GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

Pluto Liquified Natural Gas Development (Site B Option) Burrup Peninsula, Shire of Roebourne – inquiry under section 46 of the Environmental Protection Act 1986 to amend Ministerial Statement 757

Woodside Energy Ltd.

Report 1734

March 2023

Inquiry under section 46 of the *Environmental Protection Act 1986*

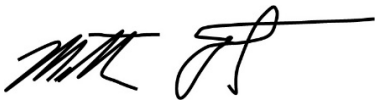
The Minister for Environment has requested that the Environmental Protection Authority (EPA) inquire into and report on the matter of changing condition 12 of Ministerial Statement 757 to align it with contemporary greenhouse gas conditions reflecting the content of the Pluto LNG Facility Greenhouse Gas Abatement Program.

Section 46(6) of the *Environmental Protection Act 1986* requires the EPA to prepare a report that includes:

(a) a recommendation on whether or not the implementation conditions to which the inquiry relates, or any of them, should be amended

(b) any other recommendations that it thinks appropriate.

The following is the EPA's report to the Minister pursuant to s. 46(6) of the *Environmental Protection Act 1986*.



Professor Matthew Tonts
Chair

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Summary

Woodside Energy Ltd's (the proponent) Pluto Liquified Natural Gas (LNG) Development (Site B Option) (the proposal) involved the construction of facilities within Western Australian (WA) State territorial waters (the marine component) and on the Burrup Peninsula (the terrestrial component) to allow the development, processing, and export of LNG.

The Environmental Protection Authority (EPA) assessed the proposal at the level of Public Environmental Review and published its report in July 2007 (EPA Bulletin 1259). The then Minister for Environment approved the proposal for implementation on 24 December 2007, subject to the implementation conditions of Ministerial Statement 757.

Condition 12 in Ministerial Statement 757 requires that 'prior to the commencement of construction (of LNG train 2), the proponent shall develop a Greenhouse Gas Abatement Program to the requirements of the Minister for Environment, on advice of the EPA'. The proponent's Pluto LNG Facility Greenhouse Gas Abatement Program (Pluto GGAP) (Revision 3, April 2021) (Woodside 2021b) was approved on 4 June 2021.

At the time, the Pluto GGAP (Woodside 2021b) was approved, the Minister for Environment also requested that the EPA inquire into and report on the matter of changing implementation condition 12 of Ministerial Statement 757 to align it with contemporary greenhouse gas (GHG) conditions reflecting the content of the Pluto GGAP.

In conducting its inquiry, the EPA reviewed the content of the currently approved Pluto GGAP, invited and considered submissions from stakeholders, and reviewed the alignment of condition 12 against the elements of contemporary GHG conditions.

Considering all the information provided to the EPA during its inquiry, the EPA is of the view that, on balance, the existing GHG condition under Ministerial Statement 757 does not meet the requirements outlined in contemporary GHG conditions. The EPA has recommended that condition 12 be changed to:

- be consistent with contemporary GHG conditions, and
- reflect the content of the approved Pluto GGAP (Woodside 2021c).

While the scope of the inquiry was confined to contemporising condition 12 to reflecting the content of the approved Pluto GGAP (Woodside 2021c), the EPA has provided other advice in Section 6 relating to GHG emissions and social surroundings. The EPA considers that the Minister for Environment should request additional inquiries into the implementation conditions of Ministerial Statement 757 under section 46 of the *Environmental Protection Act 1986* regarding the proponent's currently proposed emissions reduction trajectory and to ensure that air emissions from the proposal do not have an adverse impact on the rock art in Murujuga (the Dampier Archipelago and Burrup Peninsula).

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1. The proposal

The Pluto Liquified Natural Gas (LNG) Development (Site B Option) (the proposal) involved the construction of facilities within Western Australian (WA) State territorial waters (the marine component) and on the Burrup Peninsula (the terrestrial component) to allow the development, processing, and export of LNG.

Unprocessed gas is transported via a sub-sea trunkline to the Pluto LNG Development site for processing, initially by one LNG processing train prior to an expansion, to 2 LNG processing trains. Following processing, the LNG is then stabilised and exported via the proposal's export jetty. The marine component included the implementation of a subsea trunkline, export facilities, dredging, marine disposal of spoil and a wastewater outfall. The terrestrial component included the construction of the LNG plant not limited to and including 2 processing trains and product storage tanks.

The proponent for the proposal is Woodside Energy Ltd (the proponent).

The EPA assessed the proposal at the level of Public Environmental Review and published its report in July 2007 (EPA Bulletin 1259). In EPA Bulletin 1259, the EPA considered the following key environmental factors were relevant to the proposal:

- Marine impacts
- Vegetation
- Fauna – terrestrial species
- Fauna – migratory/marine species
- Indigenous heritage
- Air quality
- Greenhouse gas.

In applying the *Statement of environmental principles, factors and objectives* and aims of EIA (EPA 2021) these factors are now represented by:

- Marine environmental quality
- Benthic communities and habitats
- Marine fauna
- Flora and vegetation
- Terrestrial fauna
- Social surroundings
- Air quality
- Greenhouse gas emissions.

In relation to the marine component, the EPA concluded in EPA Bulletin 1259 that 'the proposal, as presented, does not fully meet the EPA's objectives for the marine environment'. However, the EPA concluded that the proposal could proceed if there was satisfactory implementation of the recommended conditions, and an offset package agreed (EPA 2007).

In relation to the terrestrial component, the EPA noted in EPA Bulletin 1259 that 'the proposal would result in the permanent loss of native vegetation, fauna habitat and some Indigenous heritage sites. However, having particular regard to the management framework for the Burrup Peninsula, it is the EPA's opinion that it is unlikely that the EPA's objectives for the terrestrial components would be compromised provided there is satisfactory implementation by the proponent of its commitments and the recommended conditions' (EPA 2007).

The then Minister for Environment approved the proposal for implementation on 24 December 2007, subject to the implementation conditions of Ministerial Statement 757.

Previously approved changes to the conditions

In August 2010, the then Minister for Environment requested the EPA, under section 46 of the EP Act, inquire into and report on proponent proposed changes to Ministerial Statement 757 conditions 6-12, 6-13 and 6-14 relating to marine impacts. The EPA inquiry and EPA Report 1373 recommended that conditions 6-12, 6-13 and 6-14 be replaced (EPA 2010). Following the release of the EPA Report 1373, conditions 6-12, 6-13 and 6-14 of Ministerial Statement 757 were changed with the publication of Ministerial Statement 850 in January 2011. The changes to conditions 6-12, 6-13 and 6-14 related to the health of benthic communities.

On 24 January 2011, Attachment 4 of Ministerial Statement 757 was issued approving a minor change made, pursuant to section 46C of the EP Act, to Schedule 6 of Ministerial Statement 757. The minor change related to editing row 6 of Schedule 6 – Summary of Proponent Offsets, by removing the reference to Phases 1 and 2, to combine actions and costs.

2. Requested changes to the conditions

Ministerial Statement 757, condition 12 requires that 'prior to the commencement of construction (of LNG train 2), the proponent shall develop a Greenhouse Gas Abatement Program to the requirements of the Minister for Environment, on advice of the EPA'. The proponent's Pluto LNG Facility Greenhouse Gas Abatement Program (Pluto GGAP) (Revision 3, April 2021) (Woodside 2021b) was approved on 4 June 2021.

At this time, the Minister for Environment also requested that the EPA inquire into and report on the matter of changing implementation condition 12 of Ministerial Statement 757 to align it with contemporary greenhouse gas (GHG) conditions reflecting the content of the Pluto GGAP.

Since the inquiry commenced, the Minister for Environment approved Revision 3a of the Pluto GGAP dated June 2021 (Woodside 2021c) on 31 August 2021. The revision corrected 2 reporting errors within Revision 3 of the Pluto GGAP approved on 4 April 2021 (Woodside 2021b) regarding historical GHG emissions intensity values assigned to the financial year 2019 (FY19) in Table 5. The change increased the reported past actual emissions intensity for FY19 in Table 5 by 0.04 carbon dioxide equivalent (CO_2-e) per tonne of LNG.

Any further reference to the approved Pluto GGAP in this report is to the current approved Pluto GGAP Revision 3a dated June 2021 (Woodside 2021c).

In undertaking its inquiry, the EPA notes that an assessment of the proposal's GHG emissions was the subject of an EPA assessment in EPA Bulletin 1259, published in 2007. EPA Bulletin 1259 describes the assessment of GHG emissions produced by the proposal from initially one LNG processing train emitting approximately 1.9 million tonnes per annum (Mtpa) of CO_2-e, prior to the implementation of a second LNG processing train increasing emissions from approximately 1.9 to 4.1 Mtpa of CO_2-e. The proposal was approved in 2007 with the issue of Ministerial Statement 757.

