significant operational and environmental monitoring data collected over this time provides a scientific basis for how the Proposal interacts with the existing environment. In addition, Woodside commissioned air dispersion and deposition modelling to further understand discharges and emissions from the Proposal, which are described in detail in Section 6.5.4.1 of the ERD. In relation to impacts on the Burrup Peninsula rock art from industrial emissions, numerous studies in the past 15 years have investigated the potential for industrial emissions to impact on the Burrup Peninsula rock art. During this period, the NWS Project has operated within the same emissions profile as presented in this Proposal. No published peer-reviewed studies identified measurable or observable changes to condition and the integrity of the rock art as a result of industrial emissions. As such, significant accelerated weathering impacting on the distinguishability of petroglyphs across the region is not expected to occur as a result of the Proposal. As part of the implementation of the NWS Project Extension AQMP (Appendix B), Woodside will continue to evaluate new information as it emerges and ensure an adaptive approach to managing emissions and discharges, as required, to avoid significant impacts.

No.	Agency	Comment	Response to Comment
			It is understood that implementing the MRAS, Framework and Monitoring Program (DWER, 2019b) will remove much of the uncertainty surrounding potential pathways linking industrial emissions and accelerated weathering and allow for timely investigation and management where required. This will ensure that risk is minimised and remains at an acceptable level. *Demonstrate how they will implement the MRAS/adapt the Proposal to the findings of the monitoring program, including the findings of the 5 yearly reviews and achieve the outcome of emissions being below that which lead to unacceptable levels of impacts to the rock art.* Appendix A to this Response includes an updated version of the NWS Extension Proposal AQMP. Section 5 of this AQMP outlines Woodside's commitment to an adaptive management strategy. This strategy has triggers for a review of management measures that include: • outcomes of any technical review of and evaluation of the emissions and ambient air quality monitoring programs • new scientific information published, as part of the MRAS, about the potential impacts of industrial air emissions on rock art of the Burrup Peninsula and that information suggests new or updated provisions should be included in [the AQMP] • new and relevant data/information gained as a result of implementing [the AQMP], or from external sources • at a minimum of 5-year intervals if not triggered by other means. *Prevent / adaptively manage emissions. This may include uptake of technology to minimise emissions over the operating life of the proposal. Woodside to clarify if/how/ how much the proposed NW Shelf extension will result in emissions reductions from the facility. If no reductions are expected, further explanation is required as to why this is not the case.* The AQMP which in Section 5 outlines Woodside's commitment to an adaptive management strategy in relation to the management of air emissions. The AQMP also states that, by 2030, Woodside will take reasonable and practicable measures to minimise emissions to air and therefore further minimise the risk of significant impacts to rock art. The ERD includes specific commitments to reduce NOx emissions by 40%, and substantially reduce VOCs. Beyond 2030, emissions reductions technologies and impact assessments will continue to be reviewed and considered for implementation, in line with the AQMP.

No.	Agency	Comment	Response to Comment
SS-DAWE-2	DAWE	*Woodside is heavily reliant on the limited data provided, without including and outlining mitigation strategies that incorporate (and allow flexibility for) the Western Australian Government's Murujuga rock art monitoring program (as discussed above). This program, which seeks to determine/establish baseline data/thresholds for the impact of anthropogenic emissions on the adjacent rock art, should be written comprehensively into the Proponent's mitigation strategy for the possible impact of emissions on the rock art. This would be done via the inclusion of clear, adaptive management commitments for the Proposal, which would require the proponent to 'reduce/amend' their emissions loads in line with the outcomes/findings from the reporting of the Murujuga rock art monitoring program.*	The scientific studies reviewed by Woodside provide confidence that despite multiple extensive scientific studies, there remains no peer-reviewed evidence that there have been observable changes to the petroglyphs of Murujuga as a result of industrial emissions. It is understood that implementing the MRAS, Framework and Monitoring Program (DWER, 2019b) will remove much of the remaining uncertainty surrounding potential pathways linking industrial emissions and accelerated weathering and allow for timely investigation and management where required. This will ensure that risk is minimised and remains at an acceptable level. Section 5 in the AQMP (Appendix B) outlines Woodside's commitment to an adaptive management strategy. This strategy has triggers for a review of management measures that include: • outcomes of any technical review of and evaluation of the emissions and ambient air quality monitoring programs, • new scientific information published, as part of the MRAS, about the potential impacts of industrial air emissions on Aboriginal rock art of the Burrup Peninsula and that information suggests new or updated provisions should be included in [the SQMP] • new and relevant data/information gained as a result of implementing [the AQMP], or from external sources. • at a minimum of 5-year intervals if not triggered by other means.
SS-DAWE-3	DAWE	*The Proposal would see a 50 year extension to the operation of the facility adjacent to a national heritage site and the continued interruption of the cultural landscape. The Department considers that there is a high level of uncertainty in regard to the impact of adjacent industrial emissions on the rock art of the Dampier Archipelago including the Burrup Peninsula over the extended operating period. Based on the information provided to date by Woodside, the Department does not consider there is sufficient justification to conclude it is unlikely that the proposal will have a significant impact on the NHL values for the life of the action.* *Where a residual significant impact occurs that are determined to be acceptable, offsets will be required to compensate for the residual impacts. Any offsets proposed must consider the principles in the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy (2012).*	The NWS Project Extension ERD and in particular the CHMP (Appendix D), commits to a number of activities for preserving cultural heritage on Murujuga, including support for the MRAS. *The Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy* (2012) requires that offsets only be applied where avoidance and mitigation measures are insufficient. Despite numerous studies, there is no peer-reviewed evidence that there have been observable changes to the petroglyphs of Murujuga as a result of industrial emissions. Woodside has committed to an adaptive management strategy that will ensure recommendations of the MRAS will be reviewed for incorporating into the AQMP (Appendix B).

No.	Agency	Comment	Response to Comment
SS-DAWE-4	DAWE	*As discussed above, it is the Department's view that there is no/minimal, long term credible, peer reviewed information or data that suggests the proposal will be unlikely to have significant impact on the NHL values from now to 2068.* *In lieu of credible peer reviewed information or data to make such a determination, is it requested the Proponent ensure the incorporation of adaptive emissions mitigation and management strategies that align with the findings of the MRAS and Murujuga rock art monitoring program.*	Appendix H of the ERD includes a review of the research available to date. These studies remain a valuable source of data when considering the impacts of industrial emissions on the petroglyphs of Murujuga. Section 5 of the AQMP outlines Woodside's commitment to an adaptive management strategy. This strategy has triggers for a review of management measures that include: • outcomes of any technical review of and evaluation of the emissions and ambient air quality monitoring programs, • new scientific information published, as part of the MRAS, about the potential impacts of industrial air emissions on Aboriginal rock art of the Burrup Peninsula and that information suggests new or updated provisions should be included in [the SQMP] • new and relevant data/information gained as a result of implementing [the AQMP], or from external sources. • at a minimum of 5-year intervals if not triggered by other means.

3.3.2 Key Issues Identified by the EPA

The EPA identified a number of matters regarding the Proposal and the Social Surroundings (Heritage) factor that had been raised in the public submissions. The EPA considered that key issues associated with Social Surroundings include risk to heritage value, use of 'Best Available Technologies' and incorporation of principles of the EP Act. The key issues identified by the EPA and Woodside's responses to these are detailed in Table 3-9.

Table 3-9: Responses to Key Issues Relating to Social Surroundings Identified by EPA Services

No.	EPA Key Issues	Response
SS-KIR-1	*The proposal places Rock Art and the world heritage listing nomination at an unacceptable risk due to proposed air quality emissions.*	Woodside acknowledges both the outstanding heritage value of the Murujuga Rock Art as well as the concerns raised by respondents that air emissions from the NWS Project Extension Proposal may impact the Murujuga Rock Art and the World Heritage Listing nomination. Operation of the NWS Project over the past 30 years has demonstrated coexistence with Murujuga's cultural heritage values, including operating alongside the National Heritage Place. Woodside supports World Heritage Listing of the Murujuga Cultural Landscape and notes many examples where coexistence between industry and World Heritage properties occurs around the world.

No.	EPA Key Issues	Response
		As outlined in Section 6.5.4 of the NWS Project Extension ERD, there are no planned or predicted impacts to the rock art on Murujuga. A range of government-led monitoring programs and independent studies have been conducted over the past 15 years to investigate the potential for industrial air emissions to impact the Murujuga Rock Art. During this period, the NWS Project has operated within the same emissions profile as presented in this Proposal. Woodside recognises that although there is anecdotal evidence and stakeholder concerns that observable changes may have occurred, no published peer-reviewed studies to date have identified measurable or observable changes to Murujuga Rock Art as a result of industrial emissions. Management controls are presented in the AQMP to minimise risk to rock art, and it is understood that the State implementation of the risk-based, adaptive management program (MRAS and associated Monitoring Program) will ensure that the rock art is suitably protected. As such, significant accelerated weathering impacting on the distinguishability of the rock art of Murujuga is not expected to occur as a result of the Proposal.
SS-KIR-2	*Best Available Technologies such as scrubber technologies should be used to reduce emissions.*	Woodside have proposed a number of additional mitigation measures to manage air emissions, including a commitment to reduce NOx emissions from the KGP by at least 40% by 2030. An assessment of best available emission reduction technologies, including installing a range of NOx reduction equipment types, was conducted by Woodside in preparing the NWS Project Extension ERD. Technologies assessed included water injection, dry-low NOx, ultra dry-low NOx and selective catalytic reduction (SCR) systems. In relation to the use of 'scrubbers' this question best aligns to some form of SCR technology that works on gases after they have been combusted. SCR technology converts nitrogen oxides (NOx), with the aid of catalyst and a gaseous reagent, into nitrogen (N_2) and water vapour (H_2O). A gaseous reagent, typically anhydrous ammonia, aqueous ammonia, or urea, is added to a stream of turbine flue or exhaust gas and is adsorbed onto a catalyst bed to facilitate the chemical conversion. The installation of SCR units on gas turbines exhausts to reduce NOx emissions is well proven within the power industry, especially in Europe and North America; however, SCR units have never been installed on any operational LNG Train worldwide. The installation of an SCR system would bring new hazards to the KGP, including the need to import significant volumes of ammonia daily, and potentially introduce risks associated with ammonia emissions when operating the SCR. Some of these key risks include the need to install new gas-fired boilers to replace the lost ability to recover heat energy from exhaust gases. In reviewing best available technology (BAT), and preparing the NWS Project Extension ERD, Woodside demonstrated that it was not technical feasible, practicable, or necessary to achieve emissions of NOx that are 'near zero'.

No.	EPA Key Issues	Response
		In accordance with the principle of waste minimisation and application of the hierarchy of controls, Woodside will take reasonable and practicable measures to minimise emissions to air and therefore further minimise the risk of significant impacts to rock art. Woodside proposes to reduce NOx emissions by 40%, and substantially reduce VOCs by 31 December 2030. Once EQC are established under the MRAS, the NWS AQMP will be updated to reflect this information. If further reductions in emissions are required to meet these criteria, the AQMP will be updated accordingly. Also refer to the response provided against AQ-KIR-1 in Table 3-2, Section 3.1.2
SS-KIR-3	*The Principles, particularly the Precautionary Principle, the Polluter Pays Principle and Intergenerational Equity Principle, should be discussed in terms of impacts to Rock Art.*	Each of the principles of the EP Act were addressed by Woodside within the NWS Project Extension ERD. The application of these principles specifically as they relate to impacts to rock art are expanded up below. **Precautionary Principle** The NWS Project has been operating for more than three decades and over this time Woodside has developed a robust understanding of how the NWS Project interacts with the environment. Significant operational and environmental monitoring data collected over this time provides a scientific basis for how the Proposal interacts with the existing environment. In relation to impacts on the Murujuga rock art from industrial emissions, numerous studies over the past 15 years have investigated the potential for industrial emissions to impact on the Burrup Peninsula rock art. During this period, the NWS Project has operated within the same emissions profile as presented in this Proposal. No published peer-reviewed studies have identified measurable or observable changes to condition and the integrity of the rock art as a result of industrial emissions. As such, significant accelerated weathering impacting on the distinguishability of petroglyphs across the region is not expected to occur as a result of the Proposal. As part of implementing the NWS Project Extension AQMP (Appendix B), Woodside will continue to evaluate new information as it emerges and ensure an adaptive approach to managing emissions and discharges, as required, to avoid significant impacts. **The polluter pays principle** Woodside, as operator of NWSJV, must pay for emissions to air (~$970 000 per year) under Part V of the EP Act through annual licence fees. Woodside has made a significant financial contribution to a range of scientific studies on the Burrup Peninsula and will continue to contribute to a range of scientific studies on the Burrup Peninsula by providing funds to support the implementation of the MRAS. Woodside will also assist with implementing the Strategy through its role on the Stakeholder Reference Group, which has been established by the Minister for Environment to assist with communication and stakeholder engagement.

No.	EPA Key Issues	Response
		Intergenerational Equity Principle The principle of intergenerational equity is upheld by the Proposal from two perspectives: • The Proposal will be implemented with mitigation measures that ensure the environment is maintained for future generations. Management plans have been developed for each key environmental factor to demonstrate how existing and proposed mitigation measures will manage environmental impacts and risks to an acceptable level. • Developing natural gas as an energy resource plays an important role in moving towards a lower-carbon future and mitigating the intermittency associated with some renewable energy sources while more carbon-intensive fuel sources are phased out, thus providing increased energy security to future generations. **Principle of Waste Minimisation** Woodside will take reasonable and practicable measures to minimise emissions to air and therefore reduce the risk of significant impacts to the Murujuga Rock Art. Woodside proposes to reduce NOx emissions by 40% and substantially reduce VOCs by 31 December 2030.
SS-KIR-4	*The proponent should develop an Environmental Quality Management Framework for the key environmental factor of Social Surroundings (heritage) including relevant interim EQC in line with the findings of the MRAS.*	As part of the MRAS, DWER has outlined its intention to establish an EQMF for protecting and managing the petroglyphs of Murujuga. This EQMF will provide a transparent, risk-based, and adaptive framework for monitoring and managing environmental quality to protect the rock art on Murujuga from anthropogenic emissions (i.e. emissions caused by humans). Woodside notes these aspects of the MRAS in relation to development of an EQMF: • The objective of the EQMF is 'maintenance of environmental quality to protect the rock art', such that weathering of the petroglyphs is not accelerated beyond natural rates by anthropogenic emissions. • There are currently no existing or default guideline 'trigger values' for protecting the rock art from anthropogenic emissions that could be used as criteria. There are also very few examples in the scientific literature where limits of 'acceptable' change have been identified that could be used to protect materials of cultural heritage. • The development of interim guidelines and standards, based on the best available scientific information at the time, will be informed by the monitoring studies undertaken to underpin the design of the Murujuga Rock Art Monitoring Program (see Section 5.3 of this strategy). Woodside fully supports the MRAS and will implement and comply with relevant aspects of the EQMF when finalised. The AQMP includes this commitment and triggers to review the AQMP targets and management actions, in response to findings of the MRAS as they become available.

No.	EPA Key Issues	Response
SS-KIR-5	*The proposal's development envelope passes through past islands of the Dampier Archipelago, and continue offshore which are especially critical because these islands likely contain early Aboriginal engravings made when sea level was lower, and therefore represent extra-significant cultural heritage sites, which have yet to be documented.*	Woodside acknowledged the heritage value of the Burrup Peninsula and Dampier Archipelago within the NWS Project Extension ERD, including acknowledging potential unknown heritage features (see Section 4.6.2 in the ERD). As part of the NWS Project Extension, there are no planned activities that involve potential direct physical interaction with (or impact to) heritage sites, either identified or unknown, within the Dampier Archipelago. Any activities occurring offshore, such as dredging or shipping, would occur within existing shipping channels. Maintenance of existing trunklines would only occur in the vicinity of those existing pipelines, presenting no risk to known or unknown heritage features. There are no plans to expand the existing development envelope or install new infrastructure in coastal/nearshore waters, therefore no impacts are planned or predicted to occur.
SS-KIR-6	*The ERD assessment of air quality risks to the Rock Art should include relevant technical reports including methodology and results for earlier monitoring programs (Black and Diffey, 2016; Senate Environment and Communications References Committee, 2018) and address the following papers:* • Black, J L. Hoerle, S and Watkins, R, (2018). Current Assessment of the Impact of pollution on Murujuga Rock Art. • Gillet, R 2010. Burrup Peninsula Air Pollution Study: Report for 2004/2005, 2007/2008 and 2008/2009. CSIRO Marine and Atmospheric Research, Report prepared for the Government of Western Australia,	The scientific studies reviewed by Woodside and those cited by respondents provide confidence that despite multiple extensive scientific studies, there is no peer-reviewed evidence that there have been observable changes to the petroglyphs of Murujuga as a result of industrial emissions. All peer-reviewed literature cited by submitters on the NWS Project Extension has already been included with the Rock Art Literature Review, provided as Appendix H to the NWS Project Extension ERD. This comprehensive literature review informed the risk assessment presented within the ERD. The reference to Black et al. (2018) is to a non–peer-reviewed summary of a presentation made at the Murujuga World Heritage Summit. This paper outlines the theoretical pathways by which industrial emissions are thought to impact petroglyphs of Murujuga but draws the conclusion that "*There is no proof yet that the patina on Murujuga rocks is dissolving" and that "the rate of leaching to reach an equilibrium of theoretical dissolution of the manganese and iron compounds in the patina is unknown. This rate of patina dissolution will depend on the type and concentration of acid compounds and how long they are effective in a solubilised state*". Black et al. (2018) also concludes that more research into the possible impact pathways is required, specifically focusing on understanding the role nitrogen plays in stimulating microbial growth and understanding the chemical reactions that might damage petroglyphs, so predictive models or simulations can be developed. In the NWS Project Extension ERD, Woodside acknowledged the concerns regarding the risk to rock art from the multiple theorised impact pathways that may lead to an acceleration of natural weathering processes (e.g. Section 6.5.4.1). The ERD provides a comprehensive overview of the risks, predicted impacts, and mitigation measures in relation to this potential accelerated weathering.

No.	EPA Key Issues	Response
		It is understood that implementing the MRAS, Framework and Monitoring Program (DWER, 2019b) will remove much of the uncertainty surrounding potential pathways linking industrial emissions and accelerated weathering and allow for timely investigation and management where required. This will ensure that risk is minimised and remains at an acceptable level. Woodside has formally committed to supporting all aspects of the MRAS, including the Rock Art Monitoring Program and Atmospheric Deposition Monitoring Network. This is formalised in Management Actions described in the CHMP (Appendix D) and AQMP. Woodside has recently re-established a series of ambient air quality monitoring stations on Murujuga and in nearby Dampier, to monitor for the presence and concentration of contaminants of potential concern. As part of the AQMP, Woodside has made a commitment to continue to monitor ambient air quality and report results to DWER. With reference to the Burrup Peninsula Air Pollution Study by CSIRO (Gillet 2010), this report is addressed in Section 4.4 of Appendix H of the NWS Project Extension ERD. This CSIRO document reports results from a study of air pollution, rainwater composition, and acid deposition on the Burrup Peninsula during three distinct periods from August 2004 until September 2005 (2004–2005), from February 2007 until September 2008 (2007–2008) and August 2008 to August 2009 (2008–2009). Key findings of the Gillet (2010) monitoring program include: • Ground-level gas concentrations of all measured contaminants were very low in comparison to polluted urban areas. • Data from the ambient air monitoring showed that NO_2 is typically observed well below the relevant NEPM (Ambient Air Quality) standard of 120 ppb. • There was a small enhancement in SO_2 and HNO_3 ground-level concentrations and a larger enhancement in NO_2 at 'industry' sites compared with 'background' sites. • Annual and monthly averages of NO_2, SO_2 and HNO_3 had little variation across monitoring sites and monitoring periods. The average concentrations of NO_2 at 'background sites' over the three monitoring periods was 0.7 ppb ± 0.1 ppb; at sites closer to industry, average concentrations were slightly higher at 2.1 ppb ± 0.1 ppb. • The slight increase in the flux from 2004–2005 to 2007–2008 and 2008–2009 is due largely to an increase in the amount of rainfall in the latter periods; on the Burrup Peninsula rainfall appears to be the major variable in the flux of nitrogen and sulfur to the ground. • The deposition fluxes observed are not of a magnitude that is expected to cause any deterioration of the rock on the Burrup Peninsula.

No.	EPA Key Issues	Response
		DWER describes the results from previous air quality monitoring programs, including Gillet (2010), as 'reliable and targeted'; however, DWER recommends that improvements could be made to inform a detailed cumulative spatial analysis (DWER, 2019b). Continued operation of the NWS Project Extension will be at emissions levels at or lower than current levels. Appendix H of the ERD describes the extensive body of research that has been done in relation to understanding and quantifying any impacts to petroglyphs on Murujuga. The absence of any published peer-reviewed studies that identify measurable or observable changes to the condition and integrity of rock art as a result of industrial emissions supports the outcomes of the risk assessment presented in the ERD.
SS-KIR-7	The Cultural Heritage Management Plan is deficient regarding stakeholders identified, incident reporting required, cultural awareness training committed, transparency of application processes to gain access to cultural heritage sites and reference group membership and associated reporting	The comments pertaining to the Cultural Heritage Management plan, summarised in SS-KIR-7, are described in more detail in SS-4. Woodside has provided a detailed response to each item at SS-4, including those summarised in SS-KIR-7.
SS-KIR-8	*The proposal places additional risk to human health, industry, residents and Traditional Owners through air quality emissions. Hearson Cove has been recognised as a potential public health threat in addition to increased child and adult health risk within the towns of Dampier and Karratha. There is evidence emissions are affecting the health of people living in the area. Results from the Pilbara Health Profile Planning and Evaluation Unit Report (November 2018) show children aged between 0 and 14 years are hospitalised 1.7 and 11.5 times more, than the Western Australian State average for lung disorders such as asthma and bronchiectasis respectively.*	Please refer to submission AQ-3 in Section 3.1 (Air Quality)

3.3.3 Public Submissions

A number of submissions were received in relation to Social Surroundings. Most made comments related to potential impacts to Murujuga rock art of the Burrup Peninsula. Some submissions received noted concerns around the adequacy of the CHMP and requesting adequate consideration of Aboriginal cultural, heritage, and spiritual values. The issues raised and Woodside's response to these are provided in Table 3-10. Where additional information was provided via an uploaded document to the EPA's Consultation Hub, or through another consultation pathway (e.g. emailed directly to the EPA), a summary of the Key comments raised has been provided in Table 3-10, with the full submission provided in Appendix A.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA's Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 3-10: Responses to Public Submissions Received Relating to Social Surroundings

No.	Submitter	Submission and/or issue	Response
SS-1	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 10]** Update the ERD to the include the World Heritage listing nomination for the Murujuga Cultural Landscape, with consideration given to the potential impact of the proposal on this nomination. The full response is available in Appendix A.	In response to **MAC recommendation 10**, Woodside acknowledges that in early 2020 the Murujuga Cultural Landscape was added to Australia's tentative World Heritage List on the grounds that it met criteria (i) and (iii) for Outstanding Universal Value, which are to: *(i) represent a masterpiece of human creative genius; [and]* *(iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared* No boundaries are attached to the tentative listing and the criteria for Outstanding Universal Value may change as further consultation refines the values of the Murujuga Cultural Landscape. Therefore, any assessment of impacts on potential World Heritage is provisional. However, it is anticipated that criterion (i) will be concerned exclusively with the petroglyphs on the Burrup Peninsula and Dampier Archipelago while criterion (iii) regards the broader landscape including other archaeological heritage and flora and fauna of cultural value as well as the intangible values maintained by the Traditional Owners of the area. Protection of these heritage values are discussed in Section 6.5 of the NWS Project Extension ERD and the CHMP (Appendix D). Operation of the NWS Project has demonstrated coexistence with Murujuga's cultural heritage for over 30 years, including operating alongside the National Heritage Place, which has similar values in particular with criterion (i) above. Woodside supports World Heritage Listing of the Murujuga Cultural Landscape on this basis noting coexistence between industry and World Heritage Properties occurs around the world. The Proposal is not considered to have any impact on this World Heritage nomination.
SS-2	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 11]** *Update the ERD to include an expanded understanding of the social and heritage (including intrinsic cultural and spiritual) values of Murujuga to the Ngurra-ra Ngarli – and the depth of potential impact and risk from the proposal on these values. See the recommended updates included within Comment 3.2 above.* The full response is available in Appendix A.	In response to **MAC recommendation 11** Woodside recognises the existence of cultural and spiritual values of Murujuga to Traditional Owners. These values apply not only to petroglyphs and other tangible sites, but to the landscape as a whole and the biodiversity it supports. As noted in Section 4.6.4 of the NWS Project Extension ERD, the values of this landscape to Traditional Owners also extend to cultural identity and wellbeing. In many cases these values can only be identified by the Traditional Owners themselves. Woodside has consulted with Indigenous stakeholders throughout the preparation of the ERD as well as drawing on government heritage databases, publicly available published sources, and outcomes of Woodside-commissioned archaeological and ethnographic surveys. The heritage values of Murujuga described in the ERD, including the values

No.	Submitter	Submission and/or issue	Response
			of heritage features, flora, fauna, and the landscape itself, are the values identified by Traditional Owners. Woodside remains committed to ongoing and meaningful engagement with the Traditional Owners of Murujuga.
SS-3	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 15]** *Demonstrate real and meaningful engagement with [I]ndigenous communities, and the concerns identified by community members. Including actioning ways in which the widening socioeconomic gap between Indigenous and Non-[I]ndigenous communities within the project area can be addressed.* The full response is available in Appendix A.	In response to **MAC recommendation 15**, Woodside advises that it has consulted broadly with Indigenous stakeholders on the NWS Project Extension ERD including the Ngarluma Aboriginal Corporation (NAC), Yaburara and Coastal Mardudhunera Aboriginal Corporation, Wong-Goo-Tt-Oo people, Ngarluma Yindjibarndi Foundation Ltd (NYFL), and Murujuga Aboriginal Corporation (MAC). Presentations to these groups provided an overview of the project as a whole, outlined major themes of the ERD (including GHG, marine discharges, restrictions to heritage areas, emissions impacts on rock art, emissions impacts on human health and hydrocarbon spills), and invited questions to address any community concerns. A list of engagements undertaken prior to the public comment period can be found in Table 5-2 of the ERD. Offers to meet with each of these groups were made during the public comment period, and Woodside continues to engage with Indigenous stakeholders to identify and address concerns as they arise. Additional engagements with Indigenous stakeholders since the finalisation of the ERD are detailed in Table 3-11. Socioeconomic benefits to the community, including initiatives targeted at closing the socioeconomic gap identified as a priority above, are contained in the NWS Project Extension's Local Participation Plan and Community Development Plan. Updates on these plans have been provided to key Indigenous stakeholders since the conclusion of the public comment period. Please refer to this response that addresses additional items raised in this submission: • SS-5 (Response to recommendation for further Indigenous engagement regarding the Local Participation Plan and Community Development Plan)
SS-4	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *As set out in the background, NAC represents the Ngarluma People who are the Traditional Owners of the Proposal area. NAC considers the Cultural Heritage Management Plan is deficient in the following respects:*	In response to the Ngarluma Aboriginal Corporation (NAC) recommendation specific to the Cultural Management Plan, please see the response below. **Stakeholders** All references to 'Traditional Owners' include the Ngarluma people. This is now clarified in the CHMP.