The EPA notes that the scope of this inquiry and report is limited to aligning condition 12 to contemporary GHG conditions reflecting the content of the approved Pluto GGAP (Woodside 2021c). The EPA's contemporary conditions for greenhouse gas emissions include emissions limits with reductions over specified time periods, net zero by 2050, annual reporting and consolidated 5 yearly reports (refer to Table 1).

The scope of the inquiry does not request the EPA to inquire into the appropriateness, or otherwise, of the emissions reduction trajectory as outlined in the Pluto GGAP (Woodside 2021c). The EPA has provided other advice in Section 6 relating to the emissions trajectory for the proposal.

This report satisfies the requirements of the EPA's inquiry.

3. Inquiry into changing the conditions

The EPA has discretion as to how it conducts this inquiry. Noting the Minister for Environment's request detailed in Section 2 of this report, the EPA had regard to information such as:

- EPA Bulletin 1259
- Ministerial Statement 757
- contemporary GHG conditions
- the approved Pluto GGAP (Woodside 2021c)
- information provided by the proponent
- information provided by key stakeholders.

EPA procedures

In conducting this inquiry, the EPA has considered and given due regard to relevant current and former policy documents. The EPA followed the procedures in the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016* (State of Western Australia 2016) and *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2021* (State of Western Australia 2021); the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA 2020a) and *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA 2022).

4. Inquiry findings – GHG emissions

The Minister for Environment requested that the EPA inquire into and report on the matter of changing implementation condition 12 of Ministerial Statement 757 to align it with contemporary GHG conditions reflecting the content of the Pluto GGAP (Woodside 2021c).

The EPA considers that GHG emissions is the single environmental factor relevant to the EPA's inquiry, pursuant to section 46 of the EP Act.

The EPA's environmental objective for GHG emissions is *to reduce net greenhouse gas emissions in order to minimise the risk of environmental harm associated with climate change* (EPA 2020b).

4.1 Conclusions from EPA Bulletin 1259

EPA Bulletin 1259 (EPA 2007) assessed GHG emissions produced by the proposal. The assessment concluded that one LNG processing train would emit approximately 1.9 Mtpa of CO_2-e, while the implementation of the second processing train would increase total emissions to 4.1 Mtpa CO_2-e.

EPA Bulletin 1259 concluded that the predicted GHG intensity of 0.35 tonnes of CO_2-e per tonne of LNG was comparable with other LNG developments around the world, including the North West Shelf Gas Project assessed in 1999 (EPA 2007).

At the time of the original assessment, the applicable EPA guidance was set out in Guidance Statement No.12 *Guidance Statement for Minimising Greenhouse Gas Emissions* (EPA 2002). The EPA's objective for GHG management at that time was 'to reduce emissions to a level which is as low as is practicable' (EPA 2002).

To meet the EPA's objective, the EPA in Bulletin 1259 outlined an expectation that GHG emissions are addressed in the planning, design and operation of the project, and that the proponent is to:

- apply best practice measures to maximise energy efficiency and minimise GHG emissions
- undertake analysis of unavoidable emissions to apply appropriate mitigation measures
- implement an ongoing programme to monitor and report emissions, and for the proponent to undertake periodic assessment to identify further opportunities to reduce GHG emissions over time (EPA 2007).

To manage the GHG emissions from the proposal, the EPA recommended condition 12 (Greenhouse Gas Abatement).

EPA Bulletin 1259 stated that having "regard to the:

a) greenhouse gas efficiency per unit of LNG produced being comparable with recent LNG developments; and

b) recommended condition on Greenhouse Gas Abatement,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objectives for this factor, provided the recommended conditions are made legally enforceable" (EPA 2007).

4.2 Assessment of the requested change to conditions

The EPA considers that the following current environmental guidance is relevant to its assessment of the proposal for this factor:

- *Environmental Factor Guideline – Greenhouse Gas Emissions* (EPA 2020b).

This inquiry will review the requirements of contemporary GHG conditions, review the content of the current approved Pluto GGAP (Woodside 2021c), consider issues raised during submissions, and recommend changes to condition 12 of Ministerial Statement 757 to align it with contemporary GHG conditions reflecting the content of the current approved Pluto GGAP (Woodside 2021c).

4.2.1 Requirements of contemporary GHG conditions

Since the release of the *EPA Environmental Factor Guideline –Greenhouse Gas Emissions* in April 2020, the EPA has recommended contemporary GHG conditions for proposals including but not limited to:

- Ministerial Statement 1161, Pilbara Energy Generation Power Station
- Ministerial Statement 1164, Waitsia Gas Project Stage 2
- Ministerial Statement 1170, Covalent Lithium Hydroxide Refinery
- Ministerial Statement 1180, Perdaman Urea Project
- Ministerial Statement 1188, West Musgrave Copper and Nickel Project
- Ministerial Statement 1195, Greater Paraburdoo Iron Ore Hub
- Ministerial Statement 1198, Gorgon Gas Development Revised and Expanded.

Table 1 below outlines the elements of contemporary GHG management conditions.

Table 1: Summary of contemporary GHG conditions

Element	Condition requirement summary
Reservoir emissions management	A requirement to avoid, reduce and/or offset reservoir emissions, as a minimum and to report on implementation of the requirement (Ministerial Statement 1164 and 1198).
Emission limits	Numerically specified net GHG emissions limits along a trajectory (based on five-yearly limits) to net zero by 2050 (Ministerial Statements 1161, 1170,1180, 1188, 1195 and 1198).

Element	Condition requirement summary
Implementation	A requirement to implement the latest confirmed GHG management plan (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198).
Revise GHG management planning to the requirements of the Chief Executive Officer	Facility to enable the proponent to revise management planning, enabling the Chief Executive Officer to require a revised GHG management plan, and a requirement to submit a revised GHG management plan every 5 years (Ministerial Statements 1161, 1164, 1170 and 1180, 1188, 1195 and 1198).
Consultation	A requirement to prepare the GHG management plan in consultation with key stakeholders (e.g. Traditional Owners) (Ministerial Statement 1180).
Contents of GHG management planning	Contemporary conditions require GHG management plans to: • be consistent with conditioned reservoir emissions abatement (Ministerial Statement 1164) • be consistent with conditioned net GHG emissions limits (or achievement of emissions reductions beyond the emission limits) (Ministerial Statements 1161, 1170, 1180, 1188, 1195 and 1198) • specify the estimated proposal GHG emissions, and emissions intensity for the life of the proposal (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198) • GHG emissions and emissions intensity benchmarking against other comparable proposals (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198) • identify measures to avoid, reduce and/or offset proposal GHG emissions, and to reduce emissions intensity (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198) • provide a program for future review of the plan (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198).
Commencement subject to GHG management plan approval	A requirement to confirm endorsement of a GHG management plan prior to an identified time in the proposal's implementation (i.e. commencement of operations) (Ministerial Statement 1180).
Summary GHG management plan and progress report	A requirement to produce a summary of the approved GHG management plan after confirmation by the Chief Executive Officer (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198).
Annual reporting	Annual reporting requirements on the quantity of GHG emissions, emissions intensity and volumes of product produced by the proposal (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198).
Consolidated report, every audit and peer review every 5 years	Five-yearly reporting requirements (including audits and peer reviews) confirming the net GHG emissions limits, the quantity of GHG emissions and emissions intensity of the 5-year period (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198).

Element	Condition requirement summary
Documentation publicly available	A requirement to make all approved GHG management documentation (including summary plans, audits, peer reviews and progress statements) publicly available on the proponent's website within a specified timeframe (Ministerial Statements 1161, 1164, 1170, 1180, 1188, 1195 and 1198).
Definitions	Definitions of authorised offsets, emissions intensity, GHG emissions limit, GHG emissions, GHG, net GHG emissions, proposal GHG emissions.

4.2.2 Content of the current approved Pluto GGAP (Woodside 2021c)

Overview

This inquiry relates only to contemporising condition 12, Greenhouse Gas Abatement, of Ministerial Statement 757 to reflect the content of the Pluto GGAP (Woodside 2021c). The current approved Pluto GGAP (Woodside 2021c) was approved by the Minister on 31 August 2021. While the inquiry does not extend to contemporising the emissions reduction trajectory in the Pluto GGAP (Woodside 2021c), the EPA has provided other advice on this matter in Section 6.

The Pluto GGAP (Woodside 2021c) contains interim and long-term GHG emissions reduction targets commencing in 2021, to achieve net zero GHG emissions by 2050. The proponent has also provided for the use of GHG emissions offsets, including details on how proposed offsets meet contemporary standards for GHG offsets. The proponent has also committed to five-yearly Pluto GGAP revisions and publicly available reporting, including summary reporting aligned to contemporary GHG emissions reporting requirements.

Further details on the contents of the Pluto GGAP (Woodside 2021c) relevant to contemporary GHG conditions is outlined below.

Interim emissions targets 2021 to 2025

The Pluto GGAP (Woodside 2021c) establishes interim GHG emissions reduction targets for 2021 to 2025 that are limited to the operation of Pluto LNG Train 1, as Pluto LNG Train 2 is yet to be commissioned. It is noted that the emissions reductions target in 2025 is subject to Train 2 commissioning timing, however, neither a date, nor the volume of emissions associated with commissioning is provided.

The Pluto GGAP (Woodside 2021c) describes the proponent's commitment to implement the interim emissions reduction targets between 2021 and 2025 through:

- a 5% GHG intensity improvement resulting in a cumulative reduction of up to 250,000 tonnes of CO_2-e between 2021-2025
- where the 5% GHG intensity improvements are not able to be achieved, the shortfall will be voluntarily offset to achieve the equivalent carbon reduction from a 5% GHG intensity improvement

- the offsetting of 100% of reservoir CO_2 emissions, equating to approximately 2 million tonnes of CO_2-e over the 5 years (Woodside 2021c).

The Pluto GGAP (Woodside 2021c) presents the interim emissions reduction targets for 2021 to 2025 in Figure 1 (below) showing:

- the average predicted scope 1 GHG emissions from Pluto LNG Train 1 is 1.92 Mtpa of CO_2-e
- the average predicted reservoir emissions
- the emissions abated through the proponent's 5% energy efficiency improvement target (2021-2025) (Woodside 2021c).

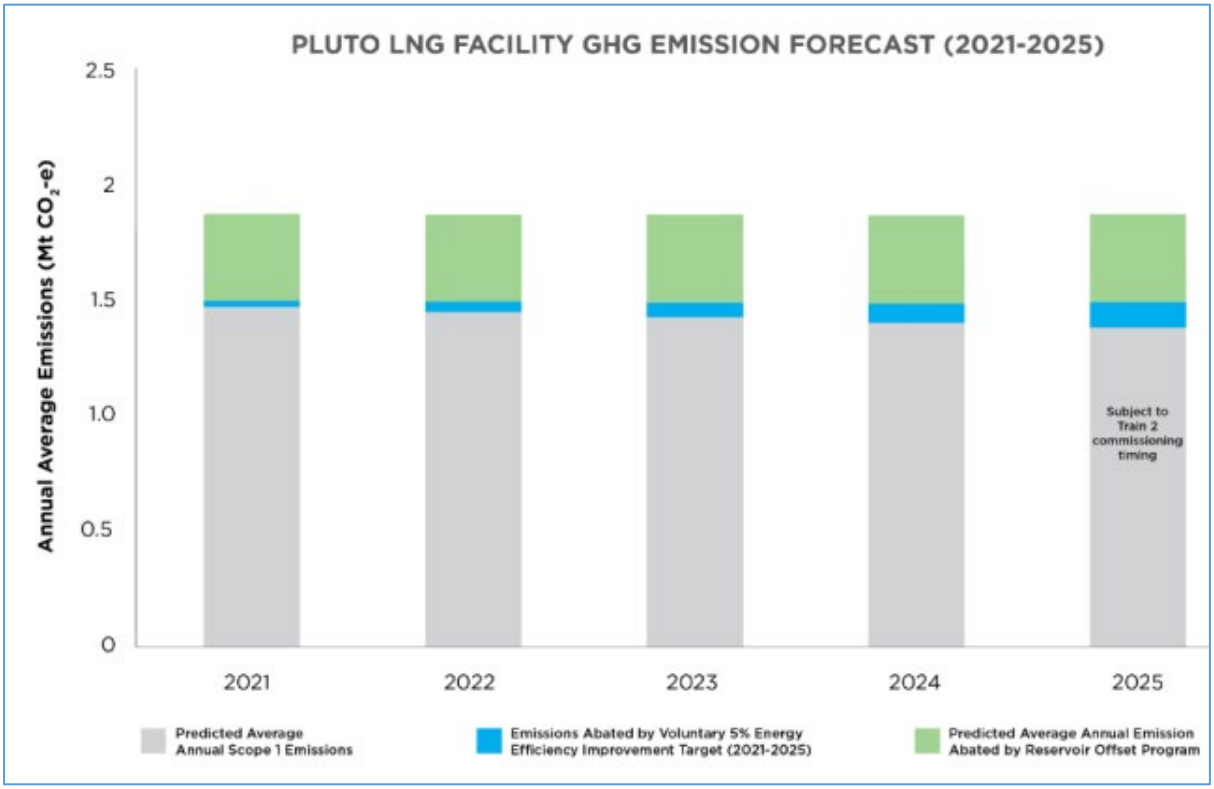

Figure 1: Pluto LNG Facility Train 1 – Interim targets (Woodside 2021c)

The Pluto GGAP (Woodside 2021c) details that the 5% energy efficiency improvement target is 'determined as a 5% improvement in the average GHG intensity from the previous 5-year period (that is 2016–2020) using NGERs methodology outlined in Appendix C' of the Pluto GGAP. The Pluto GGAP also details that this is 'dependent on production volume and gas composition' (Woodside 2021c).

Interim emissions reduction targets 2026 to 2034

The Pluto GGAP (Woodside 2021c) identifies 2 further interim emissions reduction targets, firstly over a 4-year period from 2026 to 2029, and secondly over a 5-year period from 2030 to 2034.

From 2026, the Pluto GGAP (Woodside 2021c) shows that Train 2 is expected to be commissioned. EPA Bulletin 1259 assessed that, with the commissioning of the Pluto

LNG Train 2, in addition to Pluto LNG Train 1, the estimated GHG emissions from the Pluto LNG facility increase from 1.92 to 4.1 Mtpa of CO_2-e.

The Pluto GGAP (Woodside 2021c) describes the proponent's interim emissions commitment, over the 4-year period from 2026 to 2029, to reduce estimated GHG emissions from 4.1 to 3.6 Mtpa of CO_2-e (a reduction of 500,000 tonnes per annum (tpa)) through design out measures. The design out emissions reduction is planned to be 'achieved with the incorporation of best available technology in the design of Train 2' (Woodside 2021c).

The Pluto GGAP (Woodside 2021c) interim emissions reduction target over the following 5-year period from 2030 to 2034 is detailed as follows:

- to reduce or abate emissions by 30%, based on the original emissions estimate of 4.1 Mtpa of CO_2-e
- to offset emissions where sufficient emissions reduction cannot be achieved through reduction or abatement to achieve the equivalent 30% emissions reduction (Woodside 2021c).

The interim emissions reduction targets from 2026 to 2034 are shown in Figure 2.