No.	Submitter	Submission and/or issue	Response
		• It does not identify or refer to NAC as a stakeholder for the purposes of Woodside's Cultural Heritage Management Procedures. • It does not provide for incident reporting to NAC. • It does not contemplate the involvement of NAC (or any other Aboriginal people) in cultural awareness training (see MA 1). • It does not set out a transparent application process available to NAC and its members in respect of permission to access Aboriginal cultural heritage sites within the development (MA2). • It does not set out a process for communication with NAC in relation to odour complaints (MA3). • In relation to the Murujuga Rock Art Strategy and the Murujuga Rock Art Stakeholder Reference Group (MA 6); • No Ngarluma People are members of the Reference Group. • MAC is the only Aboriginal Corporation represented on the Reference Group (which for the reasons given in the Background does not represent the Ngarluma People and is not independent of the State and Woodside). • The Strategy does not provide for the reporting of results to NAC or for NAC to be involved in reviews of the Strategy. • In relation to the adaptive management and review process, NAC should be identified and given a role in the monitoring, review, evaluation and updating of the Cultural Heritage Management Plan. The full response is available in Appendix A.	**Incident Reporting** The CHMP (Section 3.1.3) has been updated to note that the Woodside Corporate Heritage Representative will inform the Traditional Owners, including the Ngarluma People, of any actual impacts to heritage sites or values and organise an inspection with Traditional Owners, including the Ngarluma People, and a qualified heritage consultant to: • ascertain the extent of any damage • determine what cultural procedures, if any, are required • establish what steps, if any, must be taken to rehabilitate the area. **Cultural awareness training (MA1)** With regards to cultural awareness training, the NWS Project Extension will see a continuation of existing staff and activities at the KGP. This includes completing cultural awareness training for all trainees and apprentices through Woodside's Training Academy, and for new starters during onboarding and induction. Under existing agreements, this training will be provided by Traditional Owners through the Ngarluma Yindjibarndi Foundation Limit (NYFL), Additional cultural awareness training is also offered to general Woodside staff and delivered by Traditional Owners. **Site Access (MA2)** In relation to site access, MA2 has this application process: • 'To arrange access, Traditional Owners contact Woodside Karratha or Roebourne offices, who can organise access and the associated safety inductions. Woodside endeavours to meet each request, noting that on-site activities may dictate the timing, number of visitors, and/or duration of any site visit.' **Complaints** As for all complaints, odour complaints are handled through the community grievance mechanism. This allows for anonymous or confidential complaints. This is described in MA3 of the CHMP.

No.	Submitter	Submission and/or issue	Response
			MRAS and MRASRG In relation to the MRAS and Reference group membership, this is a matter that is beyond Woodside's control. Woodside also notes that the Murujuga Rock Art Stakeholder Reference Group (MRASRG): • is an advisory group established by the Minister for Environment in September 2018 to assist with the development and implementation of the MRAS. The MRASRG has no management or regulatory responsibilities on Murujuga and is not a decision-making authority with respect to Murujuga. • has an independent Chair appointed by the Minister for Environment. The Murujuga Aboriginal Corporation is a permanent member of the MRASRG. The initial term of appointment of the Chair and all other members is three years, after which the membership will be reviewed by the Minister for Environment. Woodside's role as a member of this group is to: • contribute constructively to the monitoring and protection of rock art, being considerate of the views of all stakeholders. This includes the provision of advice to DWER and the Minister for Environment on the design, implementation and analysis of the scientific monitoring and analysis program. • consult, inform and educate other stakeholders on other matters referred by DWER for input or comment, including further development of the Strategy, implementation of the Strategy and five-yearly reviews. • inform the Government's broader consideration of other strategic issues relating to the protection of the rock art on Murujuga. Other roles of the MRASRG include: • roles to consult, inform and educate stakeholders on the development, implementation and review of the MRAS. To support this role MRASRG hosts regular community forums in the Pilbara. The MRASRG has held two community forums in Karratha, in November 2018 and November 2019. • providing information on monitoring and analysis of the Murujuga rock art. This information will be publicly available and published on DWERs website and will include the strategy, annual reports detailing the results of data collection and analysis, reports from scientific studies, the reports of independent peer reviewers and annual reports on the implementation of the strategy.

No.	Submitter	Submission and/or issue	Response
			Review The CHMP (Appendix D) includes a review trigger where 'Traditional Owners request that a review is undertaken due to a relevant concern'. Under Woodside's overarching Cultural Heritage Management Procedure, Traditional Owners must be consulted during any update to a CHMP; for the NWS Project this includes Ngarluma people represented by NAC. The CHMP has been updated to specifically reflect this.
SS-5	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Other than the potential impacts to Aboriginal cultural heritage, the voluntary Social Impact Assessment (SIA) carried out by Woodside, while mentioned in the ERD (Section 5.4.1 - Advisian 2019), was not made available for review; instead a briefing was provided by Woodside personnel on the outcomes of the SIA and management plans in place.* *Through the SIA, Woodside has identified six key areas that carry potential risks and benefits as a result of the project - Economic development, employment and skills development; Population growth; Housing and accommodation, Community amenity and lifestyle; Community safety, wellbeing and resilience; and Indigenous cultural heritage and relations. Woodside's social and community activities in the key areas highlighted by the SIA will be implemented through a Social Impact Management Plan (SIMP). It is understood that Woodside will publish fact sheets on the SIMP and each of the keys areas in due course.* *Notwithstanding the above, NAC is concerned in light of the history of the NWS Project set out in the background that Woodside has not carried out an SIA in respect of, nor proposed measures to mitigate, the impact of the Proposal on NYFL and other Aboriginal People. Further, neither the Commonwealth nor the State have sought to ensure that Woodside carry out such an assessment or otherwise address the impact of the Proposal on Aboriginal People.*	In response to the NAC recommendation specific to Social Surroundings, Woodside and the NWSJV partners acknowledge their commitment to deliver local participation, community and social benefits over the life of the *North West Shelf Gas Development (Woodside) Agreement Amendment Act 2020* (WA). The Community Development Plan (CDP) and Local Participation Plan (LPP) are designed to be enduring framework documents that outline how the NWSJV will deliver the community development and local participation objectives under the revised NWS State Agreement. These plans include commitments to support employment, training, and education outcomes for local Indigenous communities. Woodside, as Operator of the NWSJV, has conducted ongoing consultation with the Karratha community and other relevant stakeholders over the 35 years of NWS Project operations. This commitment was further reinforced through the negotiation and subsequent implementation of the NWSJV Land Use Agreement that was executed in December 1998 by the then registered Native Title Claimants, the Ngarluma and Yindjibarndi People. Since 2016, Woodside has conducted two rounds of community perception surveys and Social Impact Assessments (SIAs) to identify and assess potential social impacts and benefits to communities in Woodside's operational footprint. The most recent NWS SIA was finalised in 2019 and key findings were shared with community and government stakeholders. These findings will build upon the stakeholder feedback provided through previous consultations to inform the objectives and activities within the CDP and LPP. Woodside has discussed the draft CDP and LPP and their implementation as part of its broader ongoing engagement activities, including through its existing forums like the Karratha Community Liaison Group. Woodside has also discussed the plans with the NAC. Activities and programs currently executed under the CDP and LPP framework are delivering, or have the potential to deliver, benefits to Ngarluma People. This includes

No.	Submitter	Submission and/or issue	Response
		Whilst it is acknowledged that the scope of the EPA's assessment is limited to assessing impacts resulting from changes to the environment as a result of Proposal implementation, it is also noted that under Section 44(2a) of the EP Act, the EPA can provide other advice and recommendations to the Minister for the Environment in its assessment report in relation to broader matters that should be considered by other decision making authorities with regard to the implementation of a proposal, if approved. *Of relevance to the above is the current variation to the North West Gas Development (Woodside) Agreement 1979 (the State Agreement) includes requirements for Woodside to:* • Prepare and implement a community development plan, which describes Woodside's strategies for achieving community and social benefits in and around the Pilbara. • Prepare a local participation plan, which outlines strategies that Woodside will use, including its third party contractors, to maximise local industry participation benefits as far as it is reasonable and economically practicable, includes strategies for the supply of services, labour, works, materials, plant, equipment or supplies for the Project. *Therefore, at a minimum, NAC is of the view that Woodside should commit to:* *1. Set targets and goals for working with NAC to achieve outcomes in relation to - housing and accommodation, community amenity and lifestyle; and community safety, wellbeing and resilience for Ngarluma People in the community participation plan required by the State Agreement.* *2. Set targets and goals for working with NAC to achieve outcomes with respect to employment of Ngarluma People in relation to the Proposal and Ngarluma participation in the supply of services, labour, works, materials, plant, equipment or supplies for the Proposal in the local participation plan required by the State Agreement.* The full response is available in Appendix A.	programs under the NYFL Agreement, for which expanded benefits were agreed in 2019. The NYFL Agreement (revised in 2019 with expanded benefits) remains the primary vehicle for the NWSJV to engage the Ngarluma People. The NWSJV's commitment to Ngarluma and Yindjibarndi Peoples is through this Agreement. Woodside, as Operator of the NWSJV, commits to publishing summaries of the CDP and LPP, and summaries of annual reporting against the plans highlighting the outcomes delivered regionally and to the State more broadly. The public summary fact sheets of the 2019 SIAs for Woodside's Burrup Hub activities can be found on the Woodside website.

No.	Submitter	Submission and/or issue	Response
SS-6	NW Shelf/ Browse Expansion Submission [Individual 5 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *From a psychological perspective there has been a great deal of loss for the aboriginal community. This can only be somewhat addressed by the recognition of their 'ownership' in a meaningful way and restoration of real access. The settlement of these matters are incompatible with further extension of gas processing and related industries in the unique and historic landscape. It is time for real wisdom to be exercised in these matters, not just to continue as usual.* *Even if the financial aspects are put aside, the disregard of cultural values associated with the area and its rock art is a matter which should not continue. Already much has been moved, removed, or destroyed. Access has been limited, and there has been only token efforts at restoration.* The full response is available in Appendix A.	In addition to an annual audit of selected heritage sites, Woodside facilitates requests from Traditional Owners to access any of its leases for traditional or cultural purposes. Woodside have committed to continuing to do this in the NWS Project Extension CHMP (with timing of visits subject to safety considerations etc.) (Appendix D).
SS-7	ANON-TCUY-7GQ2-6 (Member for Mining and Pastoral Region in the WA Legislative Council)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: • *The EPBC Act (1999) enhances the management and protection of Australia's heritage places, including World Heritage properties. The NWS venture presents a significant threat to the tangible cultural history of Western Australia's First People. Although the proposal is for mostly-offshore infrastructure, the products will be brought onshore via the Burrup Peninsula Industrial Hub; a site of human activity and habitation since the Pleistocene era. On the sole basis of age alone, the Lascaux Caves of France have achieved international recognition and protection, via UNESCO, and it would be reasonable to expect the same protections be awarded in this case also. Whilst the preservation of Murujuga Petroglyphs has never been a priority of government, the Honourable Minister Dawson (Minister for Environment) announced that "[the]*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-5 (Potential for heritage sites on islands and the seabed)

No.	Submitter	Submission and/or issue	Response
		preparation of the tentative list submission [for the Burrup peninsula] has begun", begging the question of the fate of industry in the area when it falls under UNESCO protection. • *The Venturers intend to dredge the seabed - allowing for the pipeline — both during construction and also at regular intervals for maintenance. The ERD supplied by the proponent goes to great lengths to characterise the heritage values of the terrestrial Murujuga petroglyphs, however, it does not consider those cultural remains that are presently submerged in coastal waters, due to the rise in sea levels since the last glacial maximum. The extent and nature of the submerged cache is uncertain, and not addressed by the Venturer's ERD. Considering the proponents seek to dredge the sea floor to install pipelines, it would be good practice to first record and evaluate the cache and identify risks and management plans for such artefacts.* • *The cultural artefacts — either physical or intangible - of Australia's First Peoples is Modern Australia's access to a millennia-old culture, intrinsically tied to lands, waters, and the life they support. A loss of this heritage through such casual and unnecessary destruction is a loss of heritage for all Australians, and a loss for the wider global community. The coasts and waters of our North are themselves sites of intangible cultural history. It cannot be argued, in any capacity, that this Joint Venture seeks to preserve the cultural landscape and it is not unreasonable to fear that this venture represents a precedent in large-scale cultural erasure by industry.* The full submission in available in Appendix A.	
The following submissions related to the factor of Social Surrounds, but specifically to the issues concerning Murujuga Rock Art.			
SS-RA-1	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 12]** *Develop an interim EQMF for the key environmental factor of Social Surroundings (Heritage). This should include relevant interim environmental quality criteria (as can be best determined as appropriate from current best available information). With a commitment*	In response to **MAC recommendation 12**, please refer to this response that addresses the items raised in this submission: • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy)

No.	Submitter	Submission and/or issue	Response
		to adjust these criteria and the EQMF overall in line with the findings of the MRA Strategy, as updated, for the lifetime of the proposed project. This EQMF should also include appropriate mitigation and offset measures for implementation in any cases where impacts were to occur. The full response is available in Appendix A.	
SS-RA-2	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 13 and 14]** *Make a commitment to support the Atmospheric Deposition Monitoring Network as well as the Murujuga Rock Art Monitoring Program, as outlined within the MRAS.* *Make a commitment to progress the Ambient Air-quality Monitoring Network, as currently considered for implementation within the MRA Strategy. In conjunction with an appropriate ongoing air quality monitoring program for human health impacts,* The full response is available in Appendix A.	In response to **MAC recommendation 13 and 14**, Woodside expresses its full support for all aspects of the MRAS, including the Rock Art Monitoring Program and Atmospheric Deposition Monitoring Network. This is formalised in Management Actions described in the CHMP and AQMP. Woodside has recently re-established a series of ambient air quality monitoring stations on Murujuga and in Dampier to monitor for the presence and concentration of contaminants of potential concern. As part of the AQMP, Woodside has made a commitment to continue to monitor ambient air quality and report results to DWER.
SS-RA-3	ANON-TCUY-7GH5-Z	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *Dissolution of the darker manganese, magnetite and associated iron compounds in the outer patina and an increase in the proportion of red ferrous oxide and lighter-coloured clay minerals as surface acidity increases will make the rock surfaces lighter, redder and more white/yellow in colour over time. A possible example of colour changes to a rock with a petroglyph close to the Woodside site is shown below. The patina is likely to become thinner and more porous as the manganese and iron compounds are dissolved. Increased porosity is likely to facilitate the passage of acidic solutions to the patina-weathering rind interface and to weaken the chemical bonds holding the patina to the rock. In addition, on drying, the crystallisation of nitrate and sulphate compounds at this interface may further encourage flaking of the patina.*	While the submission suggests that '*There is strong scientific evidence that emissions from the Woodside plant are already dissolving the outer patina of rocks close to the Woodside site*', a paper also cited by the respondent (Black et al., 2018) concludes that '*There is no proof yet that the patina on Murujuga rocks is dissolving' and that 'the rate of leaching to reach an equilibrium of theoretical dissolution of the manganese and iron compounds in the patina is unknown. This rate of patina dissolution will depend on the type and concentration of acid compounds and how long they are effective in a solubilised state*'. The scientific studies reviewed by Woodside and those cited by submitters do not provide evidence that there has been observable change to the Murujuga rock art as a result of industrial emissions. All literature cited in submissions on the NWS Project Extension had previously been reviewed by Woodside and presented in a Rock Art Literature Review, in Appendix H of the ERD. Continued operation of the NWS Project Extension will be at emissions levels equivalent to or lower than current levels, so no increase in risk as a result of the Proposal is predicted.

No.	Submitter	Submission and/or issue	Response
		There is strong scientific evidence that emissions from the Woodside plant are already dissolving the outer patina of rocks close to the Woodside site. Observations on Murujuga show clearly that the petroglyphs will be lost once the patina is destroyed. The impacts of emissions on the rock art are cumulative over time. Allowing continued high emissions will almost certainly damage Australia's unique heritage The full response is available in Appendix A.	The absence of any published peer-reviewed studies that identify measurable or observable changes to the condition and integrity of rock art as a result of industrial emissions supports the outcomes of the risk assessment presented in the ERD. This assessment found that, significant accelerated weathering impacting on the distinguishability of petroglyphs across the region is not expected to occur as a result of the Proposal. Woodside fully supports the implementation of the MRAS through membership of the Murujuga Rock Art Reference Group and will provide funding associated with the Murujuga Rock Art Monitoring Program. Implementing the MRAS, Framework and Monitoring Program (DWER, 2019b) will remove much of the uncertainty surrounding potential pathways linking industrial emissions and accelerated weathering and allow for timely investigation and management where required. This will ensure that risk is minimised and remains at an acceptable level.
SS-RA-4	ANON-TCUY-7GH5-Z	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *There are two ways industrial and shipping emissions cause an increase in acidity of rock surfaces on Murujuga. a) Sulfur dioxide and nitrogen dioxide form sulfuric and nitric acids and, when combined with salt water spray, can also form hydrochloric acid. b) Nitrogenous compounds deposited on rocks stimulate the growth of bacteria, fungi and lichens which produce organic acids on the rock surface.* *Woodside is currently releasing 8,900 tonnes per year of oxides of nitrogen NOx (as nitrogen dioxide, Table 2-2) and smaller amounts of sulfur dioxide. Nitrogen and sulfur dioxides combine with atmospheric water to form strong nitric and sulfuric acids; the major causes of acid rain around the world.* The full response is available in Appendix A.	Based on all relevant information, Woodside documented the results of a thorough risk assessment pertaining to the ongoing release of gaseous emissions (including NOx and SO_2) that pose a risk of accelerating natural weathering of rocks on which rock art has been inscribed. The risk was assessed as Moderate. To reduce the likelihood of this risk, Woodside have proposed a number of additional prevention and mitigation measures to manage air emissions, including a commitment to reduce NOx emissions from the KGP by at least 40% by 2030. Implementing the risk-based, adaptive management program (Rock Art Strategy and Monitoring Program) will ensure that the rock art is suitably protected. Once EQC are established under the MRAS, the NWS AQMP will be reviewed to ensure it aligns with the latest criteria.
SS-RA-5	ANON-TCUY-7GH5-Z	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *Measurements of rock surfaces adjacent to the Woodside operation in 2003, 2004 show 1000-fold increase in acidity compared with rocks collected pre-industrialisation of Murujuga (MacLeod 2005). The following quote is*	Woodside acknowledges that the peer-reviewed article by MacLeod (2005) notes a decrease in the surface pH of the studied rocks on the Burrup Peninsula when compared to rocks collected prior to industrialisation and kept in museum conditions. This paper does not link this decrease in pH to industrial emissions or identify changes to the condition or integrity of the studied rocks. Despite close examination, no impacts to the rock patina as a result of this change in pH were noted: '*Preliminary studies indicate that*

No.	Submitter	Submission and/or issue	Response
		from MacLeod's paper: 'the most acidic rock (pH 3.58) … was found down in a gully downwind a few hundred metres from the gas production facility'. More recent measurements in 2017 of the same rocks showed continuing decline in pH with individual sites being as low as 3.81 ± 0.15. The lowest individual measurement was pH 2.89. At the extreme, these measurements suggest the acidity of rock surfaces has increased by more than 10,000-fold following industrialisation of Murujuga (rock surface pH falling from 7 to 3). A Report by the Yara Pilbara representative to the last Murujuga Rock Art Stakeholder Reference Group Meeting (MRASRG) stated that pH of the same rocks continued to decline during the 2019 measurements made by Dr MacLeod Woodside claim on p523 that 'no data was presented to link industrial air emission or subsequent deposition to changes in pH on Murujuga rock surfaces.' The Proposal ignores the following information (Black et al. 2018) that was provided in a document circulated at the first MRASRG meeting, at which Woodside were a participant. As shown in the peer reviewed scientific publication (Black et al. 2017), electrochemical principles dictate that an increase in acidity of the rock surface where pH falls below 6.5 will dissolve the outer layer, or patina, of the rock types on Murujuga. *Despite the available published evidence outlined above, the Woodside Proposal states on p122; No published peer reviewed studies identified measurable or observable changes to the condition and integrity of rock art as a result of industrial emissions. This statement is incorrect because the peer reviewed paper by MacLeod (2005) shows clearly an increase since industrialisation of Murujuga of rock surface acidity and dissolution of manganese and iron ions from the rock surface The proposal also states: It should be noted that there is an absence of readily observed change to rock, and rock art over the 15-year period during which the peer reviewed studies have been undertaken, and that during this time, the NWS Project operated with emissions rates comparable to the Proposal. In answer to a query from me, Dr MacLeod wrote in an email on 2 February 2020; It (the 2005 paper) was peer reviewed by the organising committee of the International Council of Museums Committee for Conservation as all the preprints have a double blind peer review plus that of the managing editor.* The full response is available in Appendix A.	*the level of microbiological activity is strongly associated with the amount of soluble nitrate ions on the rock surfaces but the source of the nitrate has not been established*'. It is further noted that the rock stated as being 'downwind' of the gas production facility was not the most acidic rock across all sampling events and that the pH of the rock varied monthly, and increased between August 2003 and February 2004. As per Appendix H of the NWS Project Extension ERD, a number of studies have investigated how the pH (acidity) of the rock surface can potentially alter the rock patina mineralogy (particularly with the mobilisation of iron and manganese compounds). Black et al. (2017) state that, theoretically, acidic emissions (namely NOx and SOx) from industrial and shipping activities on the Burrup Peninsula can decrease pH of nearby rock surfaces on Murujuga through deposition and/or organic acids from nitrate-stimulated microbial growth, in turn degrading the mineral composition, integrity, and colour of the rock varnish. Woodside acknowledges that Black et al. (2018) describes a possible link between rock surface pH and anthropogenic emissions of SOx and NOx. Studies quoted by the submitter provide theoretical pathways by which impacts may occur, but no direct link or peer-reviewed evidence of impacts to petroglyphs associated with industrial activity have been established. The 2019 document quoted by the submitter, while this is not peer reviewed, states '*There is no proof yet that the patina on Murujuga rocks is dissolving*'. Woodside acknowledges that if the patina of rocks of Murujuga is dissolved or removed, rock art is likely to be impacted. Recognising this and many other studies, Woodside has thoroughly assessed the risk associated with facility emissions in the ERD. In accordance with all literature reviewed in Appendix H of the ERD, Woodside has not identified any peer-reviewed studies that identify measurable or observable changes to the condition and integrity of the rock art as a result of industrial emissions. Woodside is committed to supporting ongoing research to ensure potential impacts to rock art from the NWS Project Extension are understood and mitigated wherever possible. The proposed robust program of monitoring and analysis under the MRAS will determine whether change is occurring to the rock art and if this change is being accelerated by industrial emissions. Monitoring of rock, and rock art in particular, allows for early warning indicators and response mechanisms to ensure that long-term significant impact due to accelerated weathering is avoided. Implementing the risk-based, adaptive management program will ensure that the rock art is protected from potentially significant harm associated with industrial emissions.