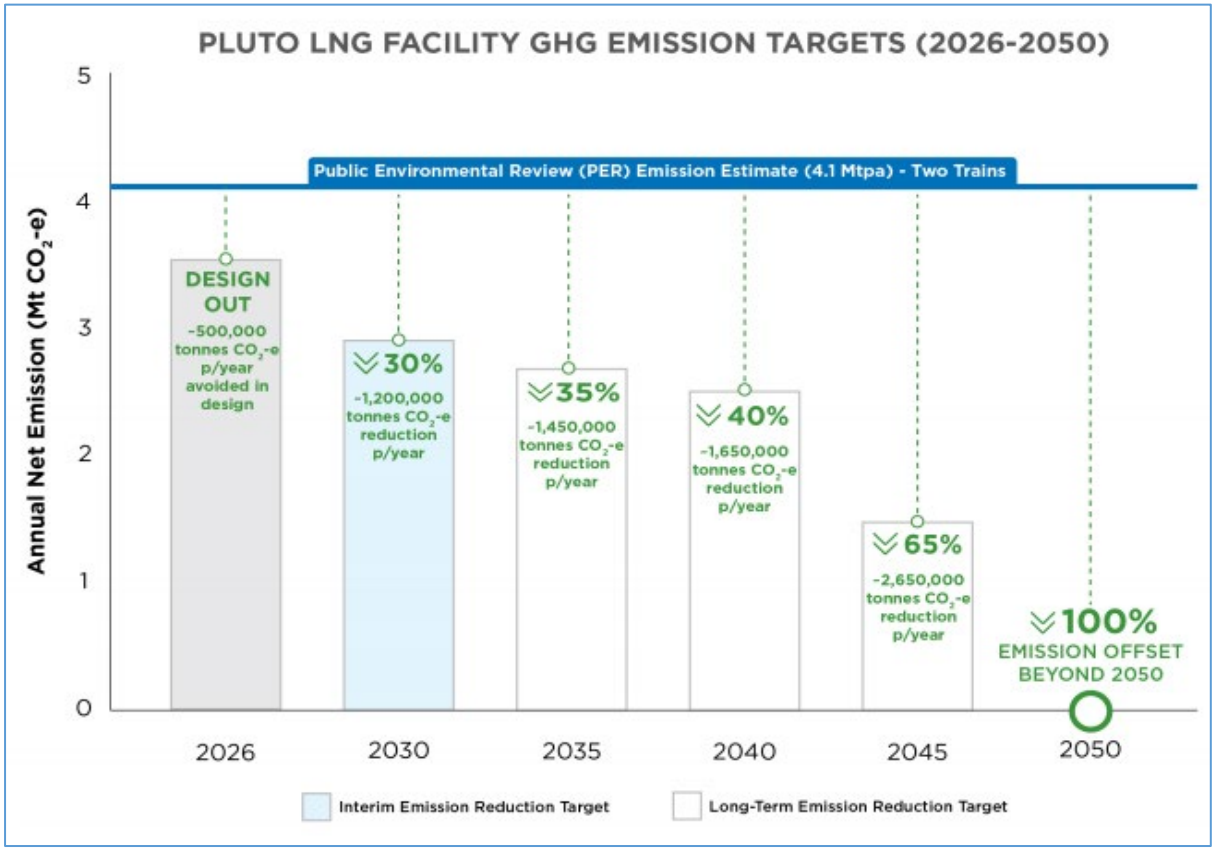

Figure 2: Pluto LNG Facility Trains 1 and 2 – Interim and long-term targets (Woodside 2021c)

Long-term emissions reduction targets from 2035 to 2050

The Pluto GGAP (Woodside 2021c) describes a further 4 GHG emissions reduction commitments, each over a 5-year period expressed as long-term emissions

reduction targets for 2035 to 2039, 2040 to 2044, 2045 to 2049 and from 2050 onwards.

The long-term emissions reduction targets are shown in Figure 2 and are detailed below:

- 'Reduce or abate emissions by 35% by 2035
- Reduce or abate emissions by 40% by 2040
- Reduce or abate emissions by 65% by 2045
- Reduce or abate emissions by 100% by 2050' (Woodside 2021c).

The Pluto GGAP (Woodside 2021c) details that 'the offset of reservoir carbon dioxide (CO_2) emissions, as required by Ministerial Statement 757, is included in these long-term targets' (Woodside 2021c).

Reservoir emissions

The Pluto GGAP (Woodside 2021c) details that a GHG emissions offset package 'has been implemented to offset reservoir CO_2 released to the atmosphere over the life of the project for the Pluto LNG Facility'. Under the approved Pluto GGAP (Woodside 2021c), the proponent proposes to address this requirement by either:

- 'retiring offset units arising from carbon stock sequestered in the Pluto Carbon Offset Project, or
- retiring other Eligible Offset Units' (Woodside 2021c).

The EPA notes that Ministerial Statement 757 currently requires the proponent to provide a GHG offset package which, at a minimum, offsets the equivalent of reservoir CO_2 released to the atmosphere for the life of the proposal. This requirement has been included within the interim emissions reduction targets for 2021 to 2025, and in the long-term emissions reduction targets from 2035 onwards, however the estimated volumes of reservoir CO_2 emissions are not defined beyond 2025 within the Pluto GGAP (Woodside 2021c).

The proponent has advised the EPA of the estimated reservoir CO_2 to be released to the atmosphere at the proposal for the commitment periods beyond 2025, as outlined in Table 2 below.

Table 2: Estimated reservoir CO2 to be released to the atmosphere for the commitment periods beyond 2025 (Woodside 2021d)

Commitment period	Length of period	Estimated reservoir CO_2 released to atmosphere in tpa
2026 – 2029	4 years	210,000 tpa of CO_2-e
2030 – 2034	5 years	220,000 tpa of CO_2-e
2035 – 2039	5 years	40,000 tpa of CO_2-e
2040 – 2044	5 years	40,000 tpa of CO_2-e

2045 – 2049	5 years	30,000 tpa of CO_2-e
2050 and beyond	5 years	10,000 tpa of CO_2-e

The EPA notes the advice provided by the proponent that the change in the estimated reservoir profile is due to the anticipated depletion of the Pluto gas field by 2039, and the proposed commencement of processing gas originating from the Scarborough gas field in 2035.

The EPA has considered whether reservoir CO_2 emissions abatement should be combined with or separate to the abatement of processing (that is non-reservoir) CO_2 emissions, for the purpose of condition setting. The EPA determined that it would be appropriate in this case that they are combined because:

- the proponent has committed in the Pluto GGAP to GHG emissions reductions for both reservoir and non-reservoir, and as such is taking reasonable actions to reduce or offset both of its primary sources of emissions
- the combined abatement does not significantly influence the overall trajectory of the proposal's emissions as outlined in the Pluto GGAP
- the reservoir CO_2 content of the overall emissions is 6.1% (at its peak during 2030 – 2034) and then < 1.15% from 2035 onwards, which is relatively low compared to the reservoir CO_2 content of other proposals where the EPA has considered the reservoir CO_2 emissions and abatement separately.

4.2.3 Consultation

In conducting its inquiry, the EPA invited submissions from the following stakeholders:

- Woodside Energy Ltd.
- Australian Petroleum Production and Exploration Associated Limited
- The Chamber of Minerals and Energy
- Environmental Defenders Office
- Conservation Council of Western Australia
- Murujuga Aboriginal Corporation.

At the time of consultation, stakeholders were provided with a copy of the Pluto GGAP Rev 3, dated April 2021 (Woodside 2021b) which was approved on 4 June 2021. Noting that the changes to the Pluto GGAP (Woodside 2021b) made in the Pluto GGAP (Woodside 2021c) approved on 31 August are minor, the EPA considers that this makes no material difference to the consultation process undertaken for the inquiry.

Submissions were received from all stakeholders. Several key issues were raised regarding with the appropriateness of the existing condition 12 of Ministerial Statement 757, contemporary GHG conditions, the Pluto GGAP (Woodside 2021b), reservoir offset requirements, and the management of cumulative GHG emissions.

In addition to the above issues, stakeholders raised a number of other issues that are outside of the scope of this inquiry.

4.2.4 Review and alignment of condition 12 of Ministerial Statement 757

The EPA has undertaken an alignment review of condition 12 of Ministerial Statement 757 against the elements of contemporary GHG conditions. The alignment review is outlined below in Table 3 and the current GHG management provisions established in 2007, set out in condition 12 of Ministerial Statement 757, is at Appendix 1.

Table 3 identifies the areas of Ministerial Statement 757, condition 12 that are inconsistent with contemporary GHG conditions. Table 3 also identifies where the Pluto GGAP (Woodside 2021c) is aligned with contemporary requirement.

Table 3: Alignment review of Ministerial Statement condition 12 against contemporary GHG conditions

Element	Alignment review of condition 12 against contemporary GHG conditions
Reservoir emissions management	The existing condition 12 requires the proponent to provide a GHG offset package to offset reservoir carbon dioxide for the life of the proposal. The existing condition 12 also requires the implementation, and ongoing review of the GHG offset strategies, requiring that they remain in place for the life of the proposal The Pluto GGAP (Woodside 2021c) identifies that the equivalent of 100% of reservoir carbon dioxide emissions, equating to approximately 2 million tonnes will be offset between 2021 to 2025. The Pluto GGAP (Woodside 2021c) does not clearly identify reservoir carbon dioxide offsets between 2026 and 2034. The Pluto GGAP identifies that the offset of reservoir carbon dioxide emissions is included in the long-term targets (2035 onwards).
Emission limits	The existing condition 12 does not include net GHG emissions limits along a trajectory (based on 5-yearly limits) to net zero by 2050 and instead requires the Pluto GGAP to include a target for progressive reduction of total net GHG emissions over time, and a program to achieve these reduction targets. The Pluto GGAP (Woodside 2021c) identifies interim and long-term emissions reduction targets, achieving net zero GHG emissions by 2050.
Implementation of the GGAP	The existing condition 12 requires the proponent to implement the GGAP.
Revise GHG management planning to the requirements of	The existing condition 12 requires the proponent to develop a GGAP (prior to the commencement of construction) to the