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SS-RA-6	ANON-TCUY-7GH5-Z	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *Nitrogen emitted from Woodside and deposited on rocks will also increase nitrogen available for adventitious microbial and fungal growth. MacLeod (2005) showed a log increase in microbial mass with increasing nitrate in rock surface water. There is evidence that organic acids from trees (Bednarik 2009) and acidic bird droppings (Duffy et al. 2017) dissolve the patina from rocks on Murujuga. Microbes, fungi and lichen produce organic acids which further increase the acidity of rock surfaces and dissolve rock patina (Dragovich 1986).* *The evidence suggests that the impact of nitrogen emissions from the Woodside plant will have a direct effect on patina dissolution through the formation of nitric acid and an indirect effect through the organic acids formed from excessive growth of microorganisms. An increase in microbial growth on buildings and rock surfaces is seen as a darkening of the surface (Mihajlovski et al. 2017).* The full response is available in Appendix A.	The comment is consistent with outcomes of the literature review presented in Appendix H of the NWS Project Extension ERD and the impact of nitrogen emissions (and their role in potentially accelerating weathering of rocks); the associated potential impact to rock art is considered in Section 6.5 the ERD. The Burrup Rock Art Monitoring Management Committee (BRAMMC) established a program to investigate whether rock surfaces closer to industrial emissions sources hosted different microbial communities as a potential impact pathway for industrial emissions to accelerate weathering of the rock surface, degrading the colour of the petroglyphs (O'Hara, 2008). The microbial diversity study assessed microbiological differences at seven petroglyph sites on Murujuga (five close to the industrial area and two distant from it) over a four-year period from 2004 to 2008 (O'Hara, 2008). The key findings of the microbial diversity study were that all monitored sites had very low populations of bacteria, with similar types of bacteria and low numbers of fungi across all seven sites. Based on these findings, the study concluded that there were '*no evident differences in the gross number and broad diversity of microorganisms associated with samples collected from sites close to and distant from industrial emissions on the Burrup Peninsula*' (O'Hara, 2008). The proposed program of monitoring and analysis under the MRAS potentially includes, but is not limited to, the parameters of colour change, pH/acidity, microbiology, and sources of pollutants (DWER, 2019a).
SS-RA-7	ANON-TCUY-7GH5-Z	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *The proposal states on p27: Key improvements in design, processes, and technology have been incorporated in the NWS Project facilities as the opportunity has arisen; these include but have not been limited to: + Installation of more efficient gas turbines, dry low NOX burners (etc). These improvements have resulted in overall improvements in emissions, in particular, NOx emissions to air, as shown in Figure 2-3. This statement appears to be untrue. The same graph is presented in Karratha Gas Plant Annual Environmental Report – July 2018 To June 2019, where it states that the reduction in NOx emissions was due simply to a change in the method of calculation and not due to additional gas scrubber technology as implied*	Descriptions of the reason for decreases in NOx intensity presented in both the NWS Project Extension ERD and Woodside's 2018–2019 Annual Environment Report are both accurate, although are noted as inconsistent. Reductions in NOx intensity have occurred because more efficient equipment was installed and because changes were made to the emissions reporting approach, namely changing from generic factors to site-specific emissions calculations, applied in accordance with NPI reporting requirements. The retrofit of low NOx combustion liners lean-head end liners on the earlier constructed LNG Trains 1–3 and domestic gas combustion equipment facilities during 2004, 2005, and 2006 resulted in an estimated 28% NOx improvement. The construction and commissioning of both LNG 4 (2004) and LNG 5 (2008) both led to step change reductions in NOx emissions intensity across the KGP. Both trains and their associated power generation infrastructure use dry low NOx technology, which was

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		in the Proposal. The extract from the Annual Environmental Report follows: Refer to page 13 The full response is available in Appendix A.	considered best practice at the time of installation. Increases in NOx intensity following the commissioning of each train occurred, but once stable, both LNG 4 and LNG 5 led to subsequent decreases in NOx intensity. In 2013–2014, reflecting the increase in focus on NOx emissions, improvements were made to the accuracy of the NOx calculation and estimation methodology, which adopted 'site-specific' emissions factors, using on-site stack testing results and engineering estimation methods rather than the 'generic' emissions factors used in accordance with NPI emissions estimations techniques. Emissions data reported before 2014 were not retrospectively recalculated using the updated technique.
SS-RA-8	ANON-TCUY-7GH5-Z	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. *If, however, the Proposal does proceed, then extraordinarily strict limits must be placed on emissions to the air. Emissions of volatile organic compounds, nitrogen dioxide and sulfur dioxide must have limits close to zero. The technology is currently available for Woodside to substantially reduce emissions of nitrogen dioxide and volatile organic compounds from its numerous stacks and gaseous outlets. Yara International state they have technologies that can reduce sulfur dioxide emissions from ships to 0 ppm, and using Selective Catalytic Reduction (SCR) systems, can reduce nitrogen oxides by 98% on any industrial plant. Placing several of the SCR systems in series within a venting outlet would result in zero emissions.* The full response is available in Appendix A.	Please refer to this response that addresses the items raised in this submission: • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga)
SS-RA-9	ANON-TCUY-7GHR-W (UWA Rock Art Conservation Project)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Maintenance of the rock surface patina is vital for preservation of the petroglyphs. The project would result in increased sulphur dioxide and nitrogen dioxide emissions released during gas processing, which mix with moisture in the air to form acid that dissolves the rock surface patina.*	In alignment to the Senate Inquiry report, Woodside has committed to reducing NOx emissions from the NWS Project Extension by 40% by 2030. Furthermore, a key outcome of the 2018 Senate Inquiry into Murujuga rock was the establishment of the Murujuga Rock Art Strategy (DWER, 2019a). DWER has primary responsibility for implementing the MRAS, which will be undertaken in partnership with the MAC, representing the Traditional Owners of Murujuga, and in consultation with stakeholders, including the community and industry. The MRAS outlines a long-term framework to guide the protection of the Aboriginal rock art located on the Dampier Archipelago and the Burrup Peninsula. Key aspects of the Strategy are to:

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		The surface patina is formed with rock surface pH near neutral (pH 7), however the pH of rocks with petroglyphs across Burrup Road from the Woodside plant have fallen to 3.81, which can only have occurred as a result of mineral acids from industry. Scientists have stated that the patina will inevitably be dissolved once the pH falls to such low levels. *We note concerns expressed by scientists that existing governmental conditions on industry to protect the art have not been implemented: https://theconversation.com/where-art-meets-industry-protecting-the-spectacular-rock-art-of-the-burrup-peninsula-72964* *In the March 2018 Senate Inquiry report, the majority strongly recommended inter alia that: "(a) Urgent steps be taken to reduce and control industrial emissions on the Burrup."* *These findings echo the 2012 assessment of the Australian Heritage Commission that industrial development on the Burrup poses a high risk to the universal values standard required for World Heritage listing and that "further industry would render it critical".* *There has been a lack of cumulative counting of the effects of total emissions from Browse NWS projects, together with the emissions from all existing industry on the Burrup peninsula, ships serving Dampier Port and fugitive emissions and off-shore venting of high-CO_2 reservoirs in Commonwealth waters.* *The impacts of total emissions must be calculated, considered, regulated and monitored.* *In our view it is vital that current and future emissions should be strictly regulated to be at or near zero. We understand that technologies exist that can limit NOx and SOx emissions to near zero.* *Given Woodside's high profits, there can be no financial impediment to Woodside employing such technology. Furthermore, under the Polluter Pays principle it is appropriate that the company bears the financial burden of reducing emissions.* The full response is available in Appendix A.	• establish an EQMF that includes developing guidelines and standards, based on sound scientific information, which will warn of potential harmful effects and if management actions are required to protect the rock art from harm • develop and implement a robust program of monitoring and analysis to determine whether change is occurring to the rock art on Murujuga • commission scientific studies to support the implementation of the monitoring and analysis program and management against EQC • establish governance communication processes that involve key stakeholders. The Strategy is intended to provide a 'transparent, risk-based and adaptive framework for monitoring and managing environmental quality to protect the rock art on Burrup Peninsula from industrial emissions' (DWER, 2019a). Woodside fully supports the implementation of the MRAS through membership of the Murujuga Rock Art Reference Group and will provide funding associated with the Murujuga Rock Art Monitoring Program. Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-6 (Scientific understanding of risk pathways)

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SS-RA-10	ANON-TCUY-7GHZ-5	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *I am very concerned about Woodside's Expansion Plans because of their possible increase of Greenhouse Gas Emissions and all the concomitant damaging effects this would have. Specifically, I am worried that the mix of sulphur and nitrogen dioxide emissions will form strong acids which may dissolve the rock surface patina and thus contribute to the destruction of the Burrup Peninsula petroglyphs. Economic considerations may become less important as the cost of renewable sources of energy decreases and the price of burning gas increases.* *I strongly believe that we have a duty to preserve and protect ancient, irreplaceable artworks for future generations, and therefore I urge you to reject Woodside's application.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-6 (Scientific understanding of risk pathways)
SS-RA-11	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *The Burrup Hub proposals should not be approved until the promised monitoring program has been initiated by the WA government's Rock Art Strategy Stakeholder Committee.* The full response is available in Appendix A.	Woodside notes that on 13 February 2020, the State Government announced it had appointed Puliyapang— a joint venture between Calibre Ventures Pty Ltd and Tocomwall Pty Ltd—to develop and implement the monitoring program. Puliyapang has partnered with subject matter experts from Curtin University, Artcare, and the ChemCentre to support implementation of the MRAS. It is expected that DWER and MAC will work in partnership to oversee the monitoring program, and evaluate and report on trends and changes in the condition of the rock art. Woodside has already committed >$1 million in funds to support implementation of the strategy. As per the above, Woodside notes that key steps towards implementing the MRAS have commenced, including appointing a lead consultant and preparing scoping studies.
SS-RA-12	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Given the likely origin of the third-party gas and liquids is known and exploratory drilling will have been conducted, which should include*	The NWS Project Extension Proposal is intended to allow a range of third-party hydrocarbon sources to supply gas to the KGP for processing. The nature of the NWS Project Extension ERD, which is a primary approval document, means that it is not possible to indicate the exact composition of all feed streams that may be processed. This is particularly relevant as hydrocarbons processed at the KGP in the future may come from sources whose composition has not yet been sampled and analysed. The

No.	Submitter	Submission and/or issue	Response
		some compositional analysis, further clarity should be provided around the composition of the expected third-party feeds compared to current feed streams and any areas of uncertainty associated with this. This would provide some reassurance that the assertion that emissions can be adequately managed by engineering controls and the air quality modelling is indeed representative of future emissions from Karratha Gas Plant (KGP). The full response is available in Appendix A.	NWS Project Extension Referral and subsequent ESD stated that the Project intended to process such hydrocarbons; the required documents and information to assess associated risks are included in the ERD. While the exact source of hydrocarbons that may be processed at the KGP is not yet known, the ERD includes commitments that ensure all relevant environmental impacts to be predicted and adequately controlled regardless of the feed gas origin. The scope of the ERD allows for possible future changes to feed gas composition, including changed content of inerts, hydrocarbons and other component and changes to the composition of environmental discharge and emissions, although annual volumes of emissions and discharges are expected to be in line with current levels. Although changes to feed gas composition have the potential to vary the make-up of fuel gas, and gas conditioning process performance, the subsequent change to air emissions is limited, or controlled through engineering and operational controls. In the case of NOx, the emission of these products from combustion does not materially vary based on feed gas composition within the NWS Project system design and operational envelope. Minor changes in discharges and emissions may occur; however, these are expected to be in line with or lower than current levels. The NWS Project Extension AQMP includes management actions that provide reassurance that emissions can be adequately managed by engineering and operational controls, including facility emissions testing and verification programs, and performance monitoring and reporting.
SS-RA-13	ANON-TCUY-7GQY-D (Ngarluma Aboriginal Corporation)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Given there is uncertainty around the impacts of NOx on the local environment, specifically the potential for the formation of acid species from the deposition of NOx gases onto rock art surfaces (ERD section 6.5.4.1), the precautionary principle should be applied, and NOx should be mitigated to the fullest extent possible.* *Modelling of future operational scenarios include the KGP emissions improvements, which incorporates a 40% reduction in NOx emissions by*	In response to the NAC recommendation specific to Air Quality and in accordance with the principle of waste minimisation and application of the hierarchy of controls, Woodside will take reasonable and practicable measures to minimise emissions to air and therefore further minimise the risk of significant impacts to rock art. The ERD includes commitments by Woodside to reduce NOx emissions by 40%, and substantially reduce VOCs by 31 December 2030. Woodside has been able to make these commitments based on initial design works and forecasts of planned and potential production and emissions rates between now and 2030. Woodside has included an AQMP with the ERD and the commitment to reduce NOx by 40% is included as a key management action in this document, including provisions for monitoring and reporting on progress against the condition. It is expected

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		the end of 2030 based on NOx emissions reported for a five-year average, covering the 2013/14 to 2017/18 financial year (ERO Table 6-9). *No detail on the activities to realise the 40% NOx reduction have been provided. In order for Woodside to set such a target regarding an emission reduction, it is assumed that preliminary feasibility studies have been completed. Can Woodside share further detail regarding the proposed NOx reduction measures to demonstrate that it is an achievable target?* *Further, is there potential for further reduction of NOx emissions beyond 40% within the lifetime of the Proposal? Have options such as removing emissions sources from the Burrup Peninsula been explored? While the commitment to a 40% reduction in NOx by 2020 is reiterated throughout the Environmental Review Document (ERD), it is not clear if or how Woodside is anticipating that this reduction target would be formally adopted and how they will be held accountable to meeting the commitment.* *A maximum estimate of NOx emissions of 8,900 tpa is quoted in ERO Table 2-2 based on maximum output for each turbine. It is not clear if this figure is based on the current operating scenario with the low NOx technology implemented only at LNG Trains 4 and 5 and therefore will reduce by 2030 when the 40% NOx reduction target is realised.* The full response is available in Appendix A.	that this AQMP will become a formal commitment once the NWS Project Extension Proposal is approved. The 8900 t Extent of Operations for NOx stated in Table 2-2 of the ERD includes low NOx technology implemented for LNG Trains 4 and 5, as well as the suite of emissions reduction improvements outlined in the ERD (Section 2.7.1). Emissions are planned to remain at or below the levels indicated in Table 2-2 of the ERD throughout the life of the Proposal. Please refer to this response that addresses the items raised in this submission: • SS-KIR-2 (Best Available Technologies).
SS-RA-14	ANON-TCUY-7GDM-M (Denmark Environment Centre Inc)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *The Browse to NWS venture presents a significant threat to the cultural history of Western Australia's Aboriginal People. The Dampier Archipelago is a National Heritage Place, and a place of great Indigenous significance. The Murujuga National Park is a sacred place and contains the largest concentration of ancient rock art (petroglyphs) in the world, some of which dates back more than 50,000 years. In January 2020, the federal government lodged a submission to UNESCO to nominate Murujuga for listing. The Murujuga Petroglyphs is the only place on earth where the*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) • SS-KIR-6 (Scientific understanding of risk pathways) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga)

No.	Submitter	Submission and/or issue	Response
		story of the people and their changing environment has been continuously recorded through art for more than 50,000 years. *Increased acidity from heavy industrial pollution has already begun to eat away at the surface of the rocks, and erode the rock art. Greatly expanded pollution from LNG processing, adjacent to the petroglyphs, threatens to completely erode the rock art.* *Measurements near the Woodside gas plant show there has been a 1000-fold increase in acidity (lower pH) on rock surfaces from preindustrial times. The EPA must ensure that the proponent will address the fact that this project will directly impact the Murujuga rock art, by the processing of the gas from this project at the Karratha Gas Plant, adjacent to Murujuga National Park. And, the EPA must ensure that the proponent at a minimum, prepare a comprehensive documented strategy for managing the impact of processing emissions on the rock art, an extensive air quality monitoring programs and guarantees that any effect of acidity on the petroglyphs is managed immediately. Additionally, the proponent should be made to consider any future requirements resulting from the World Heritage Listing, expected to be settled in 2022.* The full response is available in Appendix A.	
SS-RA-15	ANON-TCUY-7GH1-V	*While I recognise the economic benefits of this project, I am particularly cognisant of the ongoing damage air emissions are having on the rock art on the Burrup Peninsula.* *I seek the imposition of the most stringent conditions on air emissions from this project and other such practical measures so as to preserve this ancient treasure for generations to come.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga)
SS-RA-16	ANON-TCUY-7GHW-2	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *I am also concerned about the future of the rock art. I visited the Burrup Peninsula in 2010 and was truly stunned by the beauty, breadth and significance of these rock engravings. I could not believe that this precious*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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		heritage is not commonly known to Australians. *My husband has spent much of the last 10 years, at his own (our) expense, understanding the science behind the rock patina formation and the impacts of acidic emissions from industries on the Peninsula. He has convinced me that the scientific evidence shows the rock art will disappear over time if emissions remain at present levels. Again, I fail to see how anyone in Government could allow the world-unique rock art to be knowingly destroyed. It is your government that could own the legacy of protecting this important part of Australia's, and the world's, history.* The full response is available in Appendix A.	
SS-RA-17	ANON-TCUY-7GQ3-7	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *To the rock art on Burrup Peninsular caused by chemical pollution from industrialization nearby, including LNG processing, has been well known for many years1. This rock art site is on the verge of being declared a world heritage site. Deliberate continuation of damage to that unique art, dating back over 40,000 years, is simply archaeological vandalism. The proposal dismisses this by saying that this matter is addressed within the ERD associated with the North West Shelf Project Extension Proposal (EPA 2186, EPBC 2018/8335) (Section 6.3.6). However, this document only describes future measures to be taken to, firstly, examine if there is any pollution and then consider any mitigatory measures. This matter is obviously not taken by seriously by the project proponents but it is of such serious concern to be a sole reason for disallowing any further expansion of LNG processing capability on the Burrup Peninsular. Rather, existing industrial processing needs to be removed from this site.* *The other major reason for disallowance is the contribution it will make to global greenhouse gas emissions, as outlined in the review submissions made by this author to the Browse to North West Shelf Project – Commonwealth and State Waters.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-6 (Scientific understanding of risk pathways)

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SS-RA-18	ANON-TCUY-7GQ5-9	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *I have been concerned about preservation of the rock art on Murujuga Burrup Peninsula for several years now. I was shocked by the extreme poor quality of previous research conducted by xxx (under WA Government supervision), when claiming, without statistical analysis of data, that there were no changes in conditoin of the selected rock art images over time.* *Burrup rock art represents change over 50,000 years of human habitation and it is a record of the first people to inhabit Australia. Just as these other significant sites have been protected, the Burrup rock art needs protection* *Ongoing large emissions from the Woodside gas processing facilities are cumulative and will destroy the rock art.* *Atmospheric nitrate and NOx compounds are a major cause of acid rain, which is known to be associated with deterioration of rock art around the world (Giesen et al., 2014). Empirical measurement (MacLeod 2005) and scientific principles (Black, MacLeod and Smith 2017) show the outer patina of rocks similar to those containing rock art is already being dissolved. Continuing dissolution of the patina will destroy the rock art for future generations.* *Nitrate is also a stimulant to plant and microbial growth. Growth of bacteria, yeasts, fungi, mosses and lichen are a major reason for deterioration of rock surfaces. The nitrate and NOx (as well as other) emissions from the plant are a direct threat to the Burrup rock art. Rock art on Burrup Peninsula is unique in the world, having significant cultural and social, as well as economic value, but industry has already caused changes in acidity, microbial growth and colour of rocks containing the art. Continuation of large nitrogen emissions and deposition on the rocks will prolong acid rain, stimulate microbial growth and result in further deterioration of the rock art.* The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) • SS-KIR-5 (Reference to additional papers)

No.	Submitter	Submission and/or issue	Response
SS-RA-19	ANON-TCUY-7GQ6-A (Albany Community Environment Centre Inc. (ACEC))	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *Additionally, due to emissions on a local scale, will not the projects release of nitrogen dioxide and sulfur dioxide increase acidification leading to the degradation of Murujuga/Burrup Peninsula rock art? (Are not acidity levels on the surface of rocks adjacent to the Woodside LNG facility now 1000 times higher than before industry was established there in the 1980s?).*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-20	ANON-TCUY-7GQ8-C	*Petroglyphs found in the Dampier Archipelago (including Murujuga/Burrup Peninsula) in the Pilbara region of Western Australia. The Burrup Peninsula (or Murujuga) is a unique ecological, spiritual and archaeological area since it possibly contains the world's oldest, largest and most important collections of petroglyphs and ancient rock carvings.* *These petroglyphs have been very laboriously carved into the rock to make a recorded history including, the culture, the wildlife and the contact with other races and spiritual dating back 45 000 years or more - even through the ice age. The world wants to see these preserved and don't want it be yet another disastrous failure at looking after our precious heritage. Here you can see how the gases from the industrial plants form acids which attack the rock and cause it to rapidly weather as the chemicals from industry mix with moisture and form acid. The extent of these emissions have not been given clear boundaries or caps so even though the analysis of the weathering rind is known to be affected by these industry emissions it has not yet been substantially analysed in this individual case.* *It is far better to err on the side of caution then to risk this treasure being destroyed just because research has not fully analyses the results. The gas emissions of these destructive industries on the petroglyphs should be halted immediately as maybe there are many exposed surfaces which are already absorbing the destructive moisture and gas into the rind and they may be also effected even if it is stopped now and all may have to go into damage control.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-5 (Reference to additional papers) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga)

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		What I am saying, is that these galleries are much older than the pyramids, pantheon or any other art work in the whole world for that matter and are on the verge of being world heritage listed. So Australia is pleading with you to exercise caution and don't allow any expansion of these destructive industry which emit gases and cause other environment damage to this unique place. *I am not saying no to industry, a little clever thought could relocate or modify these damaging industrial processes so that they are no longer damaging to the environment in any way that will alter the dignity and respect that should be shown to our heritage, arguably, the most ancient petroglyph- our window into the Dreamtime.* https://www.der.wa.gov.au/images/documents/our-work/consultation/Burrup-Rock-Art/Theoretical-effects-of-emissions-on-rock-art.Black-MacLeod-Smith.pdf	
SS-RA-21	ANON-TCUY-7GQZ-E	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *In addition, the LNG exploitation in this area is damaging for our precious petroglyphs on the Burrup Peninsular – some of the oldest, largest and most diverse collections of rock art in the world, for which local First Nations groups are seeking World Heritage recognition. This important cultural heritage must be protected from further damage.* The full response is available in Appendix A.	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-22	ANON-TCUY-7GQB-P	*After reading Woodside's documents RE: their proposed Browse Basin - North West Shelf (NWS) extension project, and the two associated offshore components (wells and bringing the gas to the Burrup Peninsula for processing), I am extremely concerned about the devastating effect these would have on the Murujuga rock engravings. The rock art is internationally significant and part of Australia's cultural heritage. It should not be degraded or destroyed in the interest of profits and at the greater expense of increased global emissions of greenhouse gases. Importantly, the emissions*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) • SS-RA-10 (Commencement of key steps to implementing the MRAS)