Element	Alignment review of condition 12 against contemporary GHG conditions
the Chief Executive Officer	requirements of the Minister for the Environment, on advice of the EPA.
Consultation	The existing condition 12 does not require the proponent to undertake consultation with key stakeholders. Appendix F of the Pluto GGAP details stakeholder consultation undertaken on the Pluto LNG Train 2 and/or the Pluto GGAP.
Contents of GHG management planning	The existing condition 12 requires the Pluto GGAP to include a target for progressive reduction of total net GHG emissions over time, and a program to achieve these reduction targets, whereas contemporary conditions require emissions reduction limits. While the existing condition 12 requires: • a calculation of GHG emissions associated with the proposal, and an estimate of GHG efficiency to be included in the Pluto GGAP, the condition does not require the Pluto GGAP to include this information for the life of the project • the inclusion of a comparison of the GHG efficiency with the efficiencies of other comparable projects, condition 12 does not require the Pluto GGAP to include emissions intensity benchmarking for the life of the proposal. The existing condition 12 requires ongoing review of offsets strategies only and not ongoing review of the Pluto GGAP. The Pluto GGAP contains a commitment to review and update the Pluto GGAP every 5 years, as a minimum. The existing condition 12 requires the Pluto GGAP to include specific measures to minimise GHG emissions and/or the GHG emissions per unit of product. The condition also requires a review of practices and available technology, and a continuous improvement approach, taking into consideration technological advances.
Commencement subject to GHG Management Plan approval	The existing condition 12 requires the proponent to develop the Pluto GGAP prior to the commencement of construction to the requirements of the Minister for Environment on advice of the EPA.
Summary GHG management plan and progress report	The existing condition 12 does not require the development of summary GHG management plans. However, the Pluto GGAP does include a commitment to support the 5-yearly revisions of the Pluto GGAP, with a summary report providing: • ‘the quantity of total GHG emissions and net GHG emissions from the facility • the type, quantity, identification or serial number, and date of retirement or cancellation of any authorised offset which have been retired or cancelled and which have been used to calculate net GHG emissions

Element	Alignment review of condition 12 against contemporary GHG conditions
	• greenhouse gas emission reduction measures that have been implemented to avoid and reduce GHG emissions • a graphical comparison of emission reduction commitments with actual emissions for compliance periods • performance against benchmarked facilities • GHG emissions intensity of the facility • a statement whether interim targets have been achieved' (Woodside 2021c).
Annual reporting	The existing condition 12 requires the proponent to undertake annual reporting of the progress made in achieving the GHG reduction target. Condition 4 of MS 757 requires the submission of an annual environmental compliance report against all conditions of MS 757. The Pluto GGAP includes a commitment to provide a summary of the most recent national greenhouse and energy reporting period, including: • 'total emissions (reservoir and non-reservoir emissions) • total emission intensity and non-reservoir emission intensity • volume of gas processed at the facility (Woodside 2021c).
Five yearly reporting	The existing condition 12 does not detail 5-yearly reporting. The Pluto GGAP (Woodside 2021c) details that public reporting will be part of the 5-yearly revisions of the Pluto GGAP.
Consolidated report, every audit and peer review every 5 years	The existing condition 12 does not require the submission of a consolidated report, or the auditing and peer review of information. Condition 12 requires regular auditing of GHG emissions, and emissions reduction strategies only.
Documentation publicly available	While the existing condition 12 requires the proponent to make the approved Pluto GGAP publicly available in a manner approved by the Chief Executive Officer, condition 12 does not require the proponent to make all approved GHG abatement programs publicly available on the proponent's website. The Pluto GGAP does contain a commitment to make the approved Pluto GGAP and supporting summary reports publicly available on the proponent's website.
Authorised offsets	The existing condition 12 does not specify offsets that are recognised by the EPA as meeting integrity requirements.
Definitions	The existing condition 12 applies definitions on 'no regrets' measures and 'beyond not regrets' measures. The Pluto GGAP includes definitions for key GHG criteria (i.e. reservoir emissions, GHG, GHG emissions (scope 1, 2 and 3).

4.2.5 Proposed changes to condition 12 of Ministerial Statement 757

Considering all the information provided to the EPA during its inquiry, the EPA is of the view that the existing GHG condition under Ministerial Statement 757 does not meet the requirements outlined in contemporary GHG conditions. In response to the s46 request from the Minister for Environment, the EPA recommends that condition 12 be changed to:

- be consistent with contemporary GHG conditions
- reflect the content of the approved Pluto GGAP (Woodside 2021c).

To provide certainty and transparency, the EPA considers that it is reasonable to recommend a condition that requires the proposal to achieve (or better) GHG emissions reductions (based on 5-yearly intervals) on a trajectory to net zero by 2050.

In response to the s46 request from the Minister for Environment, the GHG emissions reductions recommended to be reflected in condition 12 are aligned with the Pluto GGAP and include:

- interim emissions reduction targets (2021 to 2025) for the Pluto LNG Facility Train 1 (incorporating a 5% GHG intensity improvement, and the offset of estimated reservoir emissions)
- interim emissions reduction targets (2026 to 2029) for the Pluto LNG Facility Train 1 and the early operation of Train 2 (incorporating the offset of 100% of estimated reservoir emissions)
- long-term emissions reduction targets (2030 onwards) for the Pluto LNG Facility Train 1 and Train 2. The offset of reservoir carbon dioxide is included in these long-term emissions reduction limits as detailed in the approved Pluto GGAP (Woodside 2021c).

As detailed in the Pluto LNG Development Public Environmental Review (Woodside 2006), the design life of the proposal is up to 30 years. The EPA considers that the proposal commenced in May 2012 when the first shipment of LNG occurred. On this basis, the EPA has not imposed conditions beyond April 2042.

The EPA expects that where carbon offsets have been utilised to meet emissions reductions, the carbon offsets should meet offset integrity principles, and be based on clear, enforceable, and accountable methods. Authorised offsets are recommended to be defined to describe those offsets that will be recognised by the EPA. Condition 12 is also recommended to clearly define terms including emissions intensity, net GHG emissions, scope 1 GHG emissions, and reservoir emissions etc.).

The EPA recommends that the proponent be required to implement the approved Pluto GGAP (Woodside 2021c), subject to its consistency with emission reductions included within the recommended condition 12.

The EPA recommends that the proponent be required to revise the approved Pluto GGAP (Woodside 2021c) prior to 31 December 2024, to clearly outline emissions

reduction commitments and the relevant components of emissions, including but not limited to the timing and associated emissions for the commissioning of Train 2. Commitments are to be articulated numerically and graphically.

As the proposal is located within Murujuga, the EPA considers it reasonable that the revisions of the Pluto GGAP are undertaken in consultation with Murujuga key stakeholders including, but not limited to the Murujuga Aboriginal Corporation as representative of the following 5 traditional Aboriginal language groups:

- Ngarluma People
- Yaburara People
- Yindjibarndi People
- Mardudhunera People
- Wong-Goo-Tt-Oo People.

Conditions relating to reporting, audits, peer reviews, and summary plans and reports are recommended to be included within condition 12 to increase transparency and continuous improvement of the proposal's GHG emissions and emissions intensity. The recommended conditions require the proponent to make the reports, audits, peer reviews, summary plans and all reports required by the recommended condition publicly available on the proponent's website.

The EPA notes that the science and policy of GHG emissions and climate change is rapidly evolving. The EPA advises that the contemporary GHG emissions condition framework is expected to be able to be responsive to such evolution, particularly by enabling reviews of the Pluto GGAP to reflect any significant changes (for example, if there are material changes to relevant State, Commonwealth or international GHG science or policy). The EPA also notes that the Minister can direct the EPA to inquire into Ministerial Statement conditions at any time.

The EPA advises that the GHG condition it is recommending will be responsive enough to take account of changes in this evolving area as well as provide the flexibility to deliver innovation and improvement in best practice technologies. The conditions are also consistent with the EPA's *Environmental Factor Guideline – Greenhouse Gas Emissions* (EPA 2020b) which is based on a continuous improvement approach to emissions reduction.

Section 4.2.3, Table 1 of the Pluto LNG Annual Compliance Report 2020 (Woodside 2021a) details that up to December 2020, 2.7 million tonnes of reservoir emissions have been released to the atmosphere unabated. The annual compliance report states that abatement of reservoir carbon dioxide has been undertaken through:

- retired offset units (1.69 million tonne of CO_2-e)
- carbon stock from the Pluto Carbon Offset Project (1.16 million tonnes of CO_2-e) (Woodside 2021a).