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		from these proposed projects contain substantial amounts of sulfur and nitrogen dioxides which form sulfuric and nitric acids when the emissions mix with atmospheric moisture. These acids break down the patina on the rock surface which of course destroys the rock carvings. *In order to truly evaluate the environmental impact of these industrial emissions, it is imperative that the total cumulative emissions from industries on the Burrup Peninsula must be calculated, considered, regulated and monitored. Only then can the actual emissions from the Browse-NWS expansion projects be calculated to estimate the extra harm they will do to the environment and the ancient rock art. Furthermore, the Burrup Hub proposals should not be approved until the promised monitoring program has been initiated by the WA government's Rock Art Strategy Stakeholder Committee, and they have real data to comment on the consequences of an increased pollutant load.* *EPA has a responsibility to Aboriginal Australia, as well as the entire population, to protect the irreplaceable cultural heritage contained in the Murujuga petroglyphs rather than facilitate the short-term profits of the gas industry.*	Modelling undertaken for the NWS Project Extension Proposal considers cumulative emissions from all current and reasonably foreseeable future projects planned for Murujuga, including a conservative representation of regional shipping.
SS-RA-23	ANON-TCUY-7GQA-N	*A major concern about Woodside's proposal is it proposes to continue to use existing emissions management systems and therefore current levels of chemical release into the atmosphere, while understating the damage inflicted on the world-unique Burrup petroglyphs, on public health and the impacts of greenhouse gas release.* *There is strong scientific evidence that emissions from the Woodside plant are already dissolving the outer patina of rocks close to the Woodside site. Observations on Murujuga show clearly that the petroglyphs will be lost once the patina is destroyed. The impacts of emissions on the rock art are cumulative over time. Allowing continued high emissions will almost certainly damage Australia's unique heritage, and may also jeopardise current efforts to World Heritage list this globally significant site.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy)

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SS-RA-24	ANON-TCUY-7GQE-S	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *Emissions from Karratha Gas Plant are widely recognised as potentially damaging to the ancient petroglyphs on the Burrup Peninsula, for which the State and Federal governments are currently pursuing World Heritage listing. The proponent has committed to reducing NOx emissions from the gas plant by 40% by the year 2030. However, the proponent itself notes that there is no known safe limit in peer-reviewed literature in relation to NOx emissions impacting ancient petroglyphs. Extending the life of the plant by another 50 years without any better knowledge of what a safe level of NOx emissions will be for the petroglyphs appears to be a gamble, rather than a science-based proposal. If the site was not already developed and the proposal was for a new gas plant, the EPA would likely recommend against the proposal on the basis of proximity to petroglyphs and risk NOx emissions would cause them damage. The same precautionary principle should be applied in the current circumstances.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)
SS-RA-25	ANON-TCUY-7GQV-A	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *It has been widely recognised that the Burrup rock art provides a record of human occupation of Australia going back more than 40,000 years. It also records the interaction of those early people with their surroundings and with the fauna which inhabited Australia over that vast period of time. This means that the rock art is, undeniably, a national and international treasure and as such it must be protected at all cost.* *Overall we felt dismay that the Western Australian State Government appears to have completely ignored this treasure entrusted to its care when allowing industrial activities to be established on this site. It is deplorable that so little has been done to date to preserve this area of world significance.* The full response is available in Appendix A.	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)

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SS-RA-26	ANON-TCUY-7GHJ-N (Margaret River Regional Environment Centre)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *There will be ongoing destruction of the world renowned rock art. The boosted production and ongoing processing will substantially increase total sulfur dioxide and nitrogen dioxide emissions that are released during gas processing. We know that emissions of sulfur and nitrogen dioxides mix with moisture in air to form acids which dissolve the rock surface patina and destroy the rock carvings. Measurements of rock surfaces near the Woodside gas plant show there has been a 1000-fold increase in acidity (lower pH) on rock surfaces from preindustrial times. The outer patina only forms under near-neutral conditions (pH 7) and chemical principles show that it is being dissolved once pH falls below 6.5. Removal of the outer patina destroys the Aboriginal rock art.* The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy)
SS-RA-27	ANON-TCUY-7GHN-S	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *Irreplaceable rock art* *It will substantially increase total sulphur dioxide and nitrogen dioxide emissions that are released during gas processing. These emissions mix with moisture in air to form strong acids which dissolve the rock surface patina and destroy the ancient rock carvings unique to this area.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)
SS-RA-28	ANON-TCUY-7GQT-8 (Greens WA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: • *Black et al. undertook rigorous analysis that revealed a serious knowledge deficit in relation to petroglyphs, the rock art images which*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) • SS-KIR-6 (Scientific understanding of risk pathways)

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		'capture thousands of years of human culture and spiritual beliefs through a changing environment' which are a 'priceless, irreplaceable, historical and archaeological treasure of global significance' • *Concerns were raised in the early 2000s (Bednarik 2002) about the potential impact of increased industrial emissions, particularly acidity, on bleaching of petroglyphs and adjacent rock surfaces from erosion of the ferruginous patina crust. Monitoring changes in rock surface colour and mineralogy were chosen as appropriate macroscopic means for assessing likely changes to rock art due to industrial emissions (Summaries of proposed rock art monitoring studies 2004). The magnitude of change considered detrimental for rock art appears not to have been set. However, governments have used reports from this research on air pollutants, colour change and mineralogy at rock art sites (Gillett 2008; Lau et al. 2013; Lau et al. 2007; Lau et al. 2008; Lau et al. 2010; Lau et al. 2009; Lau et al. 2011; Lau et al. 2012; Markley et al. 2014; Markley et al. 2015) to justify continued establishment of industry on Murujuga7.* • *The Burrup Peninsula is estimated to contain more than one million rock art images in the form of petroglyphs. Researchers estimate that '5–25 per cent of rock art on the Burrup has been removed or destroyed as a result of iron mining, industrial expansion and poor archaeological advice'8. This must not continue. The Government cannot reasonably make decisions that put this cultural treasure at risk – it would be cultural vandalism, yet another manifestation of the "logic ofelimination"9 that historians argue lies behind the destruction of petroglyphs and the ecology of Murujuga, and the ongoing tragedy that despite the fact that Governments and resource companies have implemented substantial measures to protect the rock art…damage to the petroglyphs from industrial emissions continues at an alarming rate'10. The fact that we do not need gas as a transition fuel to move to a low carbon future would make this an even more bitter pill to swallow.* The full response is available in Appendix A.	

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SS-RA-29	ANON-TCUY-7GHY-4	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: • Requesting relocation of Industry away from Murujuga to avoid further impacts; • Responsibility for monitoring emissions on Murujuga; • Potential impacts to rock art from industrial emissions; and • The Murujuga World Heritage listing process. The full response is available in Appendix A.	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy)
SS-RA-30	ANON-TCUY-7GHA-C	*It is likely that the project will also cause significant and irreversible impacts to Murujuga's incredible Aboriginal rock art through acidification of the rock surfaces.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)
SS-RA-31	ANON-TCUY-7GHB-D	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *3. Requirement that the companies reduce the emissions of their operations to near net zero in order to protect the Murujuga rock art site. The WA government recognises its value in supporting World Heritage listing. In order to protect this site from further damage and guarantee a base for a growing tourism industry, the government must insist on zero nitrogen and acid forming emissions from commercial activities on the Peninsula. All it would take Woodside, according to a Macquarie think tank, is 1.5% of one year's annual profits to install the appropriate available technology to reduce their emissions to near zero.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)

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SS-RA-32	ANON-TCUY-7GHT-Y	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *I understand that there are three proposals regarding this development:* 1. *to extend the NWS plant's original approvals for onshore processing at Karratha's NWS gas plant, and to allow it to operate until 2070* 2. *to tap up to 24 gas wells in the offshore Browse gas field in WA state waters, and a floating facility (under EPA jurisdiction)* 3. *to tap up to 30 wells of the Browse field in Commonwealth waters, using a second floating facility, an 85-kilometre pipeline between, and a 900-kilometre pipeline connecting to the onshore NWS gas plant at Karratha (the federal government will assess the full impact of both offshore components) I consider that, as proposed, they are totally interdependent My major concern relates to the excessive destructive emissions from the Burrup industrial hub, and the consequent harm to the ancient, unique, and irreplaceable petroglyphs of the Burrup peninsula (Murujuga). This harm is irreversible.....Expansion of Woodside facilities on this world heritage site would be irresponsible vandalism. I cannot understand why Woodside would develop a 900km Trunkline to facilitate that vandalism. I believe processing should be done offshore or at an onshore site nearer to the gas field and far away from the petroglyphs.* *Advanced technology now exists to cut acidic emissions to near zero. Woodside could do it at a tiny hit to their profit, I believe it is 0.25%. Unique heritage should be respected. Industry is necessary. But it is not necessary that they are co-located. There are strong conservation issues and also the aesthetic of industry and rock art gallery so closely co-located is unacceptable. The Australian government has just nominated the Burrup for World Heritage status; expansion of industry would be totally contradictory to that decision. In 2016 Colin Barnett said, re the proposed visitor centre, that it should not be located at Hearson Cove because of negative health impacts of emissions on visitors. Emissions have increased since then. I would not live in Karratha. I understand also that the area is a biodiversity hotspot, home to turtle nesting grounds, whale migration pathways and*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga)

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		vulnerable coral reef systems. I URGE THE GOVERNMENT TO DENY ANY FURTHER DEVELOPMENT ON THE BURRUP PENINSULA and to impose stricter controls on Woodside and Yara Pilbara. The government should insist on a short term plan to bring emissions to near zero, with meaningful PENALTIES and a strict and specific MONITORING regime by an independent body, with public REPORTING at regular and frequent intervals. This should be a condition of any approval, and must apply to existing processing as well as any expansion. Thank you for the opportunity to comment. 30 January 2020 The full response is available in Appendix A.	
SS-RA-33	ANON-TCUY-7GH3-X	*I will not make a long and erudite submission. I want to remind you that the Burrup peninsula contains an amazing, world famous, irreplaceable collection of petroglyphs amongst the oldest in the world. We have a collective responsibility to preserve this ancient and priceless monument to mans past. As a nation we have done a lot of good, but also much damage to our environment, mostly in the pursuit of profit. I ask that this time, we stand back and think about the ramifications of rather commercial development of the resources in this historic area. Surely it is not essential - nor is it even desirable - to exploit absolutely every commercial opportunity that presents itself. Please leave at least this historic area untouched by further exploitation /development.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • AQ-KIR-1 (Emissions Reduction Technology) • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)
SS-RA-34	ANON-TCUY-7GHH-K	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *With acidic emissions already affecting the rock art on the Burrup, Government and project proponents must plan for a better outcome, without prioritising the economic benefits as the main goal.* *The Principle of Intergenerational Equity must be applied to these development applications. This ensures that this irreplaceable heritage is protected for the benefit of all generations to come. How sincere is the WA government's support of World Heritage listing for Murujuga when they*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)

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		are still encouraging more industry on the Burrup. Claiming that heritage and industry can co-exist, when they do not insist on zero nitrogen and acid forming emissions by Woodside is an insult to our WA community. All it would take is 1.5% of one year of Woodside's annual profits to install the appropriate available technology to reduce their emissions to near zero. Polluters should pay. *There should be the Precautionary Principle applied to this project whereby all development should be halted because of the evidence that this vulnerable heritage site will be damaged – and they (Woodside) have certainly had proof of this in Dr John Black's published papers and documents made available to them over the past 10 years.*	
SS-RA-35	ANON-TCUY-7GHP-U	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *It will substantially increase total sulphur dioxide and nitrogen dioxide emissions that are released during gas processing. Emissions of sulphur and nitrogen dioxides mix with moisture in air to form strong acids which dissolve the rock surface patina and destroy the rock carvings. Measurements of rock surfaces near the Woodside gas plant show there has been a 1000-fold increase in acidity (lower pH) on rock surfaces from pre-industrial times. The outer patina only forms under near-neutral conditions (pH 7) and chemical principles show that it is being dissolved once pH falls below 6.5. Removal of the outer patina destroys the Aboriginal rock art and Australia's cultural heritage.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-6 (Scientific understanding of risk pathways)
SS-RA-36	ANON-TCUY-7GHC-E	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *I also feel very strongly that, as with existing industry in the Burrup region, the detrimental effect on the unique, invaluable and irreplaceable Murujuga Rock Art must not be ignored.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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SS-RA-37	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Appendix H: Rock art literature review - Woodside agrees to protect the heritage "whilst recognising the economic and social benefits of the Burrup Peninsula industries for the people of WA"; what does this mean? How can it be monitored or regulated?* The full response is available in Appendix A.	The quoted text is a direct quote from the Murujuga National Park Management Plan prepared by the then Department of Environment and Conservation (now the Department of Biodiversity, Conservation and Attractions) and is not a statement prepared by Woodside.
SS-RA-38	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Appendix H: Rock art literature review - Reports the results of some old studies that were based on incomplete or old data (including that used in modelling) and does not state that the Senate enquiry and DWER found that CSIRO's science was inadequate; the Appendix also does not report the true level of scrutiny. While it says that 2018 Senate report recommended MRAS and monitoring program be initiated and funded, and the Stakeholder Group be set up, it neglects to mention that this group is heavily biased toward government and industry.* The full response is available in Appendix A.	The Rock Art Literature Review (Appendix H of the NWS Project Extension ERD) provides a comprehensive summary of all historical peer-reviewed studies that have been conducted on the Murujuga rock art. Woodside acknowledges that uncertainties exist regarding techniques for monitoring and detecting change (both natural weathering rate, and potential for accelerated weathering) and determining a critical load of acid deposition at which impacts to rock art may occur. Notwithstanding these criticisms, the studies (presented in Appendix H of the ERD) remain the most comprehensive large-scale investigation into the potential for industrial emissions to impact rock art. In line with the 2018 Senate Inquiry Report, the MRAS aims to build a better understanding of the characteristics of the cumulative airshed and enable more informed decision-making (DWER, 2019a). Woodside acknowledges that all relevant stakeholders have equal opportunity to participate and support the implementation of the MRAS through the Murujuga Stakeholder Reference Group. This group was formed by the WA Government and includes representatives from key stakeholders on Murujuga. A review of the current membership shows there are three positions taken up by industry, four by research or community groups (including MAC and the independent Chair), with the remaining nine taken up by government, including departmental representatives, local government, and other government organisations such as the Pilbara Ports Authority. Under the Terms of Reference, membership of the group is reviewed at 3-yearly intervals, at which time it is expected that any concerns of membership makeup can be raised.

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SS-RA-39	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Woodside concludes that the longitudinal monitoring dataset they present is globally unique and provides useful baseline to inform future research; however, this is partly ill founded given that the methodology and results of some earlier monitoring programs have been criticized (Black and Diffey, 2016; Senate Environment and Communications References Committee, 2018).* The full response is available in Appendix A.	Independent reviews of the CSIRO Rock Art Colour Change Monitoring Program conducted by Department of Aboriginal Affairs (2016, 2017) highlighted that the twelve years' of collected data is a valuable resource and should not be discarded. DAA recommend historical data should be archived to provide a baseline record and to facilitate comparisons with future data. This has been further highlighted in the SECRC 2018 and MRAS.
SS-RA-40	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Appendix C: NWS Project Extension Cultural Heritage Management Plan (CHMP) – Incorrectly minimizes the amount of SO_2 (Section 2.3.1) by omitting transport including pipelines and ships, and doesn't mention carbon compounds (CO_2, CH4 and CO) which also affect cultural heritage through climate change (loss of biodiversity) and production of carbonic acid (degrades rock art). – Establishes a non-binding target to achieve 40% reduction of NOx by 31 December 2030 – Motherhood statements about implementing an adaptive management plan to address the potential impact to rock art from industrial emissions after the new DWER Strategy/ Plan data are collected and released! All future tense...* The full response is available in Appendix A.	Section 2.3.1 of the CHMP (Appendix D) describes in general the key sources of potential impact to rock art on Murujuga from the Proposal, not the broader adjacent industry or potential indirect global influences. Pipelines do not emit SO_2. Emissions of SO_2 in the context of the NWS Extension are only associated with combustion of hydrogen sulfide, and emissions of SO_2 from the proposal are negligible. Modelling of emissions under current and predicted future states, included in Section 6.5.4.1 of the NWS Project Extension ERD, includes relevant sources of SO_2, in particular including conservative estimates from shipping in the region, the main source of SO_2 on the Burrup Penninsula. Carbonic acid is not incorporated into air quality modelling presented in the ERD, because, unlike acids formed from NOx and SOx, CO_2 forms a weak acid (carbonic acid) and atmospheric CO_2 variation has a limited effect on pH when dissolved in water. Atmospheric CO_2 is in equilibrium with dissolved CO_2, carbonic acid and the dissociated bicarbonate and carbonate acids. Carbonic acid is a weak acid, meaning it does not fully dissociate in solution. Furthermore, global average CO_2 concentrations are ~410 ppm and emissions from the Proposal were predicted to contribute to a negligible increase to background concentrations of CO_2 within the local airshed. The equilibrium position of carbonic acid also depends on the pH, alkalinity, and hardness of the water, which is typically influenced by stronger acids such as those derived from NOx and SO_2. Therefore, the influence from relatively minor changes in atmospheric CO_2 concentrations is expected to be negligible. Adaptive management is a key element of ongoing environmental management that allows Woodside to review and modify NWS Project environmental management plans

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			and measures as new scientific information becomes available or where monitoring results indicate the required outcomes are at risk of not being achieved A cohesive, unified approach to developing EQC in relation to the rock art of Murujuga is required, such that management of potential impacts across all of industry is focused and targets the appropriate impact pathways and mechanisms. The MRAS is the framework that will achieve this. Therefore, Woodside has committed to a 40% reduction of NOx by 2030 and supports the implementation of the MRAS.
SS-RA-41	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *Appendix E: Air quality impact assessment Fundamentally, the conclusions are based on insufficient data; however, while acknowledging some deficiencies, Woodside does not exercise the caution required, as dictated by the Precautionary Principle, Principle of Intergenerational Equity, and Principle of Waste Reduction. – They have not accounted for all emissions in modelling even though they say it is cumulative; there is no accounting of offshore flaring and fugitive emissions. – Incomplete/old data were used in modelling and there is not much/any reporting of recent data, when emissions were probably higher due to: increased NOx when fertilizer plant starting producing in 2006; · Karratha gas plant substantially increased production in 2008 when extra train added; increased SO_2 especially from shipping when Pluto started producing in 2012; start up of TAN plant in 2017, but has been mostly off line; doubling of iron ore mined and shipped since 2008. – They do not discuss the impact of emissions on rock art located on the islands along the shipping and pipeline route out of Dampier Port.* The full response is available in Appendix A.	All data informing impact assessments presented within the NWS Project Extension ERD was completely revised and updated using the latest available information including all currently operational facilities. Additionally, modelling undertaken for the NWS Project Extension Proposal considers cumulative emissions from all current and reasonably foreseeable future projects planned for Murujuga, including a conservative representation of regional shipping. The AQIA analysed historical studies and modelling sensitivities to ensure potential emissions that may contribute to impacts on the Burrup Peninsula were included. This assessment considered background sources, and small or lower risk sources, including offshore flaring and venting. Beyond 50 km, emissions sources have a negligible impact on assessment outcomes. The nearest offshore emissions from sources such as flaring or venting from existing NWS Project assets are >100 km away and were not included in the modelling. Emissions from the proposed Browse development are approximately 1000 km away. Neither source is credibly expected to interact with emissions from existing or new sources on Murujuga. Section 6.5.4.1 of the ERD presents deposition rates across the National Heritage Listed Place including islands, with conservatively estimated peaks (informing associated impact assessment) within the modelled domain.
SS-RA-42	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as:	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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		In the March 2018 Senate Inquiry report, the majority strongly recommended inter alia that: "(a) Urgent steps be taken to reduce and control industrial emissions on the Burrup." These findings echo the 2012 assessment of the Australian Heritage Commission that industrial development on the Burrup poses a high risk to the universal values standard required for World Heritage listing and that "further industry would render it critical". The full response is available in Appendix A.	
SS-RA-43	NW Shelf/ Browse Expansion Submission [Individual 5 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *I wish to raise a number of issues concerning this application:* *Firstly, there is the matter of the inevitable increase of polution should this project proceed in its planned form. Already there is well documented evidence of the increase in pH on the rock surfaces in areas surrounding the current Woodside plant. This can only result in the destruction of the patinia protecting the rock. Then the rock itself shall be eroded and the ancient/ historical rock art be destroyed. That would be a loss to all humanity.* *Only the immediate instillation of "scrubber technology" could give the industry some respite while this obsolete technology is phased out.* *Even if the financial aspects are put aside, the disregard of cultural values associated with the area and its rock art is a matter which should not continue. Already much has been moved, removed, or destroyed. Access has been limited, and there has been only token efforts at restoration.* The full submission is in Appendix A.	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga)
SS-RA-44	NWS Project Extension Submission [Individual 10 February]	*I write to express my concerns relative to this submission to the Western Australian EPA by Woodside Energy Ltd as it relates to Aboriginal rock art.* *On page 18 of the Executive Summary Social Surroundings (Heritage) Woodside cites the WA EPA Objective viz: To protect social surroundings from significant harm.*	The risk assessment methodology applied in the NWS Project Extension ERD considers three factors: • the sensitivity of the receptor to the potential impact or risk • the magnitude of the potential impact • the likelihood of that impact occurring.

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		Woodside Energy Ltd identifies risks to the rock art under the following subheading within the Executive Summary. *Potential Impacts and Risks Accelerated weathering of rock art due to industrial emissions.* *"The residual risk to rock art following the implementation of mitigation and management measures including the Murujuga Rock Art Strategy is assessed to be moderate. The residual risk for all other potential impacts is assessed as low for unplanned risks and slight for planned impacts".* *Mitigation* *"Woodside commits to support the Murujuga Rock Art Strategy and implementation of the Framework (such as maintain emissions contributions below that which lead to unacceptable levels of impacts to rock art)".* *My concerns* *Nowhere in the document can I find any reference to how Woodside Energy Ltd will address the issue of the effect of decreasing pH (resulting from the production of nitric and sulphuric acids from nitrogen and sulphur dioxides in the atmosphere) upon the rock art by destruction of the patina protecting the underlying rock as described by Black et al (2017, 2018).* *Woodside Energy Ltd claims on p523 that 'no data was presented to link industrial air emission or subsequent deposition to changes in pH on Murujuga rock surfaces.' This ignores published information (Black et al. 2018).* *What assurances will the EPA demand and enforce with respect to the control of atmospheric levels of nitrogen oxide and sulphur dioxide released into the atmosphere as part of the overall project? Currently Woodside is releasing 8,900 tonnes per year of oxides of nitrogen NOx (as nitrogen dioxide, Table 2-2) and smaller amounts of sulphur dioxide.* *Surely a risk to the rock art of "moderate" after mitigation measures is unacceptable. Why would the risk not be minimal or slight? This would suggest the mitigation methods are not adequate.*	The risk assessment conducted in relation to impacts to rock art focused on the potential for accelerated weathering of rock art due to industrial emissions. The likelihood of this occurring, which considered results of previous scientific investigation and predicted future changes to emissions, was assessed as unlikely. Woodside will continue to evaluate new information as it emerges and ensure an adaptive approach to managing emissions and discharges, as required, to avoid significant impacts. If unlikely accelerated weathering occurs, potential changes were predicted to have a 'minor' effect (i.e. localised, small, or temporary). However, given the high sensitivity level assigned to the receptor (the petroglyphs), this resulted in a predicted 'risk level' assigned as Medium. No significant impacts to rock art were predicted. Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) • SS-KIR-6 (Scientific understanding of risk pathways)

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SS-RA-45	Three Browse – NWS Extension Proposals [Individual 11 February]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *After reading Woodside's documents RE: their proposed Browse Basin - North West Shelf (NWS) extension project, and the two associated offshore components (wells and bringing the gas to the Burrup Peninsula for processing), I am extremely concerned about the devastating effect these would have on the Murujuga rock engravings. The rock art is internationally significant and part of Australia's cultural heritage. It should not be degraded or destroyed in the interest of profits and at the greater expense of increased global emissions of greenhouse gases. Importantly, the emissions from these proposed projects contain substantial amounts of sulfur and nitrogen dioxides which form sulfuric and nitric acids when the emissions mix with atmospheric moisture. These acids break down the patina on the rock surface which of course destroys the rock carvings.* The full submission is available in Appendix A.	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy)
SS-RA-46	Conservation Council of WA (CCWA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *The Burrup Hub project would also have a devastating impact on a globally significant cultural heritage site that the Australian Government has nominated for World Heritage listing. The North West Shelf and Pluto LNG facilities earmarked to process the new gas are already located within one of the world's oldest and most extensive areas of Aboriginal rock art - Murujuga. Murujuga contains an estimated one million examples of rock carvings dating back at least fifty thousand years, including the first recorded image of a human face. The impacts of LNG processing on this rock art has led to a Senate Inquiry and has drawn concern from Murujuga Traditional Owners and rock art experts around the world. "This rock art is unique in the world. The Burrup Peninsula is the only documented place where the cultural history and spiritual beliefs of humankind for over fifty*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)

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		thousand years remain preserved in art. Industrial pollution from LNG processing is eating away at the surface of the petroglyphs and destroying this irreplaceable treasure." *Cause permanent damage to the world's most extensive collection of Aboriginal rock art, nominated for World Heritage listing on the Burrup Peninsula (Murujuga)* The full submission is available in Appendix A.	
SS-RA-47	Conservation Council of WA (CCWA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: • concerns that no assessment of the indirect and/or cumulative impacts of GHGe on the Murujuga rock art was undertaken as part of the ERD, and that no measures to mitigate impacts to the rock art were identified. • emissions data should be publicly available • given the recent submission of the Murujuga Cultural Landscape to UNESCO's "tentative" World Heritage list acknowledges that the Murujuga rock art represents a masterpiece of human creative genius and bears a unique testimony to Aboriginal cultural tradition, any impact to the Murujuga rock art should be considered 'significant' in relation to the Commonwealth and State Government's commitment to conserving World and National Heritage Values, and that the Proposal may therefore not proceed. • LNG processing linked to industry on the Burrup Peninsula has increased the acidity of the rock surfaces on Murujuga, dissolving and destroying the rock art. • the current works being undertaken as part of the Murujuga Rock Art Strategy are of a monitoring and research nature and do not classify as mitigation measures. The CCWA also argued that the mitigations specified in the Proposals Cultural Heritage Management Plan were also of a monitoring and research nature.	Please refer to this response that addresses the items raised in this submission: • SS-DAWE-1 (Response to concern over impacts to the petroglyphs of Murujuga as a result of industrial emissions) • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-RA-41 (Consideration of potential impacts to Murujuga rock art from greenhouse gas emissions) **Murujuga Rock Art Strategy (MRAS)** The MRAS is one of a range of mitigations and is designed to lead to the development of an environment quality management plan, intended to remove much of the uncertainty surrounding potential pathways linking industrial emissions and accelerated weathering and allow for timely investigation and management where required. **NOx reductions** As outlined within the ERD, there are currently no existing or default guideline 'trigger values' for protecting rock art from anthropogenic emissions that could be used as criteria. In the absence of this information, Woodside conducted a review of practicable and credible measures for the reduction of emissions of concern to rock art, particularly NOx. The review identified that by 2030, a reduction of 40% was achievable and would make a significant contribution towards minimising potential impacts.

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		• the Proponent should be required to adopt 'advanced scrubber technology' to reduce emissions to near zero. • justification for the reduction of a value of 40% of NOx by the end of 2030, and that the methods of achieving this be detailed. The full response is available in Appendix A.	A range of mitigation technologies were reviewed and the methods for achieving this reduction are most likely to include a combination of either retiring equipment such that it makes no emissions or, where gas turbines are due for major life extension works, retrofitting this equipment with dry-low NOx technology. It should be noted that this magnitude of reduction is being contemplated despite the absence of any published peer-reviewed study identifying measurable or observable changes to the condition and integrity of the rock art as a result of industrial emissions. Should future research, such as that being conducted in accordance with the MRAS, identify a critical load value that requires further reduction, Woodside will work to respond to these findings, through the adaptive management triggers within the AQMP.
SS-RA-48	Clean State / CCWA (Browse Burrup Hub Report)	Industrial emissions will cause permanent damage to the world's most extensive collection of Aboriginal rock art, which has been nominated for World Heritage listing. Acid gas emissions (in the form of acid rain and atmospheric events) from Woodside's LNG facilities and other industry on the Peninsula are already destroying the rock art, with research showing acidity of rock surfaces has increased by 1,000 times since industry was established there. Significant expansion of these facilities would make the damage much worse.	Please refer to this response that addresses the items raised in this submission: • SS-DAWE-1 (Response to concern over impacts to the petroglyphs of Murujuga as a result of industrial emissions) • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)
SS-RA-49	Browse Basin and NW Shelf Development [Individual undated]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are: *This proposal represents an increasing threat to national heritage. Australia, and Western Australia in particular, is increasingly seen as international pariahs when it comes to making appropriate responses to the climate change threat. The proposal is [redacted], more polluting than any other LNG project in the world, a proposedaction that appears to be without regard for other people on this planet, future generations of humans on this planet, and for the many ecosystems that support human life, but with regard only to Woodside itself and shareholders. To behave without regard for others is [redacted], and I do not want this behaviour by Woodside to*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga)

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		become part of Australia's "heritage". Far far better to reject this proposal, and by this rejection begin to redeem Australia's, and Western Australias heritage in the eyes of the world The full submission is available in Appendix A.	
Proforma Submissions			
SS-RA-50	Proforma Submission (CCWA)	*To (Chairperson Environmental Protection Authority WA) and Secretary Department of Environment and Energy.* *I am writing in response to the current consultations on the proposed Browse Basin and North West Shelf (NWS) expansion projects and the catastrophic effect these would have on the ancient petroglyphs of the Burrup Peninsula.* *The proposed increase in emissions of sulfur and nitrogen dioxides, mixed with moisture, will form additional strong acids which have been proven to dissolve the rock surface patina and thus the rock carving images which form a vital part of Aboriginal Australia's cultural heritage.* *The impacts of this increase in total cumulative emissions on the Burrup Peninsula must be calculated, considered, regulated and monitored. Only then can the actual emissions from the Browse-NWS expansion projects be calculated to estimate the extra harm they will do to the environment and the ancient rock art.* *Approvals for the Burrup Hub should not go ahead until the State's government's Rock Art Strategy Stakeholder Committee has activated the promised monitoring program.* *"I am totally against it: I don't want any more industry to be built in this area. I've been out here my entire life and there's rock art that I 've noticed which is actually starting to fade away. I mean why would UNESCO want to approve World Heritage Listing in a place where they're going to continue to develop more industry... I want to see the rock art given first priority, and I really want to see World Heritage Listing, because it brings protection with it.'* *[Redacted], Ngarluma/Yindjibarndi man and director of award-winning Ngurrangga Tours.*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy)

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		Quotation from 2019 ABC RN Singing the Stones Radio Documentary *'The destruction of our country is now out of control with Woodside preparing, with the active assistance of the WA State government, for the wholesale destruction of these ancient carvings that link us spiritually with our ancestors.'* *[Redacted] Wong-Goo-Tt-Oo elder and custodian of the Burrup Peninsula.* *I urge you and the EPA to consider the longevity and well-being of the ancient Murujuga petroglyphs against the short-term profits of the gas industry.*	
SS-RA-51	Proforma submission (additional text to CCWA Proforma)	*Additionally the priceless and sacred rock art at Murujuga National Park - the world's most significant concentration of ancient petroglyphs - will suffer even more disruption and threat than it already endures should this project proceed. This rock art is an international treasure whose protection has already been mismanaged by the Western Australian government over several decades. I am lucky to regularly introduce international visitors to the Pilbara's national parks through my work in the region, and I feel intense shame to call myself Western Australian when explaining to our international guests that a gas plant has been permitted to be installed in the heart of one of the world's most significant archaeological sites. Every visitor I have hosted at the Burrup has been baffled as to why this has been allowed, especially given that our State's scale and climate present obvious alternatives for the production of sustainable fuel and power. The world is watching our State and our country at the moment, and relying on us to show leadership in regard to addressing climate change. Please do not fail them, or your constituents by supporting these repugnant, greed-driven projects.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-52	Proforma submission (additional text to CCWA Proforma)	*In addition, the threat of air emissions of NOx and SOx by Woodside's LNG mining and others on the world class Burrup Aboriginal Rock Art must be removed. This is another compelling reason to reject the proposed Browse Basin and North West Shelf LNG as totally environmentally unacceptable.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-53	Proforma submission (additional text to CCWA Proforma)	*I am writing to oppose the Browse Basin and North West Shelf projects. Plus there are the negative local impacts on rock art, traditional owners and other people's wellbeing. I am concerned that any public money supporting these*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

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		projects will effectively be used to prop up a dying industry, stranded assets. It may take 10 or 20 years but the future harm that these projects will contribute to will devalue these projects significantly. No public money should in anyway support or subsidise these. Nor should any legal precedent be created which creates a financial obligation on the sate to directly support these projects. Just paying for the harm they will cause will impact people globally. Supporting these/this project will result in a transferral of wealth to Woodside and partners, and wide-scale environmental harms plus social harms most affecting those marginalised. There is clear literature about the impacts of climate change on marginalised people. Supporting this project will increase those impacts direly. The life-time environmental and social (including cultural heritage) impacts of these projects must be considered. Given our political context, the donations by fossil fuel companies to major political parties, it seems inevitable this project will go ahead. If it does, I request you attach conditions of environmental remediation that includes fully offsetting the atmospheric greenhouse gas impacts with some form of greenhouse gas removal e.g. widescale tree plantations, and landscape remediation. Further, that these actions are a condition of ongoing operation with review schedules included in the licence conditions spaced at 2-4 years checkpoints, such that where the license is contingent on ongoing net zero greenhouse/carbon gas production.	• SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) Please refer to these responses that address the items raised in this proforma submission not related to Social Surroundings: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions)
SS-RA-54	Proforma submission (additional text to CCWA Proforma)	*Dear (Chairperson Environmental Protection Authority WA), Secretary Department of Environment and Energy, and [Name redacted] DWER:* *After reading Woodside's documents RE: their proposed Browse Basin - North West Shelf (NWS) extension project, and the two associated offshore components (wells and bringing the gas to the Burrup Peninsula for processing), I am extremely concerned about the devastating effect these would have on the Murujuga rock engravings. The rock art is internationally significant and part of Australia's cultural heritage. It should not be degraded or destroyed in the interest of profits and at the greater expense of increased global emissions of greenhouse gases. Importantly, the emissions from these proposed projects contain substantial amounts of sulfur and nitrogen dioxides which form sulfuric and nitric acids when the emissions mix with atmospheric moisture. These acids break down the patina on*	Please refer to these responses that address the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) • SS-KIR-3 (Acknowledgement of potential impacts to petroglyphs of Murujuga) • SS-KIR-2 (Use of best practice technology to reduce emissions of concern to Murujuga) • SS-KIR-4 (Commitment to Ongoing Support for the Murujuga Rock Art Strategy) • SS-RA-10 (Commencement of key steps to implementing the MRAS) Please refer to these responses that address the items raised in this proforma submission not related to Social Surroundings: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions)

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		the rock surface which of course destroys the rock carvings. In order to truly evaluate the environmental impact of these industrial emissions, it is imperative that the total cumulative emissions from industries on the Burrup Peninsula must be calculated, considered, regulated and monitored. Furthermore, the Burrup Hub proposals should not be approved until the promised monitoring program has been initiated by the WA government's Rock Art Strategy Stakeholder Committee, and they have real data to comment on the consequences of an increased pollutant load. The emissions from processing, transporting, and burning the LNG are a huge source of carbon dioxide and methane which Australia must curtail. I am also very concerned about the health impacts of industrial emissions on local workers and residents of the Burrup Peninsula and Karratha region, given the high levels of air pollution that are consistently visible on BOM images. Much of this could be reduced if Woodside and other industries were forced to have the highest possible level of scrubber and other technology to reduce emissions -- some of their huge profits could be reduce harm to the petroglyphs, human health and well being. EPA has a responsibility to Aboriginal Australia, as well as the entire population, to protect the irreplaceable cultural heritage contained in the Murujuga petroglyphs rather than facilitate the short-term profits of the gas industry.	• GHG-CIR-4 (Management of fugitive emissions) • AQ-2 (Exposure Thresholds) • AQ-3 (Human Health Impacts) • AQ-4 (Public and Worker Health and Safety)
SS-RA-55	Proforma submission (additional text to CCWA Proforma)	*I'm just adding a brief note to this pre-generated email - I'm not an expert and so haven't memorised the relevant scientific information provided below. I do want to have my say as a West Australian, and to let you know that the preservation of the local and global ecosystems, including this incredibly precious rock art, is infinitely more important to me than any financial benefit related to the fossil fuel industry. We should be positioning ourselves as global leaders in the rapid transition to renewable energy sources, instead of sacrificing irreplaceable cultural sites to a dirty, dying fuel. The climate crisis will exacerbate the existing chasm between the quality of life of the most wealthy and the most impoverished in Australia and around the world - governments' duty ought to be with elevating the disadvantaged, not pandering to the already wealthy. Anyway, the rest of the pre-generated email text follows.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) Please refer to these responses that address the items raised in this proforma submission not related to Social Surroundings: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

No.	Submitter	Submission and/or issue	Response
SS-RA-56	Proforma submission (additional text to CCWA Proforma)	*Having visited the Pilbara 18 months ago as a guest artist for Red Earth Arts Festival 2018 I was incredibly moved by the history and deep richness of this area. In addition, I was graciously exposed to Rock Art and national treasure by [Redacted] and his family. The rest of this letter is pre- drafted as I cannot express any better my deep distress that this ancient historical world class site is not being valued or managed with best practice measures in mind or action.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-57	Proforma submission (additional text to CCWA Proforma)	*To knowingly allow activities that threaten this rock art is a cultural crime, Any actions will be recorded, remembered and judged by future generations, please don't let our generation be seen to have been party to, or to have facilitated this.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-58	Proforma submission (additional text to CCWA Proforma)	*I am deeply concerned that yet again the Murujuga National Park and Rock Art is threatened by further industrial development. An Internationally recognised Petroglyph site, of World Heritage value, must struggle with the destructive outfall from fossil fuel industrial waste, despite the scientific evidence that such pollution can destroy these ancient artefacts. This is part of Australia's(and the world's) significantly ancient human story, that should be preserved and respected and just as the destruction upon the Australian continent for "mining resources" has wreaked havoc upon the unique environment, so too to enter the water off shore for gas extraction places at risk the unique coastal water environments that provide a base for the tourist and fishing industries. This is a "balancing act" fraught with terrible consequences. To top it all off, rather than reducing global carbon-based emissions to reduce the impact of global warming, this would increase emissions and have a greater impact on global warming, creating a more expensive situation to then address global warming problems. A short term profit for the companies involved and a long term problem for the people of the world and a very, large recovery/adaptation bill for the government(aka the taxes of the Australian people, money that could be better spent elsewhere).At this stage in the history of the planet, what actions are taken to control fossil fuel emissions are the important matters of the day. Adding newer and bigger amounts of fossil fuel wastes into the atmosphere is criminal, given all the scientific evidence on the impact this will have worldwide. The recent fires on the East Coast already a significant warning of what some are calling the "new normal", adding further fuel to*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination) Please refer to these responses that address the items raised in this proforma submission not related to Social Surroundings: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Submission and/or issue	Response
		this "normality" is an unconscionable act of greed before humanity and the planet. Every effort must be made to reduce emissions and stabilise global warming, this is what the science has been asking governments to do. Rated 57 out of 57 on our "current" efforts to address the global emissions problem, the Woodside proposal is anathema to all that needs to be done to honour our global agreements to reduce emissions. The scientific reality of future temperatures and weather conditions and their impacts upon the whole planet are only just beginning to come home to roost. That we are struggling to responsibly contain emissions now and would add greater emissions to the equation beggars belief. The only responsible action to be taken with regard to the Burrup Hub Proposal by Woodside is to stop the process immediately. The WORLD cannot afford the additional pollution and inaction this project would involve. We cannot keep adding more fuel to the global warming fire and expect it to "get better", it can only exacerbate the problem in much worse ways. The definition of Insanity is repeating the same thing and expecting different results, adding more fossil fuel emissions to the atmosphere/environment will not resolve global warming. If the science can recognised in every other sphere of human usage, it is time it was recognised when it comes to Climate Change/Action. No Woodside Hub at Burrup!	
SS-RA-59	Proforma submission (additional text to CCWA Proforma)	*In addition, the rock art on the Burrup peninsular is extremely vulnerable to current industry already. Further development would cause more damage to one of the most significant sites of human culture.*	Please refer to this response that addresses the items raised in this submission: • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)
SS-RA-60	Proforma Submission (additional text appended to CCWA Proforma)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as: *As a past Regional Manager of the Pilbara for the WA Tourism Commission I am well aware of the value of the Burrup.* *The Burrup peninsula is probably the most significant cultural site in Australia and the location should not be further disrupted by industrial development. woodside's own documentation states that there are more*	Please refer to this response that addresses the items raised in this submission: • SS-DAWE-1 (Response to concern over impacts to the petroglyphs of Murujuga as a result of industrial emissions) • SS-KIR-1 (Acknowledgement of significance of Murujuga including World Heritage Nomination)

No.	Submitter	Submission and/or issue	Response
		than 9000 significant rock carvings. These carvings are some of the oldest in the world. *If you allow the degradation of this important site you will be responsible for an egregious act against humanity. This is akin to mining the Vatican or crushing Borobudur.* *The site has the potential to be a major tourist attraction akin to Uluru. It would provide sustainable employment forever.*	
SS-RA-61	Proforma Submission (additional text appended to CCWA Proforma)	*This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised in relation to Social Surroundings are summarised as:* *I visited the Burrup Peninsula 2 years ago and was in awe of the Aboriginal petroglyphs. Having previously visited the much smaller but still wonderful and celebrated collection in Namibia I was astounded and horrified that the wonderful archaeological treasure was at risk from and hidden almost fossil fuel infrastructure. These treasures belong to the world and need to be celebrated and protected.* *The proposed Browse Basin and North West Shelf projects would further damage these treasures which belong to our First Nation people and make the Burrup Hub become one of the largest and most polluting fossil fuel ...*	Please refer to this response that addresses the items raised in this submission: • SS-DAWE-1 (Response to concern over impacts to the petroglyphs of Murujuga as a result of industrial emissions)

Table 3-11: Indigenous Stakeholder Engagement Since Publication of the ERD

Stakeholder	Date	Topic	Outcome
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	28 November 2019	**Proponent**: Discussion of the Proposal, specifically noting no increase of project footprint and commitment to reduce NOx. Update on environmental approvals process, including likely public comment dates. **Stakeholder**: No questions or issues raised.	**Outcome**: Ongoing engagement related to the Proposal. Follow-up meeting scheduled for Feb 2020.

Stakeholder	Date	Topic	Outcome
Ngarluma Yindjibarndi Foundation Ltd	11 December 2019	**Proponent**: Discussion of the Proposal, specifically noting no increase of project footprint and commitment to reduce NOx. Update on environmental approvals process, including likely public comment dates. **Stakeholder**: No questions or issues raised.	**Outcome**: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	18 December 2019	**Proponent**: Notification of public comment period and provision of Proposal ERD.	**Outcome**: MAC invited to review and comment on ERD
Ngarluma Yindjibarndi Foundation Ltd	18 December 2019	**Proponent**: Notification of public comment period and provision of Proposal ERD.	**Outcome**: NYFL invited to review and comment on ERD
Ngarluma Aboriginal Corporation	18 December 2019	**Proponent**: Notification of public comment period and provision of Proposal ERD.	**Outcome**: NAC invited to review and comment on ERD
Yaburara	18 December 2019	**Proponent**: Notification of public comment period and links to Proposal ERD.	**Outcome**: Yaburara people invited to review and comment on ERD
Wong-Goo-Tt-Oo	18 December 2019	**Proponent**: Notification of public comment period and links to Proposal ERD.	**Outcome**: Wong-Goo-Tt-Oo people invited to review and comment on ERD
Murujuga Aboriginal Corporation	19 December 2019	**Proponent**: Reminder that public comment underway.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Murujuga Aboriginal Corporation	20 December 2019	**Proponent**: Reissue invitation to meet during public comment period as needed.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Murujuga Aboriginal Corporation	10 January 2020	**Proponent**: Reissued invitation to meet during public comment period as needed.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	14 January 2020	**Proponent**: Issued invitation to clarify or address concerns ahead of public comment submission.	**Outcome**: Meeting scheduled for 6 February 2020.
Ngarluma Yindjibarndi Foundation Ltd	15 January 2020	**Proponent**: Reissued invitation to meet during public comment period as needed.	**Outcome**: Invitation extended to meet with NYFL to clarify or address any concerns ahead of public comment submission.
Ngarluma Aboriginal Corporation	15 January 2020	**Proponent**: Reissued invitation to meet during public comment period as needed.	**Outcome**: Invitation extended to meet with NAC to clarify or address any concerns ahead of public comment submission.
Ngarluma Yindjibarndi Foundation Ltd	21 January 2020	**Proponent**: Reissued invitation to meet during public comment period as needed.	**Outcome**: Invitation extended to meet with NYFL to clarify or address any concerns ahead of public comment submission.
Murujuga Aboriginal Corporation	29 January 2020	**Proponent**: Reissue invitation to meet during public comment period as needed.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.

Stakeholder	Date	Topic	Outcome
Murujuga Aboriginal Corporation	5 February 2020	**Proponent**: Reissue invitation to meet during public comment period as needed, including by phone if necessary.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns ahead of public comment submission.
Murujuga Aboriginal Corporation and non-Indigenous stakeholders	6 February 2020	**Proponent**: Update on environmental approvals process, noting major themes of comments received and next steps in responding to comments. **Stakeholder**: No questions or issues raised.	**Outcome**: Ongoing engagement related to the Proposal.
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	6 February 2020	**Proponent**: Update on environmental approvals process, noting major themes of comments received and next steps in responding to comments. **Stakeholder**: Queried what monitoring Woodside was conducting into chemical impacts on the marine environment and marine life. Who is conducting the monitoring, and are MAC rangers involved? What consultations have been had with elders to identify cultural values of marine life?	**Outcome**: Ongoing engagement related to the Proposal. Responses to questions provided by email on 11 Feb and in person on 12 March outlining monitoring activities in the ERD (Section 6.6 and Appendix D), confirming MAC ranger involvement in scientific monitoring, and outlining that Woodside does not predict any impacts to marine life with or without cultural values but has an ongoing commitment to continue engaging Traditional Owners.
Ngarluma Yindjibarndi Foundation Ltd	10 March 2020	**Stakeholder**: Confirmation that NYFL had not yet identified any items of concern and indicated support for the Project.	**Outcome**: Ongoing engagement related to the Proposal. Letter of support to be provided 20 March 2020.
Murujuga Aboriginal Corporation	12 March 2020	**Proponent**: Issue invitation to meet following public comment period.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Murujuga Aboriginal Corporation	23 April 2020	**Proponent**: Issue invitation to meet following public comment period.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Murujuga Aboriginal Corporation	28 April 2020	**Proponent**: Provided documents with overview of Community Development Plan and Local Participation Plan ahead of engagement opportunity on 29 April.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Ngarluma Aboriginal Corporation	7 May 2020	**Proponent**: Provide overview of Community Development Plan and Local Participation Plan, with emphasis on the socioeconomic opportunities for Ngarluma people including through traineeships, apprenticeships, and education initiatives. Woodside views the NYFL Agreement as the primary vehicle for the proposal to engage Ngarluma people.	**Outcome**: Ongoing engagement related to the Proposal. Email responding to stakeholder comments taken on notice sent 20 May 2020

Stakeholder	Date	Topic	Outcome
		Stakeholder: Woodside to set goals for working with NAC to achieve outcomes relating to: housing, community amenity, community safety, wellbeing of Ngarluma people, employment of Ngarluma people, and contracting with Ngarluma businesses.	
Ngarluma Yindjibarndi Foundation Ltd	14 May 2020	**Proponent**: Provide overview of Community Development Plan and Local Participation Plan, with emphasis on the socioeconomic opportunities for Indigenous people. **Stakeholder**: No questions	**Outcome**: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	15 May 2020	**Proponent**: Issue invitation to meet following public comment period.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Murujuga Aboriginal Corporation	21 May 2020	**Proponent**: Reissue invitation to meet, to address any outstanding concerns. Advised of previously provided summaries of Community Development Plan and Local Participation Plan, and extended invitation for a dedicated meeting if of interest to MAC.	**Outcome**: Invitation extended to meet with MAC to clarify or address any concerns following public comment submission.
Ngarluma, Yaburara and Wong-Goo-Tt-Oo people	11 June 2020	**Proponent**: Discussion of the Proposal, specifically noting no increase of project footprint. Update on environmental approvals process, including likely timing of response to submissions. **Stakeholder**: No questions or issues raised.	**Outcome**: Ongoing engagement related to the Proposal. Next meeting scheduled for 10 Sep 2020.
Ngarluma Aboriginal Corporation	25 June 2020	**Proponent**: Invitation to meet, to address any outstanding concerns.	**Outcome**: Invitation extended to meet with NAC to clarify or address any concerns ahead of submission of Woodside's responses to NAC's comments.
Murujuga Aboriginal Corporation	21 July 2020	**Proponent**: Provided copies of intended responses to all MAC comments, addressing cultural values of marine fauna, marine discharges, the scope of the Marine Environment Quality Management Plan, emissions monitoring, social and heritage values of Murujuga, and Indigenous engagement and consultation. Invitation to meet to close out any outstanding issues.	**Outcome**: Ongoing engagement related to the Proposal. Concerns as listed were addressed but time provided for MAC to produce formal response.
Ngarluma Aboriginal Corporation	21 July 2020	**Proponent**: Invitation to meet, to address any outstanding concerns.	**Outcome**: Invitation extended to meet with NAC to clarify or address any concerns ahead of submission of Woodside's finalised responses to comments.