A compliance audit was undertaken in 2018 by the Department of Water and Environmental Regulation to verify the offsetting of reservoir emissions for the proposal. The audit found information relating to reservoir emissions was missing

and requested further information from the proponent. The proponent advised that the carbon bio-sequestration was below the reservoir emissions of the project and that Woodside intended making up the difference by purchasing and retiring voluntary domestic and international offsets up to the end of 2020.

Noting this, the EPA considers it reasonable to retain the requirement to offset reservoir emissions up to 30 December 2020, after which the proponent will be required to meet the GHG emissions reduction limits within the recommended conditions.

Noting that the proposal was approved in December 2007, prior to the release of the EPA's *Environmental Factor Guideline – Greenhouse Gas Emissions* (EPA 2020b), the EPA advises that, with the application of the recommended conditions, and the proponent's adoption of efficient technology, continuous improvement, and commitment to ensuring net zero GHG emissions by 2050, the proposal is generally consistent with the EPA's *Environmental Factor Guideline – Greenhouse Gas Emissions* (EPA 2020b).

5. Conclusion and recommendations

Conclusion

The Minister for Environment has requested the EPA to inquire into and report on the matter of changing condition 12 of Ministerial Statement 757 to align it with contemporary GHG conditions reflecting the content of the Pluto GGAP (Woodside 2021c).

The EPA considers it is appropriate to change implementation condition 12 and replace it with a new contemporary implementation condition as detailed in Appendix 3.

Recommendations

Having inquired into this matter, the EPA submits the following recommendations to the Minister for Environment under s. 46 of the EP Act:

1. It is appropriate to change implementation condition 12 and replace it with a new contemporary implementation condition.
2. After complying with s. 46(8) of the EP Act, the Minister may issue a statement of decision to change condition 12 of Statement 757 in the manner provided for in the attached recommended Statement (Appendix 3).

6. Other advice

The Minister for Environment requested the EPA to inquire into and report on the matter of changing condition 12 of Ministerial Statement 757 to align it with contemporary GHG conditions reflecting the content of the Pluto GGAP (Woodside 2021c). This report fulfils the requirements of that request insomuch as it has been limited to reflecting a GGAP that was approved in 2021. No consideration of the contemporariness of the emissions reduction *trajectory* outlined in the Pluto GGAP was made in this report.

Given more recent scientific and/or policy developments in the field of climate change and the management of the potential impacts of industrial emissions on Aboriginal rock art on the Burrup Peninsula, the EPA recommends that further changes to Ministerial Statement 757 are necessary to protect the environment.

GHG Emissions Reduction Trajectory

The EPA advises that the emissions trajectory reflected in the approved Pluto GGAP (Woodside 2021c) is not consistent with recent EPA recommendations or Ministerial conditions imposed on proponents. It is important that reduction targets reflect the need to address climate change and the resulting impact on the Western Australian (WA) environment.

While the EPA notes the proposed reduction in notional total emission limits (2 trains) by 2030, there are likely to be opportunities to seek more substantial reductions this decade. The EPA holds additional concerns for the limited reductions proposed between 2030 and 2050. The Pluto GGAP is inconsistent with recent recommendations and Ministerial conditions (for example, Gorgon Gas Development (Ministerial Statement 1198)) and would welcome the opportunity to provide contemporary advice on the proposed emissions reduction trajectory of the Pluto proposal, with a view to implementing further changes to Ministerial Statement 757.

Protection of Rock Art on Murujuga

The EPA notes the need to ensure that industrial air emissions on the Burrup Peninsula are not adversely affecting ancient rock art. Murujuga (the Dampier Archipelago and Burrup Peninsula) has one of the largest collections of rock art anywhere in the world. The petroglyphs are of immense cultural and spiritual significance to Aboriginal people, and of significant state, national and international heritage value (Government of Western Australia 2019).

The Murujuga Cultural Landscape is an area of around 100,000 hectares that includes the Burrup Peninsula, Dampier Archipelago, and the underwater landscapes and sea surrounding them. A World Heritage nomination for the Murujuga Cultural Landscape was submitted to the UNESCO World Heritage Committee in January 2023.

The EPA acknowledges that the Murujuga Rock Art Strategy (MRAS) outlines a long-term framework to guide the protection of the petroglyphs located on Murujuga.

However, the EPA advises that, because the original assessment of the Pluto proposal pre-dates the development of the MRAS, presently there are no contemporary conditions imposed on the proponent relating to the protection of the rock art.

The EPA is therefore of the view that there is an urgent need for a s46 inquiry into the implementation conditions of Ministerial Statement 757 to ensure that air emissions from the proposal do not accelerate the weathering of rock art on Murujuga beyond natural rates.

References

EPA 2002, *Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No. 12*, October 2002 (WITHDRAWN).

EPA 2007, *Pluto LNG Development, Burrup Peninsula Report and Recommendations of the Environmental Protection Authority*, Bulletin 1259, July 2007.

EPA 2010, *Pluto Liquefied Natural Gas Development (Site B Option) Burrup Peninsula, Shire of Roebourne – Proposal under s46 of the EP Act to amend conditions 6-12, 6-13 and 6-14 of Ministerial Statement 757 EPA Report and Recommendations*, Report 1373, November 2010.

EPA 2020a, *Environmental Impact Assessment (Part IV Division 1 and 2) Procedures Manual*, Environmental Protection Authority, Perth WA.

EPA 2020b, *Environmental Factor Guideline – Greenhouse Gas Emissions*, Environmental Protection Authority, Perth, WA.

EPA 2021, *Statement of environmental principles, factors and objectives and aims of EIA*, Environmental Protection Authority, Perth, WA.

EPA 2022, *Environmental Impact Assessment (Part IV Division 1 and 2) Procedures Manual*, Environmental Protection Authority, Perth WA.

Government of Western Australia 2019, *Murujuga Rock Art Strategy*, February 2019

State of Western Australia 2016, *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2016, Western Australian Government Gazette*, No. 223, 13 December 2016.

State of Western Australia 2021, *Environmental Impact Assessment (Part IV Divisions 1 and 2) Administrative Procedures 2021, Western Australian Government Gazette*, No. 180, 22 October 2021.

Woodside 2011, *Pluto LNG Project Greenhouse Gas Abatement Program*, June 2011.

Woodside 2021b, *Pluto LNG Facility Greenhouse Gas Abatement Program (Revision 3)*, April 2021.

Woodside 2021c, *Pluto LNG Facility Greenhouse Gas Abatement Program (Revision 3a)*, June 2021.

Woodside 2021d, email correspondence providing greenhouse gas emissions values and emissions reductions targets received 6 September 2021.

Appendix 1: Condition 12 of Ministerial Statement 757

12 Greenhouse Gas Abatement

12-1 Prior to commencement of construction, the proponent shall develop a Greenhouse Gas Abatement Program:

- to ensure that the plant is designed and operated in a manner which achieves reductions in 'greenhouse gas' emissions as far as practicable;
- to provide for ongoing 'greenhouse gas' emissions reductions over time;
- to ensure that through the use of best practice, the total net 'greenhouse gas' emissions and/or "greenhouse gas" emissions per unit of product from the project are minimised; and
- to manage 'greenhouse gas' emissions in accordance with the *Framework Convention on Climate Change 1992*, and consistent with the *National Greenhouse Strategy*;

to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

This Program shall include:

(1) calculation of the 'greenhouse gas' emissions associated with the proposal, as advised by the Environmental Protection Authority;

Note: The current requirements of the Environmental Protection Authority are set out in: Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No. 12 published by the Environmental Protection Authority (October 2002). This document may be updated or replaced from time to time;

(2) specific measures to minimise the total net 'greenhouse gas' emissions and/or the 'greenhouse gas' emissions per unit of product associated with the proposal using a combination of 'no regrets' and 'beyond no regrets' measures;

(3) the implementation and ongoing review of 'greenhouse gas' offset strategies with such offsets to remain in place for the life of the proposal;

(4) estimation of the 'greenhouse gas' efficiency of the project (per unit of product and/or other agreed performance indicators) and comparison with

the efficiencies of other comparable projects producing a similar product, both within Australia and overseas;

(5) implementation of thermal efficiency design and operating goals consistent with the Australian Greenhouse Office Technical Efficiency guidelines in design and operational management;

(6) actions for the monitoring, regular auditing and annual reporting of 'greenhouse gas' emissions and emission reduction strategies;

(7) a target set by the proponent for the progressive reduction of total net 'greenhouse gas' emissions and/or 'greenhouse gas' emissions per unit of product and as a percentage of total emissions over time, and annual reporting of progress made in achieving this target. Consideration should be given to the use of renewable energy sources such as solar, wind or hydro power;

(8) a program to achieve reduction in "greenhouse gas" emissions, consistent with the target referred to in (7) above;

(9) entry, whether on a project-specific basis, company-wide arrangement or within an industrial grouping, as appropriate, into the Commonwealth Government's 'Greenhouse Challenge' voluntary cooperative agreement program.