Stakeholder	Date	Topic	Outcome
Murujuga Aboriginal Corporation	5 August 2020	**Proponent**: Presented on intended responses to key MAC comments, addressing cultural values of marine fauna, marine discharges, the scope of the Marine Environment Quality Management Plan, emissions monitoring, social and heritage values of Murujuga, and Indigenous engagement and consultation. **Stakeholder**: No questions or issues raised, but advised a written response would follow.	**Outcome**: Ongoing engagement related to the Proposal. Concerns as listed were addressed but time provided for MAC to produce formal response.
Ngarluma Aboriginal Corporation	14 August 2020	**Proponent**: Provided copies of intended responses to all NAC comments, addressing composition of emissions, commitment to NOx reduction, greenhouse gas management, NAC involvement in cultural heritage management, and social impact and employment opportunities. Invitation to meet to close out any outstanding issues.	**Outcome**: Ongoing engagement related to the Proposal. Concerns as listed were addressed but time provided for NAC to produce formal response.
Ngarluma Aboriginal Corporation	21 August 2020	**Proponent**: Invitation to meet to address any outstanding concerns.	**Outcome**: Invitation extended to meet with NAC to clarify or address any concerns ahead of submission of Woodside's finalised responses to comments.
Ngarluma Aboriginal Corporation	24 August 2020	**Stakeholder**: Provided summary of NAC understandings of Woodside's responses for confirmation or clarification.	**Outcome**: Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	16 October 2020	**Stakeholder**: Provided written comments in response to the letter issued to MAC on 21 July 2020.	**Outcome**: Woodside has committed to participating in ongoing consultation with MAC with regards to their remaining comments on the NWS Project Extension.
Murujuga Aboriginal Corporation	20 August 2021	**Proponent:** Provided written comments in response to letter from MAC of 16 October 2020.	**Outcome:** Ongoing engagement related to the Proposal.
Murujuga Aboriginal Corporation	8 October 2021	**Proponent and Stakeholder:** Meeting 1 of 3 set to discuss written comments issued to MAC on 20 August 2021 and respond to other matters as requested by MAC.	**Outcome:** Ongoing discussion between Proponent and Stakeholder.
Murujuga Aboriginal Corporation	15 October 2021	**Proponent and Stakeholder:** Meeting 2 of 3 set to discuss written comments issued to MAC on 20 August 2021 and respond to other matters as requested by MAC.	**Outcome:** Ongoing discussion between Proponent and Stakeholder.
Murujuga Aboriginal Corporation	22 October 2021	**Proponent and Stakeholder:** Meeting 3 of 3 set to discuss written comments issued to MAC on 20 August 2021 and respond to other matters as requested by MAC.	**Outcome:** This consultation has covered comment raised by MAC as part of the public comment process for the ERD and subsequent engagement between MAC and Woodside in February 2020, July 2020, October 2020 and August 2021.

3.4 Marine Environmental Quality

3.4.1 Agency Comments

The EPA provided a number of comments regarding the Proposal and Marine Environmental Quality. The comments provided by the EPA and Woodside's response to these are provided in Table 3-12. No comments relating to Marine Environmental Quality were received from other agencies.

Table 3-12: Response to Agency Comments Relating to Marine Environmental Quality

No.	Agency	Comment	Response to Comment
MEQ-EPA-1	EPA Services	DWER advises that Licence L5491/1984/18 currently has no specified limits for discharges of wastewater to the marine environment, which appears to contradict the statement by Woodside on page 39 of the MEQMP: "These values have been the discharge limits applicable to the two licenced discharge points for many years". DWER recommends Woodside provide clarity whether this sentence is referring to internal limits for discharges to marine waters, as opposed to formal licence limits.	Woodside has updated the Marine Environment Quality Management Plan (MEQMP) (Appendix E) to clarify that the discharge limits outlined under the heading 'internally derived trigger levels' are consistent with those currently in place at the KGP, and compliance with these triggers is managed in accordance with an internal Waste Water Management Plan that is not required by any specific regulation or legislation. Within the KGP Environment Licence (L5491/1984/18) there are no specified wastewater discharge limits; however, Woodside, as a responsible Operator, applies strict limits to marine discharges. These internally derived limits have been shown to be effective through an annual environmental monitoring program, known as the Chemical and Ecological Monitoring of Mermaid Sound (ChEMMS), which has been ongoing since June 1985. Results from this program, discussed in detail in the NWS Project Extension ERD, support the conclusion that there has been no significant impacts to the marine environment as a result operational discharges from the NWS Project.
MEQ-EPA-2	EPA Services	The following comments have been made with regards to the Marine Environmental Quality Management Plan: Section 3.1 – Fish safe for eating and recreational values should still apply. The exclusion zones [do not] prevent these values applying in the future.	Woodside acknowledges the guidance provided by the EPA (2016) that states '*The prohibition of these activities within an area is not a reason for excluding the environmental values of 'Fishing and Aquaculture*' and '*Recreation and Aesthetics' and allow the uncontrolled discharge of some contaminants to the point where it could be unsafe to swim or consume seafood from the area if the Restricted Zone were lifted in the future.*' The exclusion of recreation and aesthetics as a relevant Environmental Value (EV) from the MEQMP considered the EPA guidance. Due to State and Commonwealth regulations pertaining to managing hazardous facilities and critical infrastructure, the restricted zone surrounding the NWS Project cannot be removed until after the facility is decommissioned. The NWS Project is currently seeking approval to operate until 2070. Decommissioning of the KGP is likely to take many years, during which time monitoring of the receiving environment will be conducted to confirm the receiving environment is fit for a return to access for recreational or fishing activities.

No.	Agency	Comment	Response to Comment
			In response to this comment, the MEQMP (specifically Section 3.1.4) has been updated (included with this response as Appendix E) with further details of the justification for inclusion of exclusion of the 'Fishing and Aquaculture' EV. New discharge targets for the protection of the 'Recreation and Aesthetics' has been included within the MEQMP.
MEQ-EPA-3	EPA Services	Section 4.2.4 –There should be a commitment to undertake the discharge characterization once the new gas is being processed and then the contaminants that are routinely monitored should be reviewed in light of these results.	Woodside has added a section (Section 8.2) to the adaptive management section of the MEQMP's, which specifically outlines adaptive management testing programs. Section 8.2.1 outlines a full suite of chemical characterisation tests (Table 8-1 of the MEQMP outlines potential contaminants, not just contaminants of known concern which will be analysed) that will be performed on the KGP Jetty Outfall discharge stream annually. Therefore, chemical characterisation on a representative sample of the Jetty Outfall must be completed within 12 months of receiving a new source of third-party gas into the KGP. A full suite of chemical characterisation testing on the admin drain discharge is not considered necessary, either periodically or in response to feed gas changes. Discharge from the admin drain comprises treated sewage from the sewage treatment plant, water discharged from the demineralisation water plant, and stormwater run-off. The composition of this wastewater is well understood and is not affected by changes to the composition of feed gas.
MEQ-EPA-4	EPA Services	Section 4.4 –The MEQMP should commit to undertaking ecotox testing on both discharges once the new gas is being processed on-site	Woodside has added a section (Section 8.2) to the MEQMP's adaptive management and review of the EMP which specifically outlines adaptive management testing programs. Section 8.2.2 of the MEQMP outlines the whole effluent toxicity (WET) testing that will be completed on a sample of treated wastewater from the Jetty Outfall. WET testing will be completed at least every 3 years, or within 12 months of receiving a new source of third-party gas that comprises a change equivalent to at least 10% of plant throughput. This new section also briefly outlines the testing methods and requirements. Discharge from the admin drain comprises treated sewage from the sewage treatment plant, water discharged from the demineralisation water plant, and stormwater run-off. The composition of this wastewater is not affected by changes to the composition of feed gas. WET testing is not currently undertaken as the nature of contaminants in this discharge are less complex and is well understood. Therefore, WET testing on this discharge source is not considered necessary, either periodically or in response to feed gas changes.

No.	Agency	Comment	Response to Comment
MEQ-EPA-5	EPA Services	Section 4.4 – Do the results discussed in the last paragraph show up in the concentrations in 2006 compared to 2018 or is it controlled by something that is not being measured (e.g. different fractions of hydrocarbons). The ecotox results from all tox tests undertaken on the discharge should be tabulated. Because the composition of the outfall will be variable, this will give a better indication of the actual toxicity.	Woodside has added further information to the MEQMP about historical WET testing results and the paragraph has been reworded to highlight the variability apparent in the WET testing results. The data has not been tabulated as there are only two results for safe dilution estimates (safe dilution estimates could not be calculated on the three samples collected in 2010 due to a general lack of toxicity). Results from 2006 are no longer representative of currently expected toxicity levels due to improvements in the wastewater treatment and management measures implemented since this time.
MEQ-EPA-6	EPA Services	Section 5.1 –It is noted that ecosystem health is included as a value. Ensure all other relevant values are included.	Section 4.1 (previously Section 5.1) of the MEQMP has been updated to state that other EVs were assessed as sufficiently managed and/or adequately protected by EQC specified for protecting ecosystem health. This assessment was outlined in Sections 3.1.1 to 3.1.5 of the MEQMP. Woodside's exclusion of other EVs relating to fishing and aquaculture (seafood safe for human consumption) and recreation and aesthetics from the MEQMP was not solely due to the exclusion zone. See response MEQ-EPA-2 for a description of the assessment undertaken for and decision to exclude recreation and fishing aquaculture environment values from the MEQMP. For the industrial water supply, the risks were assessed as negligible because: • there are no industrial water intakes nearby • the nearest planned industrial discharge occurs ~6 km away, from the Multi User Brine Return Line (MUBRL) (cumulative impacts have been assessed in Section 6.6.4.1 of the NWS Project Extension ERD). • discharges dissipate rapidly and do not impact potential industrial supply. For the cultural and spiritual EV, as per EPA guidance (EPA, 2016a), in the absence of any specific environmental quality requirements for protection of 'Cultural and Spiritual' values, it is assumed that if water quality is managed to protect ecosystem health, then this may go some way towards maintaining cultural values. No Environmental Quality Guidelines (EQGs) were identified specifically for protecting cultural and spiritual values. Further details regarding the engagement on cultural and spiritual EVs are provided in response MEQ-KIR-1.
MEQ-EPA-7	EPA Services	Table 5-2 and Table 5-3: • The Environmental Quality Guideline for bioaccumulation of toxicants in biota should be 95% rather than 80%.	The EQG for bioaccumulation of toxicants in biota in Table 5-2 and Table 5-3 of the MEQMP have been amended to '95%ile of annual concentrations of bioaccumulating contaminants in the waste stream will not exceed the ANZG (2018) 80% species protection guideline'. This was a typographical error in the original MEQMP.

No.	Agency	Comment	Response to Comment
		• With regards to the Environmental Quality Guideline for the accumulation of toxicants in sediments it should be noted that sediment quality guidelines apply to moderate and high levels of protection. Differentiation between these two levels occurs at the EQS stage.	The monitoring of sediments on a five-yearly basis is done proactively and in addition to any reactive sediment monitoring that would be initiated in response to a relevant EQG exceedance (EQG 3). Sediment sampling is not proposed to occur within the Low Ecological Protection Area (LEPA), as sediments within this location are within a dredged ship-turning basin or beneath an LNG loading jetty, where it is highly unlikely sediments could accumulate due to the daily ship movements at this location. There are also safety and logistic constraints in accessing the LEPA sediments, which only occupy a very small spatial area. The bare sediments and high turbidity are unlikely to support significant benthos. There are alternative yet appropriate measures in place to mitigate and monitor potentially bioaccumulating contaminants within the MEQMP.
MEQ-EPA-8	EPA Services	Table 5-3: Have the specified values discussed under the Environmental Quality Guideline for nutrient enrichment and algal growth been determined what is the reasoning behind the values.	A new section, Appendix A, is included in the updated MEQMP to justify the values specified for the nutrient enrichment and algal growth EQG. Based on average discharges from the admin drain and nutrient load, it is likely that the assimilative capacity (i.e. sustainable levels of uptake by biota combined with dilution) of the receiving environment is adequate to cope with discharge at these low nutrient loads without any measurable change in local marine ecosystem health measures. Point source discharges to the marine environment from other wastewater treatment plants (WWTPs) rely on this assimilative capacity to sustainably discharge at much higher nutrient loads, and monitoring programs suggest these do not overwhelm the receiving environment's assimilative capacity. This is supported by analysis in Appendix A of the MEQMP.
MEQ-EPA-9	EPA Services	Table 6-1: EQS 2 –ensure the modelled dilutions are validated and also include as part of the MEQMP. EQG 3 –This guideline also applies to moderate ecological protection areas. The EQS differentiates the high and moderate protection areas. This would then be consistent with the EQMP applied to Cockburn Sound (see comments on section 5.3). This also applies to Table 7-4 EQG 4 –80% species protection should apply. EQS 5 –To provide confidence the modelling should be validated for the MEPA and that EQS based on biological response would be tested. Ensure the EQS is consistent with the intent as currently within the moderate protection area the EQS 5 would allow for example a pulse of chlorine which could cause mortality in the zone. This also applies to Table 7-4. –	**Environmental Quality Standard (EQS) 2** Woodside has revised the MEQMP to include the requirement to undertake a model validation program (Section 4.5.3). The Model Validation Program will be undertaken using a dye, salinity, or alternative method. The model validation dilutions will be compared against the most recent WET testing results. If necessary, the MEQMP will be updated based on the outcomes of the validation. This may involve revising EQCs and EQSs, if dilutions are shown by validation to be lower or higher than model predictions. Updates to the MEQMP will be issued to DWER for approval. **Environment Quality Guideline (EQG) 3** Five-yearly sediment monitoring is done proactively and in addition to any reactive sediment monitoring that would be initiated in response to a relevant EQG exceedance (EQG 3). Sediment sampling is not proposed to occur within the LEPA, as sediments

No.	Agency	Comment	Response to Comment
		Environmental Quality Guidelines row 1 (page 34) –Table 7-12 applies to nutrients rather than zinc. In addition, zinc is not a bio accumulating toxicant.	within this location are within a dredged ship-turning basin or beneath an LNG loading jetty, where it is highly unlikely sediments could accumulate due to the daily ship movements. There are also safety and logistic constraints in accessing the LEPA, which only occupy a very small spatial area, 140 m in diameter. The bare (and regularly dredged) sediments and high turbidity are unlikely to support significant benthos. There are alternative yet appropriate measures in place within the MEQMP to mitigate and monitor potentially bioaccumulating contaminants, such as the application of strict end of pipe discharge limits. **EQG 4** Woodside has amended EQG 4 to reflect 80% species protection for concentrations of bioaccumulating toxicants. **EQS 5** Woodside has added Section 4.5.3 to the MEQMP, which commits to a model validation program on the Jetty Outfall and the Admin drain discharges in 2021, before third-party gas processing commences at the KGP. Furthermore, Woodside has updated EQS 5 in Table 6-1 and Table 7-4 in the MEQMP to maintain 90% species protection at the LEPA/ Medium Ecological Protection Area (MEPA) boundary and 99% species protection at the MEPA/ High Ecological Protection Area (HEPA) boundary. **Reference to Table 7-12** Woodside has updated Table 6-1 in the MEQMP to correctly reference Table 7-2 rather than Table 7-12. The associated reference to zinc was also removed.
MEQ-EPA-10	EPA Services	Table 7-2 –provide a rationale for why the 90% species protection guidelines are being applied for bioaccumulating toxicants in the admin drain, as opposed to the recommended 80% species protection guidelines.	Woodside has amended the note in Table 7-2 of the MEQMP to reflect that 80% species protection for bioaccumulating toxicants of concern is the applicable guideline.
MEQ-EPA-11	EPA Services	Section 7.1.2.2 –for No-name Bay an alternative filter feeder may need to be identified, perhaps something living on the Mangroves such as barnacles.	Oysters have routinely been collected in No Name Bay as part of Woodside's ChEMMS program and have been sufficiently abundant to serve this purpose. Woodside has updated Section 7.1.2.2 in the MEQMP to reflect this. Furthermore, Woodside has identified that if there are insufficient oysters, an alternative filter feeder (e.g. barnacles) will be identified and sampled.

No.	Agency	Comment	Response to Comment
MEQ-EPA-12	EPA Services	Section 7.1.2.2 –the last paragraph should be amended as the Food Standards criteria are not appropriate to use for assessment ecosystem health. This could also be inconsistent with the EQS outlined in Table 6-1.	Woodside has removed the assessment against the Australian New Zealand Food Standards for EQS 1 and 4 in Section 7.1.2.2 of the MEQMP. The EQS has been replaced with an assessment against reference sites. The EQS is now defined as 'median tissue concentration of cadmium or mercury should not exceed the 80th percentile of tissue concentrations from a suitable reference site'.
MEQ-EPA-13	EPA Services	Section 7.2.2.1 (page 37) –Derivation of EQG values paragraph four. Ensure the actual rationale/calculation are provided to give confidence that these values will protect the environment to the required level. No impact can only be determined if investigations looking for impacts were undertaken.	The rational and calculation method to derive of the EQG values are in paragraph one of 'Derivation of EQG values' in Section 7.2.2.1 of the MEQMP. Where possible the EQGs are based on the default ANZG (2018) marine guidelines for maintaining the associated level of ecological protection, scaled to account for dilutions achieved at the edge of the management zone boundary. Where no ANZG guidelines were available, internal standards were used. Justification for these limits in internal standards are outlined in Appendix A of the MEQMP.
MEQ-EPA-14	EPA Services	Table 7-5 –High Protect should be 99% species protection rather than 90%.	Woodside has corrected Table 7-5 in the MEQMP to ensure the high protection reflects 99% species protection.
MEQ-EPA-15	EPA Services	Table 7-6 –The Moderate Protection value for zinc appears to be based on the 80T species protection value rather than the 90% species protection value. This is not appropriate. The source of the zinc should be identified and rectified, if the EQG is exceeded then the EQS should be tested.	Woodside has updated the EQG trigger value for Zinc in Table 7-6 in the MEQMP to reflect a 90% species protection value.
MEQ-EPA-16	EPA Services	Table 7-7 –Stressors, provide the rational for these triggers and how they relate to the ANZECC recommended guidelines for pH and dissolved oxygen in moderate and high ecological protection areas.	The triggers for pH and chemical oxygen demand (COD) in Table 7-7 of the MEQMP were based on long-standing internal targets. Woodside have provided justification for the COD and pH triggers in Appendix A of the updated MEQMP. The justification demonstrates the triggers for pH and COD in Table 7-7 are conservative, practical, based on historical discharges, and ensure protection of the marine environment.
MEQ-EPA-17	EPA Services	Section 7.2.2.1 (page 39): The statement "Given the nature of these discharges and the receiving environment, a one-off exceedance of the EQG trigger value does not present an immediate risk to exceeding the EQS or associated EQO."is incorrect and should be removed. If sampling is being undertaken monthly then a one-off exceedance does represent a risk because the ANZECC recommended requirement for 95% of all samples to meet the trigger will have been breached. Also if the one-off exceedance is very high then it could be acutely toxic and cause mass mortality. The following statement should be supported with evidence from the ecological monitoring program. "The results of this WET testing are	The statement '*Given the nature of these discharges and the receiving environment, a one-off exceedance of the EQG trigger value does not present an immediate risk to exceeding the EQS or associated EQO*' has been removed from the MEQMP. To demonstrate the results of WET testing align with relevant ecological protection target levels, the results from the 2017 and 2018 ChEMMS programs were summarised in Section 7.2.2.1 of the MEQMP. The ChEMMS program includes annual monitoring contaminant concentrations (e.g. metals, hydrocarbons) in sediments, oysters, and mud whelks. In 2017 and 2018 there were no exceedances of any sediment toxicant criteria (ANZECC/ARMCANZ 2000; CofA 2009) or FANZ (2009) criteria in oyster/mud whelks at any sites beyond the immediate vicinity of the Jetty Outfall or admin drain, with the LEPAs defined by the Environmental Quality Plan (EQP).

No.	Agency	Comment	Response to Comment
		reviewed against modelled dilution values to confirm ensure that the relevant MEPA/HEPA boundaries continue to be achieved. These results are supported by the results of the ecological monitoring program which continue to demonstrate impacts from these discharges in aligned to the relevant ecological protection target levels."	
MEQ-EPA-18	EPA Services	Section 7.2.2.2 –in paragraph 2 repeat that the modelled dilutions need to be validated given that they are such an integral component of determining acceptability of the discharges.	Woodside has added Section 4.5.3 to the MEQMP, which commits to a model validation program on the Jetty Outfall and the Admin drain discharges in 2021, before third-party gas processing commences at the KGP. The Model Validation Program will be undertaken using a dye, salinity, or alternative method. The validated dilution values will be compared against the most recent WET testing results to ensue ongoing compliance with the EQP. If necessary, the MEQMP will be updated based on the results from the validation exercise. If an update of the MEQMP is not required, this will be communicated to DWER through the annual environment report.
MEQ-EPA-19	EPA Services	Table 7-11 –EQC6, Environmental Quality Standards. Discharge of high levels of nutrients is unlikely to show up in the adjacent sediment, but more likely to stimulate phytoplankton growth. Chl a is generally considered the best measure of nutrient related impacts.	Woodside has updated Table 7-11, EQG 6 of the MEQMP relating to nutrients to reflect an appropriate EQS.
MEQ-EPA-20	EPA Services	Table7-12 –Provide the rationale for these triggers and how they ensure the relevant levels of ecological protection will be achieved.	The triggers outlined in Table 7-12 of the MEQMP align with the KGP's licence (L5491/1984/18) for commissioning the WWTP. Although concentration-based triggers are not ideal for determining risk, once the trigger levels are converted to nutrient loads, concentrations are extremely low (kilograms per day) compared to sustainable point sources elsewhere. In Appendix A of the MEQMP update, Woodside has provided a comparative assessment against point source discharges to the marine environment from WWTPs elsewhere that rely on assimilative capacity to sustainably discharge treated wastewater. These WWTPs are typically licensed to discharge total nitrogen loads on the scale of tonnes per day and subsequent monitoring suggests that these much higher nitrogen loads do not overwhelm the assimilative capacity of the surrounding environment.

3.4.2 Key Issues Identified by the EPA

The EPA identified a number of matters regarding the Proposal and Marine Environmental Quality that were raised in the public submissions and considered to be of particular importance. The EPA considered that key issues associated with Marine Environmental Quality include consultation with Traditional Owner groups regarding potential impacts to the marine environment, development of an EQP, and management provisions for cumulative impacts. The key issues raised by the EPA are listed in detail in Table 3-2. Responses to the key issues raised are also provided in Table 3-2.

Table 3-13: Responses to Key Issues Relating to Marine Environmental Quality Identified by EPA Services

No.	EPA Key Issues	Response
MEQ-KIR-1	The proponent is requested to consult with Traditional Owner groups to consider potential impacts on marine fauna of cultural and spiritual significance to local indigenous peoples.	Woodside was involved in a number of engagement activities with Traditional Owner groups when developing the NWS Project Extension ERD, including presentations to the NAC, Yaburara and Coastal Mardudhunera Aboriginal Corporation, Wong-Goo-Tt-Oo representatives, the NYFL, and the MAC. These presentations provided an overview of the NWS Project Extension as a whole, outlined major themes of the ERD (including GHG, marine discharges, restrictions to heritage areas, emissions impacts on rock art, emissions impacts on human health, hydrocarbon spills), and invited questions to address any community concerns. Woodside continues to consult with Traditional Owners on potential impacts of cultural and spiritual significance to local Indigenous peoples. The Proposal anticipates indirect impacts to marine flora and fauna may result from planned discharges, maintenance dredging and shipping, unplanned discharges from offshore or onshore accidents or emergencies, and the presence and potential migration of onshore contamination. Impacts from these activities are summarised in Section 6.6.4.1 of the ERD as follows: • no impacts to Benthic Primary Producer Habitats (e.g. corals and seagrass) are predicted as a result of ongoing planned discharges into Mermaid Sound from the Proposal • annual monitoring programs show that historical and ongoing discharges from the Admin drain have not been linked to any impact on mangrove habitats • any potential for toxicity to marine organisms would be expected to be limited to surface waters within the described zones of impact (LEPA/MEPA) assigned to each discharge, and therefore these concentrations will only potentially affect a limited number of marine fauna species and individuals (e.g. cetaceans, turtles and pelagic fish) that are transient through the region, including those with heritage value • if marine fauna are transient within the receiving environment adjacent to the discharge location, they are unlikely to be exposed to sufficient concentrations or for a sufficient duration to elicit a toxic response. Behavioural responses, such as avoidance, may be exhibited by mobile organisms • cetaceans are highly unlikely to be present in the vicinity of discharge locations and therefore are unlikely to be impacted. Woodside has identified the cultural and spiritual EV is protected through the MEQMP. As per EPA guidance (EPA, 2016a), in the absence of any specific environmental quality requirements for protection of 'Cultural and Spiritual' values, it is assumed that if water quality is managed to protect ecosystem integrity, then this may go some way towards maintaining cultural values. Therefore, no EQGs were identified specifically for protecting cultural and spiritual values.

No.	EPA Key Issues	Response
MEQ-KIR-2	The proponent must develop an Environmental Quality Plan with locally relevant and scientifically justifiable Environmental Quality Objectives and Criteria for all impacts described in the ERD.	Woodside's MEQMP (Appendix E) for the NWS Project Extension proposal aligns with the: • EPA's Technical Guidance – Protecting the Quality of Western Australia's Marine Environment (EPA, 2016a) • Department of Environment's Pilbara Coastal Water Quality Consultation Outcomes Environmental Values and Environmental Quality Objectives (DoE, 2006). These documents provide processes and guidance to ensure locally relevant and scientifically justifiable Environment Quality Objectives (EQOs) and EQC are identified and protected. The Pilbara Coastal Water Quality Consultation Outcomes Environmental Values and Environmental Quality Objectives is aimed at establishing an EQMF for the Pilbara region to help manage and protect the marine environment from the effects of waste inputs and pollution (DoE, 2006). Minor updates to this document were made in 2016 by EPA (EPA 2016), but these did not affect areas around the NWS Project facilities. DoE (2006) identified EVs and EQOs relevant to Pilbara coastal waters and outlined the process for developing EQC. The EPA's Technical Guidance – Protecting the Quality of Western Australia's Marine Environment (EPA, 2016a) document established DoE (2006) as the approved EQP for spatially defining Levels of Ecological Protection (LEPs) for Pilbara coastal waters. The EQP includes a map showing notional LEPs around key infrastructure in Mermaid Sound (Figure 5-1 in the MEQMP). The EQP establishes formal required levels of protection for regions immediately surrounding both KGP discharge points. Woodside has adopted the pre-existing LEPs in the Pilbara EQP (DoE 2006) as required by EPA (2016). The NWS Project Extension ERD establishes a MEQMP to ensure requirements of the EQP are consistently and reliably achieved. There are no planned or identified likely deviations from the EQP that were identified as occurring with the implementation of the MEQMP. Chapter 5 of the MEQMP describes the EQP as it applies to the MEQMP (Appendix E). The EQC within the MEQMP were adopted for Cockburn Sound, but are based on ANZECC/ARMCANZ (2000) and are not specific to the Cockburn Sound. According to Appendix 1 of the EPA's Technical Guidance document (EPA, 2016) the same approach for deriving the EQC applies state-wide. As the EQC were derived in accordance with state guidance they are fit for purpose on the Burrup Peninsula.
MEQ-KIR-3	The proponent is requested to provide a clear description of, and provide management provisions for cumulative impacts on Marine Environment Quality associated with the proposal.	Section 6.6.4.1 of the NWS Project Extension ERD discusses cumulative impacts on the marine environment quality factor associated with the proposal. Cumulative impacts may occur when current or future activities are near each other and their zones of impact have the potential to overlap. The Proposal is within the Port of Dampier where other industrial activities occur.

No.	EPA Key Issues	Response
		As outlined in the Environment Quality Plan (DoE, 2006b) that applies to all industrial activities in the Port of Dampier, a high LEP is required to be maintained within most of the port, except in the immediate proximity of shipping activities or industrial discharges. The nearest other area source of planned industrial impact with the Port of Dampier occurs at the Pluto LNG Loading Facility, where a MEPA is in place immediately around the LNG loading jetty. The nearest planned industrial discharge to the marine environment occurs ~6 km away, from the multi user brine return line, operated by the Water Corporation in accordance with Ministerial Statement 594. All wastewater discharges from the Proposal have undergone dilution modelling, which showed dilution sufficient for a high LEP are achieved within 70 m of the admin drain and within 400 m of the Jetty Outfall. Therefore, it was considered highly unlikely that there would be any cumulative impact from these discharges, with the nearest other discharge located 6 km away. It is highly likely that all contaminants would be diluted to below the limits of detection before any interaction occurred that may lead to cumulative impacts. Therefore, no cumulative impacts, either from mixing of different wastewater discharges or from overlapping zones of impact are predicted to occur as a result of the Proposal.

3.4.3 Public Submissions

The principal issues raised in the submissions from interest groups and individuals generally concern the EVs that are relevant to local Indigenous peoples, waste discharges, and the provision of an EQP. The issues raised in submissions from interest groups and individuals are listed in detail in Table 3-3. Responses to the issues raised are also provided in Table 3-3. Where additional information was provided via an uploaded document to the EPA's Consultation Hub, or through another consultation pathway (e.g. emailed directly to the EPA), a summary of the Key comments raised has been provided in Table 3-3, with the full submission provided in Appendix A.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA's Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 3-14: Responses to Public Submissions Received Relating to Marine Environmental Quality

No.	Submitter	Submission and/or issue	Response
MEQ-1	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 1]** *Consult with MAC to determine Environmental Values that are relevant to local Indigenous peoples. Particularly in the case of marine fauna.* The full response is available in Appendix A.	In response to **MAC recommendation 1** please refer to the response provided to MEQ-KIR-1 (Consultation)

No.	Submitter	Submission and/or issue	Response
MEQ-2	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 2]** *Clearly state and model the composition and impacts of third-party gas and fluids on the composition of waste discharges from Jetty Outfall and Admin drain.* The full response is available in Appendix A.	In response to **MAC recommendation 2**, Section 4 of the MEQMP (Appendix E) describes the composition of existing discharges, presenting results from annual sampling for the past 10 years. Discharges from the Administration Drain comprise treated sewage from the sewage treatment plant, water discharged from the demineralisation water plant (which demineralises potable water), and stormwater run-off. The composition of this wastewater is not affected by changes to the composition of feed gas. Bulk dewatering does not occur on site, but changes in third-party gas and fluids can indirectly alter the composition and characteristics of marine discharges to the jetty outfall. Before accepting any new gas or fluids into the NWS Project Extension for processing, Woodside will assess the possible changes or impacts to discharges, in accordance with the mitigations outlined in Table 6-34 of the NWS Project Extension ERD and requirements of the Adaptive Management Process outlined in the MEQMP. Potential discharge characteristic changes from introducing third-party gas and fluids will be managed in line with the Woodside management system and the MEQMP to ensure that the objectives of the Mermaid Sound EQP and any other legislative requirements (e.g. licence discharge limits) are met. This assessment will include identifying appropriate management and mitigation controls to ensure impacts and risk remain at an acceptable level. The NWS Project Extension MEQMP (Appendix E) details the routine and periodic sampling regime that is undertaken to ensure that water is suitable to be discharged to the environment. In addition, long-term sampling is conducted to monitor long-term trends in water quality and to confirm adherence to internal and external environmental standards. To provide further assurance of discharge dilution impacts, Woodside stress tested the discharge dilution limits. A theoretical circumstance in which toxicity of the discharge was doubled was also modelled. Even with a theoretical doubling of toxicity, the current MEPA boundary would be achieved in almost all discharge scenarios.
MEQ-3	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 3]** *Develop more locally relevant and scientifically justifiable Environmental Quality Criteria for the measurement of waste discharges from the Jetty Outfall and Admin drain.* The full response is available in Appendix A.	In response to **MAC recommendation 3** please refer to the response provided to MEQ-KIR-2 (Environmental Quality Plan)

No.	Submitter	Submission and/or issue	Response
MEQ-4	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 4]** *Provide an Environmental Quality Plan that accounts for all potential impacts and risks caused by the proposal that have been described in the ERD. Including shipping, dredging, and oil spills, with appropriate Environmental Quality Objectives and Environmental Quality Criteria included for each impact and risk.* The full response is available in Appendix A.	In response to **MAC recommendation 4** the MEQMP (Appendix E) has been prepared in accordance with the EPA's Marine Factor guideline and supporting technical documents. As outlined in the MEQMP, an EQP was established for Mermaid Sound before the NWS Project Extension ERD was published. All planned impacts and discharges will comply with this existing EQP. The setting of management objectives, such as EQOs or EQC is not required for shipping, dredging, or oil spill activities, as there are dedicated management frameworks for them: • Shipping – The existing EQP establishes environment quality requirements that apply to shipping activities within Mermaid Sound. Impacts from shipping, namely the generation of turbidity, is subject to conditions under Ministerial Statement 536 that requires an ongoing coral monitoring program to be established. In 2017, results showed little variation in coral habitats compared to previous surveys, indicating absence of significant impact. • Dredging – Planned dredging for the NWS Project is temporary and infrequent and does not require an ongoing management plan. The impacts from dredging are typically temporary in nature and the only dredging that will be required will be for maintenance of existing shipping channels, and therefore constitute minor volumes. For the NWS Project Extension, only minor and infrequent maintenance dredging will be required. Any impacts from dredging will be managed in accordance with a Commonwealth Sea Dumping Permit. • Oil Spills – Oil spills are an unplanned event, therefore it is not necessary for their impacts to be managed in accordance with an ongoing management plan. The impacts and risks of hydrocarbon spills from the NWS Project trunklines, including establishment of oil spill response arrangements, are managed in accordance with the Petroleum (Submerged Lands) (Environment) Regulations 2012 and existing, approved environment plans that include defined environmental objectives.
MEQ-5	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 5]** *Provide clearer maps to demonstrate the location of their activities in relation to MAC sensitive receptors, including the Edible Oyster Project and the proposed Conzinc Bay Tourism Precinct.* The full response is available in Appendix A.	In response to **MAC recommendation 5** the MEQMP has been updated to show the location of the edible oyster project and proposed Conzinc Bay Tourism Precinct in Figure 3-1. These were not shown originally, as they are well beyond the area of influence of the NWS Project Extension. These maps show that each of these locations are within either the high or maximum LEP required under the EQP and are not impacted by planned NWS Project Extension operations.

No.	Submitter	Submission and/or issue	Response
MEQ-6	ANON-TCUY-7GDE-C (Murjuga Aboriginal Corporation)	The respondent provided a detailed response, which for clarity has been addressed across multiple items in this table. **[MAC recommendation 6]** *Provide a clear description of, and provide management provisions for, cumulative impacts on Marine Environmental Quality associated with the proposal.* The full response is available in Appendix A.	In response to **MAC recommendation 6** please refer to the response provided to MEQ-KIR-3 (Cumulative Impacts)

3.5 Other

3.5.1 Agency Comments

No agency comments were received that did not align to matters related a specific environmental factor, so none are required to be noted here.

3.5.2 Key Issues Identified by the EPA

The EPA identified a number of matters raised in the public submissions that did not align with matters related to an environmental factor related to the NWS Project Extension ERD. The "Other" key issues identified by EPA Services and Woodside's responses to these are detail in Table 3-15.

Table 3-15: Responses to Key Issues Identified by EPA Services

No.	EPA Key Issue Summary	Response to Comment
O-KIR-1	The proposal's technology is aged and not carbon efficient and is not to be considered as a transitional fuel for the 50-year project life. Renewables energy technology is now available and are now the lowest-cost source of new power generation and could also be price-competitive for many applications by 2030. The IEA noted that "a fast-moving energy sector would change the game" for gas production and only those with "low-cost resources and tight control of costs and environmental performance would be in the position to benefit". Browse gas, in particular, has very high CO_2 content in its raw gas, so inherently doesn't stack up well for 'environmental performance'.	Please refer to the responses provided to; • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-6 (The role of gas in the future energy mix) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

No.	EPA Key Issue Summary	Response to Comment
O-KIR-2	World Energy Outlook Report (2019) states "in the Sustainable Development Scenario, natural gas consumption increases over the next decade at an annual average rate of 0.9% before reaching a high point by the end of the 2020s. After this, accelerated deployment of renewables and energy efficiency measures, together with a pickup in production of biomethane and later of hydrogen, begins to reduce consumption." The IEA's supplementary report, "The Oil and Gas Industry in Energy Transitions" (2020), comments LNG demand is falling back in several Asian markets in the Sustainable Development Scenario. There is a risk, therefore, that some LNG export facilities are not fully utilised." The project is not economically or environmentally sustainable.	Please refer to the responses provided to; • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments) • GHG-KIR-2 (Reduction, mitigation and offsetting of Project GHG emissions)) • GHG-KIR-3 (Burrup Hub cumulative GHG emissions) • GHG-KIR-6 (The role of gas in the future energy mix)
O-KIR-3	The proponent should set targets to Traditional Owner outcomes associated with community participation and employment in the State Agreement.	Please refer to the response provided to; • SS-5 (Traditional Owner Consultation & Participation)
O-KIR-4	As the location of the future gas sources are not identified there is some concern gas could be provided by fracking.	Hydraulic fracturing, commonly known as fracking, is a process that uses fluids and other materials that are pumped under high pressure into gas-bearing rock formations to open fractures (cracks) to create a path for the gas to flow. The environmental impacts associated with developing, extracting, or supplying any third-party hydrocarbons to the NWS Project Extension would be assessed under the relevant regulatory regime, most likely the WA *Environment Protection Act* or Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* and potentially the *Environment Protection and Biodiversity Conservation Act*. The scope of the NWS Project Extension ERD includes consideration of circumstances that lead to change to feed gas composition including changed content of inerts, hydrocarbons and other component and changes to the composition of environmental discharge and emissions, although annual volumes of key emissions and discharges are expected to be in line with current levels in all circumstances. The purpose of this Proposal is to allow the processing of a range of third-party gases and fluids, where impacts associated with this processing remain within the specified assessment boundary. It should be noted that the WA State Government currently permits fracking. Any proposal to produce gas from fracking will be subject to requirements of the EP Act, the EPBC Act and the *Petroleum and Geothermal Energy Resources Act 1967* (WA).

3.5.3 Public Submissions

A number of submissions were received that were not relevant to the environmental factors covered by the NWS Project Extension ERD. Many of these were concerned with the environmental approval process structure, the duration of the public review period, socio economic issues, as well as potential impacts from fracking or to Scott Reef. The issues raised in submissions and Woodside's response to these are provided in Table 3-16. Where additional information was provided via an uploaded document to the EPA's Consultation Hub, or through another consultation pathway (for example, emailed directly to the EPA), a summary of the Key comments raised has been provided in Table 3-16 and the full submission provided in Appendix A.

NOTE: Text from submissions has been included in full in italicised text in the left column of the table below, as per the submissions received via the EPA's Consultation Hub, with the exception of submissions that extend over many pages. In order to include these submissions, key issues / items raised have been summarised. Text has only been redacted, where individual names, profanities or physical threats have been used.

Table 3-16: Responses to Public Submissions Received

No.	Submitter	Comment	Response to Comment
O-1	ANON-TCUY-7GD3-T (Beeliar Group)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that did not pertain to a relevant Environment Factor were: *The manner in which Woodside and the joint venture partners for the two proposals, proposes to exploit the Browse reservoir and operate the North West Shelf Project facilities will not use, conserve and enhance the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.* *The implementation of the two proposals in their current form will privatise the profits from the use of a community resource and socialise the associated environmental, cultural and public health costs.* The full response is available in Appendix A.	A detailed justification for the proposal considering social, economic and environmental outcomes is provided in Section 2.8 of the NWS Project Extension ERD. An assessment of all relevant environmental impacts from the Proposal have been assessed in accordance with relevant regulations.
O-2	ANON-TCUY-7GHY-4	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that did not pertain to a relevant Environment Factor were: *There are three separate submissions being called for at the present time. And yet they are all intrinsically linked, and part of the same project. But no one agency will be charged with assessing all three responses to the call for submissions, when in fact, it should all form a part of the same assessment and evaluation of submissions. It IS all a part of the same project, after all! I will be*	It is correct that the Burrup Hub projects (including the proposed Browse Project, Pluto Expansion, Interconnector, NWS Project Extension, and Scarborough) are proceeding through separate approvals processes. Woodside is the Operator of each of these separate projects; however, they have different joint venture partners and are subject to commercial arrangements. Assessment processes for the projects mentioned above have been determined by State and Commonwealth regulators in accordance with State and Commonwealth legislation.

No.	Submitter	Comment	Response to Comment
		sending my submission to all three proposals for consideration, as it needs to be looked at by all the assessors. The full response is available in Appendix A.	While the KGP is nominated as the processing facility for Browse gas, third-party gas may also be supplied by other resource owners, provided appropriate commercial agreements are in place. Woodside acknowledges the concerns raised. A detailed justification for the Proposal considering social, economic, and environmental outcomes is provided in Section 2.8 of the NWS Project Extension ERD. An assessment of all relevant environmental impacts from the Proposal have been assessed in accordance with relevant regulations.
O-3	Conservation Council of WA (CCWA)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that did not pertain to a relevant Environment Factor are summarised below: ***Concerns with EIA Process*** *We reiterate our position here that the assessment process that is being undertaken for the various elements of the Burrup Hub is inadequate and ineffective, and does not and cannot meet the objectives of EIA under the Environmental Protection Act. As such, the provision of this submission should not be taken as an acceptance by CCWA that the assessment process for this project is either valid or acceptable as a complete EIA process under the Act.* ***Concerns with EIA Process (Cumulative effects)*** *We have previously raised concern about the approach towards the assessment of this project and its components, including the lack of assessment of cumulative and combined impacts of the total development on significant marine and terrestrial environmental values, world heritage places, cultural values, health and of course the climate.* ***Duration and timing of public consultation*** *Insufficient Public Comment Period (although within the stipulated timeframes under the EP and EPBC Acts) due to the complexity of the Proposal; and the timing of the Public Comment Period over the Christmas Holidays and during a National bushfire crisis.*	**Concerns with EIA Process** • Refer to O-2 (Combined assessment of three proposals linked to the NWS / Burrup Hub) **Concerns with EIA Process (Cumulative effects)** The estimated cumulative Scope 1 and 2 emissions from current and future Burrup Hub facilities (including the proposed Browse Project) were published on Woodside website in parallel to the release of the NWS Project Extension ERD. These estimates can be viewed at https://www.woodside.com.au/our-business/burrup-hub/burrup-hub-environmental-topics-and-approvals/greenhouse-gas-emissions. As part of the various State and Commonwealth assessments, projects will be required to operate within any emissions limits set by regulators. A cumulative assessment of impacts to air quality, including acid deposition and marine environmental quality was provided in the ERD (refer to sections 6.3.4 and 6.5.4). This assessment included all current and proposed projects on Murujuga with potential to impact the relevant environmental factor. The cumulative assessment considered potential impacts to all relevant receptors, including on marine and terrestrial environmental values, World Heritage places, cultural values and health. In relation to cumulative emissions of GHG's this is considered against comments from CCWA within the GHG Factor.

No.	Submitter	Comment	Response to Comment
		Supplementary Information *Insufficient information provided as part of the Proposal; additional documentation should be provided for supplementary assessment with an associated Public Comment Period to allow for additional submissions.* ***Fracking:*** • Consider that, in addition to the Browse and Scarborough fields, gas will be sourced from onshore fracking for the Proposal. • State that Woodside is having negotiations with companies to provide gas from onshore fracking and that this will subsequently enable the fracking industry to become established in WA. • Human health and environmental impacts associated with fracking of concern. The full response is available in Appendix A.	**Duration and timing of public consultation** The nominated six week public review period was established as part of the ESD. In recognition that the public review period of the ERD coincided with the Christmas and New year holiday period, an additional two weeks was added to the public review timeframe. The overall public review period for the NWS Project Extension ERD was eight weeks. **Supplementary Information** In accordance with the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016* (Administrative Procedures) and the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (Procedures Manual), the ERD prepared by Woodside was reviewed by the EPA prior to publication to confirm the information presented, including technical appendices, was sufficient to allow for informed review of and comment on the ERD by interested parties during the public review period. This Response to Submissions document and any additional information provided in response to the submissions will be published on the EPA's website. In line with the processes detailed in the EP Act, the Administrative Procedures and the Procedures Manual, no further public review period will be undertaken. **Fracking** • Refer to O-KIR-4 (Potential processing of gas)
O-4	FARA submission RE Browse-NWS Extension	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that did not pertain to a relevant Environment Factor were: *No one authority will assess the entire impact in terms of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas.* The full response is available in Appendix A.	Please refer to the responses provided to; • O-2 (Combined assessment of three proposals linked to the NWS / Burrup Hub)

No.	Submitter	Comment	Response to Comment
O-5	Browse Basin and NW Shelf Development [Individual undated]	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments that did not pertain to a relevant environmental factor were: *The Browse basin and Northwest shelf proponents, and a subservient (to industry) State Government will no doubt claim that there are many jobs associated with the proposal.* *The EPA should not accept this argument. Proponents nearly always overstate these benefits, or present them in a way that is deceptive - and this almost certainly the case with this proposal. The EPA needs to make a critical assessment of the reality of such claims.* *Often within these 'Lots of jobs' claims there seems to be some kind of false dichotomy being presented. As if you can only have n number of jobs if this project goes ahead. Clearly this is absurd. There will be jobs in other areas, especially so if 'senile' industries are not kept on a kind of life-support such as not paying the full costs of their activities.* *Some of the jobs that would be created may not be the kind of job that should necessarily be counted as a 'good thing'. Working for Woodside itself, will also increasingly become a matter of shame for those employees - and this certainly cannot be a 'good' job to have.* The full submission is available in Appendix A.	Woodside acknowledges the concerns raised. A detailed justification for the proposal considering social, economic and environmental outcomes is provided in Section 2.8 of the NWS Project Extension ERD. An assessment of all relevant Environmental impacts from the Proposal have been assessed in accordance with relevant regulations.
O-6	ANON-TCUY-7GHB-D	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that were unrelated to an Environment Factor were: *I am concerned that the overall impact of the three proposals linked to the North West Shelf (NWS) / Burrup Hub are not being assessed together which they should be. These are massive and disruptive developments which require a careful and overall analysis of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas.*	Please refer to the responses provided to; • O-2 (Combined assessment of three proposals linked to the NWS / Burrup Hub)

No.	Submitter	Comment	Response to Comment
O-7	ANON-TCUY-7GQX-C	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that were unrelated to an Environment Factor were summarised as: *No one authority will assess the entire impact of the development on account of the approvals documentation being split into three parts.*	Please refer to the responses provided to; • O-2 (Combined assessment of three proposals linked to the NWS / Burrup Hub)
O-8	ANON-TCUY-7GQG-U	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that were unrelated to an Environment Factor were summarised as: *No single authority will assess the entire impact of the offshore pollution from venting, onshore pollution from processing, and emissions from burning gas overseas for the Burrup Hub.*	Please refer to the responses provided to; • O-2 (Combined assessment of three proposals linked to the NWS / Burrup Hub)
O-9	ANON-TCUY-7GHB-D	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that were unrelated to an Environment Factor were summarised as: *I am concerned that the overall impact of the three proposals linked to the North West Shelf (NWS) / Burrup Hub are not being assessed together which they should be. These are massive and disruptive developments which require a careful and overall analysis of all offshore pollution from venting, pollution from transporting gas hundreds of kilometres via pipelines, onshore pollution from processing, and emissions from burning gas overseas.*	Please refer to the responses provided to: • O-2 (Combined assessment of three proposals linked to the NWS / Burrup Hub)
O-10	ANON-TCUY-7GD1-R (Member for East Metropolitan Region)	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that were unrelated to an Environment Factor were summarised as: *The other key consideration I'd like to bring attention to is that the Burrup Hub is being approved by stealth: there is no single authority assessing the*	Please refer to the responses provided to; • O-3 (EIA Process) • GHG-KIR-1 (NWS Project Extension in the context of meeting local and international climate change commitments)

No.	Submitter	Comment	Response to Comment
		entire impact of the offshore pollution from venting, onshore pollution from processing, and emissions from burning gas overseas for the Burrup Hub. No matter how you look at it, this project does not stack up -- environmentally, socially, economically or ethically. There is a significant risk to the global requirement of holding temperatures to 1.5C on 2005 levels, it is in direct opposition to the goal of the Paris Accord to be approving new or expanding fossil fuel projects, and it fails to meet our own state greenhouse gas policy. As such I urge the EPA to refuse environmental approval for the Browse to North West Shelf project. We all deserve to live and thrive in a safe, clean, healthy environment with hope for our future - the Browse to North West Shelf Project and North West Shelf expansion, and future Burrup Hub, puts this all at risk. The full submission is available in Appendix A.	
O-11	ANON-TCUY-7GQ6-A (Albany Community Environment Centre Inc. (ACEC))	This submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section(s) within this document. Key comments raised that were unrelated to an Environment Factor were: *Furthermore, the proposal will jeopardize several Ramsar wetlands and contradict Australia's long-standing and international commitment to the preservation of wetlands of international importance* *The waters around the proposed site of the works are home to many species that are listed as critically endangered, endangered or vulnerable including turtles and sea snakes and interrupts the migratory path of multiple species of cetaceans.*	There is no interaction or potential impacts from the NWS Extension to any Ramsar wetlands. Comments made relating to the Marine Environment were only related to the Browse to NWS Project.
O-12	CCWA/Clean State	**Scott Reef Concerns** Both CCWA and Clean State raised concerns regarding direct and indirect impacts from an oil spill, industrial noise, discharges, light pollution and so on to Scott Reef and iconic species, including the Humpback Whale and Green Turtles. As the Browse project requires drilling of 54 wells in and around Scott Reef, 58 endangered marine and migratory species in a global biodiversity hotspot will be impacted.	Comments made relating to the Marine Environment, specifically regarding Scott Reef, were only related to the Browse to NWS Project.