Components of the agreement program include:

(a) an inventory of emissions;

(b) opportunities for abating 'greenhouse gas' emissions in the organisation;

(c) a 'greenhouse gas' mitigation action plan;

(d) regular monitoring and reporting of performance; and

(e) independent performance verification.

(10) review of practices and available technology; and

(11) 'Continuous improvement approach' so that advances in technology and potential operational improvements of plant performance are adopted.

Note: In (2) above, the following definitions apply:

(a) 'no regrets' measures are those which can be implemented by a proponent and which are effectively cost-neutral; and

(b) 'beyond no regrets' measures are those which can be implemented by a proponent and which involve additional costs which are not expected to be recovered.

12-2 For the life of the project, the proponent shall provide a greenhouse gas offset package which, as a minimum, offsets the reservoir carbon dioxide released to the atmosphere, to the requirements of the Minister for the Environment.

12-3 The proponent shall implement the Greenhouse Gas Abatement Program required by condition 12-1.

12-4 Prior to commencement of construction, the proponent shall make the Greenhouse Gas Abatement Program required by condition 12-1 publicly available in a manner approved by the CEO.

Appendix 2: Identified decision-making authorities and recommended environmental conditions

Identified decision-making authorities

The decision-making authorities (DMAs) in the table below have been identified for the purposes of s. 45 as applied by s. 46(8) of the *Environmental Protection Act 1986*.

Decision-Making Authority	Legislation (and Approval)
1. Minister for Aboriginal Affairs	*Aboriginal Heritage Act 1972* - consent to certain uses of land
2. Minister for Mines and Petroleum	*Petroleum Pipelines Act 1969,* Petroleum (Submerged Lands) (Environment) Regulations 2012, Petroleum Pipelines (Environment) Regulations 2012: • Grant of petroleum titles and licences • Development drilling, subsea manifolds riser platform approvals • Onshore pipeline approvals.
3. Minister for Lands	s.79 *Land Administration Act* 1997 (LAA) - Site A and B – short-term and long-term land leases. s.144 LAA – North West Shelf Venture quarry easement. s.144 LAA – North West Shelf haul road easement. s.144 LAA – North West Shelf haul road – long term land lease. s.79 LAA – Gap Ridge (accommodation village) long term land lease). s.144 LAA Gap Ridge – easement over Lot 502 for drainage outfall work. Road access from Burrup Road to Site B. Right of way for onshore trunkline.

Decision-Making Authority	Legislation (and Approval)
4. Chief Executive Officer, Department of Water and Environmental Regulation	*Environmental Protection Act 1986,* Division 2, Part III - *c*learing permit. *Environmental Protection Act 1986* Division 3, Part V – *li*cence.
5. City of Karratha	*Planning and Development Act 2005* – development approvals. *Building Act 2011* – building permits.
6. Chief Executive Officer, Pilbara Ports Authority	*Port Authorities Act 1999* sections 30 and 35: • Approval to lease. • Approval to construct jetty. • Pipeline crossing of North West Shelf Shipping channel. • Pluto channel alignment to North West Shelf channel. • Heavy load out facility / laydown / MOF road lease. • Seabed lease – jetty and turning circle. • Marine operations plan. • Jetty exclusion zone. • Suicide Alley – long term land lease.
7. Chief Dangerous Goods Officer, Department of Mines, Industry Regulation and Safety	*Dangerous Goods Safety Act 2004* (Storage and handling of dangerous goods)

Note: In this instance, agreement is only required with DMA 1, 2 and 3 since these DMAs are Ministers.

Appendix 3: Recommended environmental conditions

STATEMENT TO CHANGE THE IMPLEMENTATION CONDITIONS APPLYING TO A PROPOSAL
(Section 46 of the *Environmental Protection Act 1986*)

PLUTO LIQUIFIED NATURAL GAS DEVELOPMENT (SITE B OPTION) BURRUP PENINSULA, SHIRE OF ROEBOURNE

Proposal:	The construction of facilities for the development of the gas fields and the processing and export of the gas at a liquefied natural gas plant to be constructed on the Burrup Peninsula. Extensive dredging will be undertaken adjacent to the export facility.
Proponent:	Woodside Energy Ltd. Australian Company Number 005 482 986
Proponent Address:	11 Mount Street, 240 St Georges Terrace, PERTH WA 6000

Report of the Environmental Protection Authority: 1734
Preceding Statement/s Relating to this Proposal: 757 and 850

Pursuant to section 45 of the *Environmental Protection Act 1986,* as applied by section 46(8), it has been agreed that the implementation conditions set out in Ministerial Statement No. 757, be changed as specified in this Statement.

Condition 12 of Ministerial Statement 757 is deleted and replaced with:

Greenhouse Gas Abatement

12-1 The proponent must take measures to ensure that the **Net GHG Emissions** do not exceed:

(1) 7,350,000 tonnes of **CO_2-e** for the period between 1 January 2021 and 31 December 2025;

(2) 13,560,000 tonnes of **CO_2-e** for the period between 1 January 2026 and 31 December 2029;

(3) 14,350,000 tonnes of **CO_2-e** for the period between 1 January 2030 and 31 December 2034;

(4) 13,325,000 tonnes of **CO_2-e** for the period between 1 January 2035 and 31 December 2039; and

(5) 5,728,767 tonnes of **CO_2-e** for the period between 1 January 2040 and 30 April 2042.

12-2 Subject to, and to the extent that it is not inconsistent with, condition 12-1, the proponent must implement the Pluto LNG Facility Greenhouse Gas Abatement Program (Rev 3a) dated June 2021 (**Rev 3a GHG Abatement Program**) until the **CEO** confirms in writing that a revision of that plan meets the requirements of conditions 12-3(1) to 12-3(5).

12-3 Prior to 31 December 2024, or such greater time approved in writing by the **CEO**, the proponent must revise in consultation with the **Murujuga Key Stakeholders**, and submit to the **CEO** a revision of the **Rev 3a GHG Abatement Program** that:

(1) is consistent with the achievement of the **Net GHG Emissions** limits in condition 12-1 (or the achievement of **Net GHG Emissions** reductions beyond those required by those limits);

(2) specifies the estimated **Proposal GHG Emissions**, **Reservoir Emissions**, **Non-Reservoir Emissions**, **Total Emissions Intensity**, **Reservoir Emissions Intensity**, **Non-Reservoir Emissions Intensity** for the life of the proposal;

(3) include a comparison of the estimated **Proposal GHG Emissions, Reservoir Emissions, Non-Reservoir Emissions, Total Emissions Intensity, Reservoir Emissions Intensity** and **Non-Reservoir Emissions Intensity** for the life of the proposal against other comparable facilities;

(4) identifies and describes any measures that the proponent will implement to avoid, reduce and/or offset (including offsets developed in consultation with **Murujuga Key Stakeholders**) **Proposal GHG Emissions**, **Reservoir Emissions** and/or **Non Reservoir Emissions** and/or reduce the **Reservoir Emissions Intensity**, **Non-Reservoir Emissions Intensity** and/or **Total Emissions Intensity** of the proposal; and

(5) provides for the future review of the program to:

(a) assess the effectiveness of measures referred to in condition 12-3(4); and

(b) identify and describe options for future measures that the proponent may or could implement to avoid, reduce and/or offset **Proposal GHG Emissions**, **Reservoir Emissions** and/or **Non-Reservoir Emissions** and/or reduce the **Reservoir Emissions Intensity**, **Non-Reservoir Emissions Intensity** and/or **Total Emissions Intensity** of the proposal.

12-4 The proponent shall submit with the revised **GHG Abatement Program** required by condition 12-3, the dates and estimated **Net GHG Emissions** for the **Environmental Commissioning** of the **Pluto LNG Train 2**.

12-5 The proponent must not commence **Environmental Commissioning** of the **Pluto LNG Development Train 2** until the **CEO** has confirmed in writing that the revision of the **Rev 3a GHG Abatement Program** required by condition 12-3 satisfies the requirements of condition 12-3(1) to 12-3(5) and 12-4.