No.	Submitter	Comment	Response to Comment
O-13	ANON-TCUY-7GQF-T (Australian Maritime Safety Authority)	The submission from AMSA received by the NWS Project Extension only relates to proposed pipeline construction activities from the Proposed Browse to NWS Extension and is unrelated to activities of NWS Project Extension.	Woodside acknowledges the submission of AMSA but notes it is only relevant to the Proposed Browse to NWS Project (EPA2191). All AMSA requirements will be adhered to by the NWS Project Extension.
O-14	ANON-TCUY-7GH8-3	*While the world is using gas & condensate, I don't see why Australians should exclude us from the market.*	Woodside acknowledges the response. It is unclear how the comment relates to NWS Project Extension Proposal so no response is possible.
O-15	Department of Planning Lands and Heritage	*The Department of planning, Lands and Heritage (DPLH) has reviewed the ERD and notes that Social Surroundings is addressed within Section 4.6.2, 6.5.4 and 6.5.5. DPLH acknowledges Social Surroundings has been adequately addressed and has no further comment.*	Woodside acknowledges the response.
O-16	ANON-TCUY-7GD8-Y (City of Karratha)	*The City of Karratha supports the continued operation of the NWS Project.* *This is a substantial long-term project. It is important that decisions on projects like this have long-term benefits for the environment and the social surroundings. Over the last 40 years (a relatively short space of time), the NWS Project has contributed substantially to Karratha becoming a major regional centre in North West Australia. Over the next 50 years, Council's vision is to make Karratha the "Capital of the North West". Working towards this vision helps build sustainable settlement patterns at not just a local level but also a regional and national level. Increasing the number of local employees, local contractors and the ability to service the needs of local industries locally increases the viability and sustainability of Karratha as Capital of the North West. The NWS Project, other developments in the region (3.2.2) and related decisions can continue to contribute substantially towards this vision.* *The Murujuga National Park, including Deep Gorge, Dampier Archipelago and Hearson Cove (as referred in Section 4.6) are significant community and cultural assets in close proximity to the NWS Project that represent exciting opportunities to grow tourism in North West Australia. The enhancement of these assets would be logical targets for any environmental offsets associated with the NWS Project.* *The City of Karratha supports Woodside in its efforts and initiatives to reduce carbon emissions from its operations. Based on Woodside's excellent track record, the City expects that Woodside will continue to obtain all necessary approvals, comply with relevant statutory requirements and strive for best practice in operating the NWS Project.*	Woodside, on behalf for the NWSJV thanks the submitter for the support and for their interest in the NWS Project Extension Proposal.

No.	Submitter	Comment	Response to Comment
O-17	ANON-TCUY-7GD2-S	*The project extension should be granted. Woodside is a reliable and safe developer of gas resources. LNG is a critical fuel for power generation and enables a greater uptake of intermittent renewable power by providing a quick start base load power for when the wind is not blowing and the sun is not shining. It is in Australia's national interest to exploit our resources. Woodside pays taxes via the Petroleum resources rent tax, company tax and the taxes paid by their employees.* *The vocal activist lobby opposing companies like Woodside are happy to benefit from the tax income generated. Government should be rational and govern for all Australians and not be influenced by a few activists.*	Woodside, on behalf for the NWSJV thanks the submitter for the support and for their interest in the NWS Project Extension Proposal.
O-18	ANON-TCUY-7GQ7-B (Chamber of Minerals and Energy of WA)	CME supports the proposed NWS Project Extension. The submission focuses on economic benefits associated with the NWS Project Extension, and can be summarised as follows: *CME understands the NWS Project is expected to deliver significant benefits to local communities, the Western Australian and broader Australian economy during its expected operating life of over 40 years. This may include:* • *increased revenue from royalties and payroll tax,* • *continued, long-term employment opportunities,* • *associated economic benefits to the City of Karratha through voluntary partnerships, rates, fees and* *charges, and* • *benefits accrued to the wider community through company contributions and reduced need for social welfare, etc.* The full response is available in Appendix A.	Woodside, on behalf for the NWSJV thanks the submitter for the support and for their interest in the NWS Project Extension Proposal.
O-19	ANON-TCUY-7GQS-7 (Australian Petroleum Production & Exploration Association (APPEA))	APPEA supports the proposed NWS Project Extension. *The submission addresses both the Browse to NWS, and NWS Project Extensions, but can be summarised as follows:* *In summary, given the significant economic contribution these two proposals would make to both the State of Western Australia and the Australian*	Woodside, on behalf for the NWSJV thanks the submitter for the support and for their interest in the NWS Project Extension Proposal.

No.	Submitter	Comment	Response to Comment
		economy, as well as the approach taken by operator Woodside to make these developments as sustainable as possible whilst helping to meet global energy demand with cleaner-burning natural gas, APPEA encourages the EPA to support the proposals submitted by Woodside and its Joint Venture Participants. The full response is available in Appendix A.	
O-20	14. NWSPE Submission Pilbara Ports	*I refer to your letter dated 16 December 2019 seeking comment on the Environmental Review for the proposal by Woodside Energy Ltd, as operator for and on behalf of the North West Shelf (NWS) Joint Venture (JV), to extend the operation of the NWS Project to enable long-term processing of third-party gas and fluids and NWSJV field resources through the NWS Project facilities until around 2070.* *Pilbara Ports Authority (PPA) has reviewed the Environmental Review Document (ERD) and has no comment or concern in relation to the proposed conditions at this time. Thank you for the opportunity to review and provide input to this important project.*	Woodside, on behalf for the NWSJV thanks the submitter for the support and for their interest in the NWS Project Extension Proposal.
Proforma Submissions			
O-21	Proforma Submission (Lock the Gate Alliance)	This proforma submission made comments across more than one environmental factor. Other responses to this submission are addressed within the relevant alternate section within this document. Key comments raised that did not pertain to a relevant Environment Factor are: *Dear Dr Tom Hatton (Chairperson Environmental Protection Authority WA) and Minister MacTiernan (Minister for Regional Development; Agriculture and Food; Ports),* *I am writing to express my deep concern with the proposal for the Burrup Hub and the Browse Basin development. I'm alarmed about the industry reports that this hub could also be connected to several new major onshore gas projects in the farming region around Dongara.* *The Waitsia and West Erregulla projects are still going through assessment and exploration processes, yet it seems like the Burrup Hub project is already talking up access to vast amounts of gas around the Mid West, claiming "new*	Please refer to these responses that address the items raised in this submission: • O-KIR-4 (Potential processing of gas) Please refer to these responses that address the items raised in this submission that were related to the Greenhouse Gas emissions factor: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • GHG-CIR-2 (Renewables and zero/low carbon energy future)

No.	Submitter	Comment	Response to Comment
		exploration technologies and deeper drilling" will give them access to gas "previously out of reach". *The serious opposition from regional communities and farmers across WA to fracking gasfields is well known to the Government.* *It is totally inappropriate for the Government to be considering this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.* *The environmental assessment of the Burrup hub project must consider the impacts of all these future gas developments and Woodside must disclose all gas supplies and their environmental impacts.* *I strongly oppose the proposal for the Burrup Hub, Browse Basin and North West Shelf LNG projects and links to the project to the spread of onshore gasfields across farming regions of WA.* *Thank you for the opportunity to have my say on this project.*	
O-22	Proforma submission (additional text to O-21)	I regularly holiday in WA visiting broome, cape leveque, james price point and all the way down to exmouth and coral bay. Do NOT put anymore abominations like that on the burrup peninsula. It is foul	All infrastructure associated with the NWS Extension is already in place within an existing development envelope. Please refer to these responses that address the items raised in this submission • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-23	Proforma submission (additional text to O-21)	Please do some research. Fracking poisons the land and the water. It is a toxic and brutal process to unleash on any landscape. See what happened at Condomine river near Warragamba. Flaming water. Any where that has been fracked in America. Totally toxic. They must be offering you a lot of money to look the other way. Your children and grandchildren will hate you for the short-sighted decision to allow this. $ is worthless if your land and water is poisoned.	Please refer to these responses that address the items raised in this submission • O-21 (Response to proforma submission from Lock the Gate Alliance) • O-KIR-4 (Potential processing of gas)

No.	Submitter	Comment	Response to Comment
O-24	Proforma submission (additional text to O-21)	Please Please Please

No.	Submitter	Comment	Response to Comment
O-28	Proforma submission (additional text to O-21)	It is ironic that Australia's reserves of Oil, Gas and Uranium, thought to be an asset, are actually an Achilles heel that, due to the pressure for revenue if stifling what really needs to happen, a national energy policy, and innovation away from exporting a product which will become toxic stranded assets in the foreseeable future. Environmental and Indigenous; There is a big groundswell of opposition towards Fracking the expansion of the Gas industry in general. The indigenous groups are lining themselves up for a battle and they have the backing of a board spectrum of the wider Australian public, who, due to recent events, are awakening from their lethargy in regards to the wider threat of climate change and the fossil energy business as usual scenario. Add to that the more frequent droughts and the prospect of the contamination of ground water supplies, and the entire expansion of the gas industry just does not make sense. Western Australia must tackle its emissions through the creation of clean jobs and investment in renewable technologies. You must rapidly move away from all types of fossil fuels, including LNG. I strongly urge you to reject Woodside's proposal as the State should be pursuing the cheap and abundant renewable resources we have available right here in WA, to enable an orderly transition that must and will occur anyway.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-29	Proforma submission (additional text to O-21)	The Government needs to fully consider the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-30	Proforma submission (additional text to O-21)	to do anything less than stop this project is a betrayal to every living creature in this country.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-31	Proforma submission (additional text to O-21)	Being a farmer in Carnarvon I know the importance of a good water supply to the growing of food. Any risk of pollution to our ground water in totally wrong! Drilling through aquifers and pumping gas through them, relying on bore casings that a percentage are know to fail should not be allowed.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)

No.	Submitter	Comment	Response to Comment
O-32	Proforma submission (additional text to O-21)	Additionally there has been an economic cost to the massive fracking operations in the US in that prices have dropped for the product	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-33	Proforma submission (additional text to O-21)	Fracking projects overseas have proven to be disastrous to the environment, giving irreparable damage to rivers, soil and the atmosphere, its a costly, inefficient, dirty and terrible way to produce energy.. solar, wind and tidal energy have been proven to be cheaper and far healthier to us and the environment, the only reason fracking can happen is if corruption and dodgy deals are in place, STOP IT NOW!!!!!!!!!! EVERYONE'S HEALTH DEPEND ON IT!!!! INCLUDING YOURS	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-34	Proforma submission (additional text to O-21)	Please consider our environmental guys. Easy to frack our future away for a few dollars but please put the things into perspective with what we have been blessed with, water fresh water, fruit vege etc area to develop something that is natural without risk or doubt.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-35	Proforma submission (additional text to O-21)	It is totally inappropriate that the Government consider this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)
O-36	Proforma submission (additional text to O-21)	The environmental assessment of the Burrup hub project must consider the impacts of all these future gas developments, Especially Where It Concerns FRACKING and Woodside must disclose all gas supplies and their environmental impacts.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance) • O-KIR-4 (Potential processing of gas)
O-37	Proforma submission (additional text to O-21)	Now is the time to be changing our lifestyles and exploring different ways of living in order to protect and be able to continue to experience the beauty we have inherited, instead of squandering resources that took millions of years to be created. Regards	Please refer to these responses that address the items raised in this submission: • GHG-CIR-1 (Response to general objections to the project based on GHG emissions) • O-21 (Response to proforma submission from Lock the Gate Alliance)

No.	Submitter	Comment	Response to Comment
O-38	Proforma submission (additional text to O-21)	Dear [Names redacted] You will be aware that the Waitsia and West Erregulla projects are still undergoing assessment and exploration processes, while the Burrup Hub project is anthropogenic claiming "new exploration technologies and deeper drilling" are giving them access to gas "previously out of reach". Strong opposition from regional communities and farmers across WA to fracking gas fields is well known to the government. It is difficult to understand how the government can consider this gas hub proposal without fully considering the risks to farming, groundwater, pollution and negative health impacts of massive onshore gas expansion? Apart from massive wads of money to vested interests that is. We are already experiencing the negative impacts of anthropogenic climate disruption and to even consider opening up what could be one of the most polluting new projects on earth is C ... R ... A ... Z ... Y. Renewable energy and renewable energy exports are the future.	Please refer to these responses that address the items raised in this submission: • O-21 (Response to proforma submission from Lock the Gate Alliance)

4. MANAGEMENT PLAN REVISIONS

Subsequent to publication of the NWS Project Extension ERD in December 2019, a number of changes have been made to management plans for the Proposal. These changes are summarised below.

4.1 Greenhouse Gas Management Plan

These updates have been made to the GHGMP:

- Revision to Management Action 1 to revise the interim emissions target.
- Inclusion of a new Management Action, MA2, that establishes the requirement to set long term emissions reduction targets.
- Revision other Management Actions to align with Woodside's philosophy for GHG management.
- Addition of additional supporting information and revisions to Management Actions, to align the GHGMP to the revised EPA Factor Guideline for GHG Emissions, published April 2020 and in response to agency comments received on the ERD.

4.2 Air Quality Management Plan

These updates have been made to the AQMP:

- modification to the requirements of the stack emissions testing program to monitor for CO and SOx (in turbines and furnace exhausts) and VOCs (in AGRU vents).
- a commitment to investigate NOx or dark smoke licence exceedance (in alignment with existing practice).

4.3 Cultural Heritage Management Plan

These updates have been made to the CHMP:

- minor text updates to reflect comments/requests for acknowledgement of certain aspects from stakeholder groups.
- text modifications to reflect the tentative World Heritage Listing of the Murujuga cultural landscape.
- minor updates or clarifications made in response to stakeholder feedback/comments.

4.4 Marine Environmental Management Plan

These updates have been made to the MEQMP:

- minor technical corrections to typographical errors.
- a commitment to undertake a model validation exercise to validate modelling outputs used to determine EQC in the MEQMP.
- modification of EQS 5 to monitor for 'chlorophyll a' concentration in sediments if nutrient discharge limits are exceeded.
- modification of zinc discharge limits in the admin drain to align with the 90th percentile concentration limit specified in the Australian and New Zealand Environment and Conservation Council Guidelines (ANZG 2000), aligned to the requirements of the EQP.
- an additional appendix to justify the values established for discharge limits, where they have been set based on existing (internal) limits. This also triggered revisions to the existing chemical oxygen demand discharge limit.
- Inclusion of additional maps showing location of discharges in relation to sensitive features.
- Inclusion of EGS/EQG pertaining to management of the Fishing & Aquaculture and Recreation & Aesthetics EVs.

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6. TERMS

Terms	Definitions
~	approximately
<	Less/fewer than
>	More/greater than
AER	Australian Energy Regulator
AGRU	Acid Gas Removal Unit
Airshed	A volume of air confined to a distinct geographic region, and within which emissions are contained
AMCS	Australian Marine Conservation Society
AME	Australian Marine Ecology
ANZECC	Australian and New Zealand Environment and Conservation Council
AQ	Air Quality (station)
AQIA	Air Quality Impact Assessment
AQMP	Air Quality Management Plan
BAAMP	Burrup Ambient Air Monitoring Program
BAT	Best available technology
BIA	Biologically Important Area
BoM	Bureau of Meteorology
BRAMMC	Burrup Rock Art Monitoring Management Committee
BSIA	Burrup Strategic Industrial Area
BTEX	Benzene, toluene, ethylbenzene and xylene compounds
BTX	Benzene, toluene, and xylene compounds
CDP	Community Development Plan
ChEMMS	Chemical and Ecological Monitoring of Mermaid Sound (program)
CHMP	Cultural Heritage Management Plan
CO	Carbon monoxide
COD	Chemical Oxygen Demand
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
Commonwealth waters	Waters stretching from three to 200 nautical miles from the Australian coast
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Cth	Commonwealth of Australia
DAA	Department of Aboriginal Affairs
DAWE	The Department of Agriculture, Water and the Environment
Development envelope	The boundaries that define the maximum area within which the State onshore and offshore components of the Proposal are located
DoE	Former Western Australian Department of Environment

Terms	Definitions
DoEE	Commonwealth Department of the Environment and Energy
DoH	Department of Health
DWER	Western Australian Department of Water and Environmental Regulation
EMP	Environmental Management Plan
Environmental Review Document	The document prepared to meet the requirements set out in the Environmental Scoping Document and which informs the EPA's assessment of the Proposal
Environmental Scoping Document	The document that the EPA uses to define the form, content, timing and procedure of an environmental review and/or the public review period for the environmental review or other additional assessment information
EP	Environmental Protection
EP Act	Western Australian Environmental Protection Act 1986
EPA	Western Australian Environmental Protection Authority
EPBC Act	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
ERD	See Environmental Review Document
ERF	Emissions Reduction Fund
ERM	Environmental Resources Management
ESD	See Environmental Scoping Document
EQC	Environmental Quality Criteria
EQG	Environmental Quality Guideline
EQMF	Environmental Quality Management Framework
EQO	Environmental Quality Objectives
EQP	Environment Quality Plan
EQS	Environmental Quality Standard
EV	Environmental Value
FBSIA	Air modelling scenario representing the current baseline and future proposed developments in the air modelling study area
FBSIA-KIO	Air modelling scenario representing the FBSIA scenario with emissions reductions in place at the Proposal
FEED	Front End Engineering Design
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GHGMP	Greenhouse Gas Management Plan
GLC	Ground Level Concentration
H_2S	Hydrogen sulphide
ha	Hectare
HEPA	High Ecological Protection Area
IEA	The International Energy Agency's World Energy Outlook 2018 Scenarios
IHS	Integrated Heritage Services
IPCC	Intergovernmental Panel on Climate Change
kg	Kilogram
KGP	Karratha Gas Plant
KIO	Air modelling scenario representing the current baseline and proposed emission reduction opportunities at the Proposal
km	Kilometre
LEP	Level of Ecological Protection

Terms	Definitions
LEPA	Low Ecological Protection Area
LCA	Life Cycle Assessment
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LPP	Local Participation Plan
m	Metre
MAC	Murujuga Aboriginal Corporation
mg	Milligram
mm	Millimetre
MEPA	Medium Ecological Protection Area
MEQMP	Marine Environmental Quality Plan
MRAS	Murujuga Rock Art Strategy
MS	Ministerial Statement
mt	Million tonnes
mtoe	Milltion tonnes oil equivalent
mtpa	Million tonnes per annum
MUBRL	Multi User Brine Return Line
NAC	Ngarluma Aboriginal Corporation
N/A	Not applicable
NEPM	National Environment Protection Measure
NGER	National Greenhouse and Energy Reporting
NH_3	Ammonia
NO	Nitrogen oxide
NO_2	Nitrogen dioxide
North West Shelf Joint Venture	A joint venture comprising six companies; Woodside Energy Ltd. (Operator), BHP Billiton Petroleum (North West Shelf) Pty Ltd, BP Developments Australia Ltd, Chevron Australia Pty Ltd, Japan Australia LNG (MIMI) Pty Ltd, and Shell Australia Pty Ltd. The North West Shelf Joint Venture owns the infrastructure used as part of the North West Shelf Project and, together with CNOOC NWS Private Limited, the North West Shelf Joint Venture owns the resources processed as part of the NWS Project.
North West Shelf Project	The North West Shelf Project is one of the world's largest liquefied natural gas producers, supplying oil and gas to Australian and international markets from offshore gas, oil, and condensate fields in the Carnarvon Basin off the north-west coast of Australia. The NWS Project is owned by the NWSJV participants and for more than 30 years, it has been Western Australia's largest producer of domestic gas. The NWS Project currently processes resources owned by the NWSJV and CNOOC NWS Private Limited and is proposed to also process third-party gas and fluids as part of the NWS Project Extension Proposal.
NOx	Oxides of nitrogen
NO_2	Nitrogen dioxide
NPI	National Pollutant Inventory
NSW	New South Wales
NTU	Nephelometric Turbidity Unit
NWMR	North-west Marine Region
NWS	North West Shelf
NWS	Project See North West Shelf Project

Terms	Definitions
NWS Project Extension Proposal (the Proposal)	The Proposal as described in the NWS Project Extension Section 38 Referral Supporting Information (November 2018) to continue to use the existing NWS Project facilities for the long-term processing of third-party gas and fluids and NWSJV field resources through the NWS Project facilities. Ongoing operation of the NWS Project to enable long-term processing at the NWS Project facilities, currently expected to be until around 2070.
NWSJV	See North West Shelf Joint Venture
NYFL	Ngarluma Yindjibarndi Foundation Ltd
O_3	Ozone
OEPA	Office of the Environmental Protection Authority
PM	Particulate Matter
PM_{10}	Particulate matter with a diameter of 10 micrometres or less
$PM_{2.5}$	Particulate matter with a diameter of 2.5 micrometres or less
PER	Public Environment Report / Public Environmental Review
Pb	Lead
ppb	Parts per billion
Proposal	See NWS Project Extension Proposal
SIA	Social Impact Assessment
SKM	Sinclair Knight Merz
SOx	Sulfur oxide
SO_2	Sulfur dioxide
State Agreement	Western Australian North West Gas Development (Woodside) Agreement Act 1979
State waters	The marine environment within three nautical miles of the mainland of Western Australia or its islands
SECRC	Senate Environment and Communications References Committee
STP	sewage treatment plant
t	Tonne
Toe	Tonnes of oil equivalent
TAN	Technical Ammonium Nitrate
Third-party gas and fluids	Gas and associated fluids from sources other than those produced by the NWSJV and CNOOC NWS Private Limited. The processing of third-party gas and fluids is subject to the necessary commercial arrangements being in place between the NWSJV and the relevant third parties as well as all relevant joint venture and regulatory approvals being obtained.
TN	Total Nitrogen
tpd	tonnes per day
UNDP	United Nations Development Program
VOC	Volatile Organic Compound
WA	Western Australia
WET	Whole Effluent Toxicity
Woodside	Woodside Energy Ltd; Proponent of the NWS Project Extension Proposal and the Operator of the NWS Project on behalf of the NWSJV.
WWTP	Wastewater Treatment Plant