12-6 The proponent:

(1) may submit to the **CEO** a revision of the **Confirmed** Pluto LNG Facility Greenhouse Gas Abatement Program (GHG Abatement Program) prepared in consultation with the **Murujuga Key Stakeholders** at any time;

(2) must submit to the **CEO** a revision of the **Confirmed** GHG Abatement Program, prepared in consultation with the **Murujuga Key Stakeholders**:

(a) if there is a material risk that condition 12-1 will not be complied, including but not limited to as a result of a change to the proposal;

(b) with each consolidated report required under condition 12-10(1); and

(c) as and when directed by the **CEO**.

12-7 Any revision of the **Confirmed** GHG Abatement Program referred to condition 12-6 must meet the requirements of condition 12-3(1) to 12-3(5).

12-8 Within one (1) month of receiving confirmation in writing from the **CEO** that a GHG Abatement Program submitted to the **CEO** under condition 12-3 or 12-6 satisfies conditions 12-3(1) to 12-3(5), the proponent must submit a separate summary of the relevant **Confirmed** GHG Abatement Program to the **CEO**, which must:

(1) include a summary of the matters specified in conditions 12-3(1) to 12-3(5); and

(2) be published as required by condition 12-13(2).

12-9 The proponent must implement the most recent version of the **Confirmed** GHG Abatement Program until the **CEO** has confirmed by notice in writing that it has been demonstrated that the **Net GHG Emissions** limits in condition 12-1 have been met.

12-10 The proponent must submit an annual report to the **CEO** and the **Murujuga Key Stakeholders** each year by 31 March, or such other date within that calendar

year as is agreed in writing by the **CEO** to align with other reporting requirements for **GHG**, specifying for the previous calendar year:

(1) the quantity of **Proposal GHG Emissions**;

(2) the quantity of **Reservoir Emissions**;

(3) the quantity of **Non-Reservoir Emissions**;

(4) the **Total Emissions Intensity**, **Reservoir Emissions Intensity** and **Non-Reservoir Emissions Intensity**, including calculations and calculation methodology for each; and

(5) the tonnes of **LNG** produced (loaded onto ships).

12-11 The proponent must submit to the **CEO** and the **Murujuga Key Stakeholders** by 31 March 2026 or such other date within that calendar year as is agreed by the **CEO** in writing to align with other reporting requirements for **GHG**, and every five (5) years thereafter:

(1) a consolidated report specifying:

(a) for each of the periods specified in condition 12-1 that have lapsed, the matters referred to in condition 12-10(1) to 12-10(5);

(b) for the period specified in condition 12-1 that ended on 31 December of the year before the report is due:

i. the quantity of **Proposal GHG Emissions**, **Reservoir Emissions** and **Non-Reservoir Emissions**;

ii. the **Net GHG Emissions**;

iii. the type, quantity, identification or serial number, and date of retirement or cancellation of any **Authorised Offsets** which have been retired or cancelled and which have been used to offset **Proposal GHG Emissions** for the purposes of complying with condition 12-1, including written evidence of such retirement or cancellation; and

iv. any measures that have been implemented to avoid or reduce **Proposal GHG Emissions**; and

(2) an audit and peer review report of the consolidated report required by condition 12-11(1), carried out by an independent person or independent persons with suitable technical expertise dealing with the suitability of the methodology used to determine the matters set out in the consolidated report, whether the consolidated report is accurate and whether the consolidated report is supported by credible evidence.

12-12 A consolidated report referred to in condition12-10(1) must be accompanied by:

(1) a revision of the **Confirmed** GHG Gas Abatement Program under condition 12-6(2)(b); and

(2) a separate summary report, covering each of the periods specified in condition 12-1, and which includes:

(a) a graphical comparison of **Net GHG Emissions** with the **Net GHG Emissions** limits detailed in condition 12-1;

(b) proposal **Total Emissions Intensity** compared to comparable facilities;

(c) a summary of any measures to avoid or reduce the **Proposal GHG Emissions** undertaken by the proponent; and

(d) a clear statement as to whether limits for **Net GHG Emissions** set out in condition 12-1 have been met, and whether future **Net GHG Emissions** limits are likely to be met, including a description of any reasons why those limits have not been, and/or are unlikely to be met.

12-13 The proponent must make the **Confirmed** GHG Abatement Program, the summary of that program required by condition 12-8, and all reports required by condition 12 publicly available on the proponent's website within the timeframes specified below for the life of the proposal, or in any other manner and for any other timeframe specified in writing by the **CEO**:

(1) any **Confirmed** GHG Abatement Program, within two weeks of receiving written confirmation from the **CEO** that it satisfies the requirements of conditions 12-3(1) to 12-3(5);

(2) the summary of any **Confirmed** Pluto LNG Facility Greenhouse Gas Abatement Program referred to in condition 12-8 and the reports referred to in conditions 12-10, 12-11 and 12-12 within two weeks of submitting the document to the **CEO**.

12-14 From the date of issue of Ministerial Statement 757 up to the 31 December 2020, the proponent must provide a greenhouse gas offset package which, as a minimum, offsets the reservoir carbon dioxide released to the atmosphere during that period, to the requirements of the **CEO**.

Table 3: Abbreviations and Definitions

Acronym or Abbreviation	Definition or Term
Authorised Offsets	Units representing **GHG Emissions** issued under one of the following schemes and cancelled or retired in accordance with any rules applicable at the relevant time governing the cancellation or retiring of units of that kind: (a) Australian Carbon Credit Units issued under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth); (b) Verified Emission Reductions issued under the Gold Standard program; (c) Verified Carbon Units issued under the Verified Carbon Standard program; or (d) other offset units that the Minister has notified the proponent in writing meet integrity principles and are based on clear, enforceable and accountable methods.
CEO	The Chief Executive Officer of the Department of the Public Service of the State responsible for the administration of section 48 of the *Environmental Protection Act 1986*, or his delegate.
Confirmed	Means, at the relevant time, in relation to a plan required to be made and submitted to the **CEO**, the plan that the **CEO** confirmed, by notice in writing, meets the requirements of the relevant condition
GHG Emissions or CO_2-e	Greenhouse gas emissions expressed in tonnes of carbon dioxide equivalent (CO_2-e) as calculated in accordance with the definition of 'carbon dioxide equivalence' in Section 7 of the National Greenhouse and Energy Reporting Act 2007 (Cth), or, if that definition is amended or repealed, the meaning set out in an Act, regulation or instrument concerning greenhouse gases as specified by the Minister.
Environmental Commissioning	The activities undertaken after construction to verify that the equipment does not create adverse impacts and performs to the required specifications
Greenhouse gas or GHG	Has the meaning given by Section 7A of the *National Greenhouse and Energy Reporting Act 2007* (Cth) or, if that definition is amended or repealed, the meaning set out in an Act, regulation or instrument concerning greenhouse gases as specified by the Minister.
LNG	Liquefied natural gas
Mtpa	Million tonnes per annum
Murujuga Key Stakeholders	Means the following: • Murujuga Aboriginal Corporation as representative of the following five traditional Aboriginal language groups: ○ Ngarluma People

	○ Yaburara People ○ Yindjibarndi People ○ Mardudhunera People ○ Wong-Goo-Tt-Oo People.
Net GHG Emissions	**Proposal GHG Emissions** for a period less any reduction in **GHG Emissions** represented by the cancellation or retirement of **Authorised Offsets** which comply with the **Timing and Reporting Requirements**.
Non-reservoir Emissions	**Proposal GHG Emission** other than **Reservoir Emissions**.
Non-Reservoir Emissions Intensity	**Non-Reservoir Emissions** per tonne of **LNG** produced from the proposal.
Proposal GHG Emissions	**GHG Emissions** (including **Reservoir Emissions**) released to the atmosphere as a direct result of an activity or series of activities that comprise/s or form/s part of the proposal.
Reservoir Emissions	**Proposal GHG Emissions** that were separated (from the natural gas) in an acid gas removal unit and released unused and unprocessed.
Reservoir Emissions Intensity	**Reservoir GHG Emissions** per tonne of **LNG** produced from the proposal.
Timing and Reporting Requirements	The Timing and Reporting Requirements are that the Authorised Offsets: a) were cancelled or retired between 1 January of the relevant period until 31 March in the year after the period ends (or such other date within that calendar year as agreed in writing by the **CEO**); b) have been identified as cancelled or retired in the relevant report as required by condition 12-11(1)(b)(iii); c) have not been identified as cancelled or retired in any prior report as required by condition 12-11(1)(b)(iii); and d) have not been used to offset any **GHG Emissions** other than **Proposal GHG Emissions**; and e) were not generated by avoiding **Proposal GHG Emissions**.
Total Emissions Intensity	**Proposal GHG Emission** per **t** of **LNG** produced from the proposal facility.
t	Tonnes