



Environmental Factor Guideline

Greenhouse Gas Emissions

The environmental objective of the factor Greenhouse Gas Emissions is:

To mitigate greenhouse gas emissions and consequently minimise the risk of contributing to climate change.

Purpose

The purpose of this guideline is to communicate how the factor *Greenhouse Gas Emissions* is considered by the Environmental Protection Authority (EPA) in the environmental impact assessment (EIA) process.

Under the *Environmental Protection Act 1986* (EP Act), the EPA has the objective to *use its best endeavours to protect the environment and to prevent, control and abate pollution and environmental harm*. This guideline establishes the reasons why the EPA pays close attention to greenhouse gas emissions in protecting the Western Australian environment, considering this obligation.

Specifically, the guideline:

- defines the factor *Greenhouse Gas Emissions* and explains the associated objective
- describes how this factor links with other environmental factors
- describes EIA considerations for this factor
- describes how these emissions pose a risk to environmental values
- identifies activities that can impact on the factor
- describes issues commonly encountered by the EPA during EIA of this factor.

More specific guidance on the information that may be required to undertake EIA related to this factor is found in *Technical Guidance – Mitigating Greenhouse Gas Emissions*.

What are greenhouse gases (GHG) and their relationship to Western Australia's environment?

Australia currently contributes around 1.3 per cent of global greenhouse gas emissions¹.

The United Nations Framework Convention on Climate Change (UNFCCC) provides the framework for international cooperation to reduce global greenhouse gas emissions and limit temperature increases.

¹ World Resources Institute (2017, April 11). *CAIT Climate Data Explorer*. Retrieved from: <http://cait.wri.org> ² State of the Climate 2016. CSIRO and the Bureau of Meteorology

The UNFCCC Paris Agreement entered into force on 4 November 2016 and Australia is currently committed to reducing greenhouse gas emissions by 26 to 28 per cent below 2005 levels by 2030. This nationally-determined contribution is equivalent to a halving of per capita emissions and a two-thirds reduction in economic emissions intensity compared to 2005 levels. The Paris Agreement states that net zero emissions will be required in the second half of the century to achieve its goals of limiting warming to well below two degrees Celsius above pre-industrial levels².

The EPA acknowledges that the risk of climate impacts in Western Australia will be dictated, to a significant extent, by greenhouse gas emitting activities occurring outside the State and, indeed, outside Australia.

While reducing greenhouse gas emissions requires coordinated national action within the framework of binding international agreements, an effective and equitable global response requires Australia to significantly reduce both emissions intensity and emissions per capita.

The EP Act provides for the protection of Western Australia's environment from incremental impacts, and the EPA is obliged to consider the effects of proposals which would increase the State's emissions, and potentially impede the national abatement task.

The environmental objective for the factor *Greenhouse Gas Emissions*

The environmental objective recognises the fundamental link between GHG emissions and their potential to harm environmental values. The Principles of the EP Act underscore the need to consider this objective where emissions are significant, not least of which are the principles of waste minimisation, the precautionary principle and intergenerational equity.

Therefore, the focus of this environmental factor and its objective is:

- the potential for GHG emissions from individual projects in Western Australia to contribute to State and national greenhouse gas emissions
- how GHG emissions are mitigated.

Considerations for environmental impact assessment

Considerations for EIA for the factor *Greenhouse Gas Emissions* include, but are not necessarily limited to:

- application of the mitigation hierarchy to avoid, reduce and offset emissions
- the application of best practice design, technology and management appropriate to mitigate GHG emissions
- whether proposed mitigation is achievable and verifiable.

While considering the significance of GHG emissions, the EPA may have regard to the various matters outlined in Section 5 of the [Statement of Environmental Principles, Factors and Objectives](#).

Environmental value affected by GHG emissions and its significance

'Environmental value' is defined under the EP Act as a beneficial use, or an ecosystem health condition. In the context of this environmental factor and objective, the EPA recognises that limiting net GHG emissions will reduce overall contributions to atmospheric greenhouse gas emissions and the risk of global climate change.

2 The Paris Agreement, United Nations Framework Convention on Climate Change, 2016.

Impacts

Development activities that have the potential to emit GHG include, but are not necessarily limited to:

- the extraction, processing and refining of oil and gas
- the burning of fossil fuels for energy production
- mining and processing of metallic and non-metallic minerals
- waste to energy plants
- infrastructure development
- chemical manufacturing and processing
- development that clears land of vegetation.

Information required for EIA

Where *Greenhouse Gas Emissions* has been identified as a preliminary key environmental factor, the EPA may require the proponent to provide information or studies including, but not limited to the following categories.

Estimated emissions

The EPA will expect, at a minimum, to see estimates of GHG emissions for a proposal, including:

- scope 1 – the direct emissions from activities at a proposed facility
- scope 2 – emissions from the indirect consumption of energy.

Measures to avoid, reduce and offset GHG emissions

The EPA may expect to see what measures have been taken or are proposed to mitigate GHG emissions, including:

- avoiding emissions through best practice design and benchmarking
- continuous improvement to reduce emissions over the project life
- offsetting emissions (carbon offsets).

The EPA will also consider reporting measures to enhance transparency and public accountability for major emitters.

More detailed guidance on considerations related to greenhouse gas emissions and the information required for assessment can be found in the *Technical Guidance – Mitigating Greenhouse Gas Emissions*.

The Issues

The following issues are matters that are commonly encountered by the EPA because of the nature of proposals and schemes that are referred to it. Background on these issues is provided here to help proponents and the community engage with EIA. This issues section will be updated from time to time to reflect new issues as they arise in referrals and EIA.

Reasonable and practicable measures to mitigate harmful emissions

Consistent with the objective of the Authority under the EP Act to use its best endeavours to protect the environment and to prevent, control and abate pollution and environmental harm, the EPA encourages the application of all practical measures to avoid, reduce and offset GHG emissions. This might include facility design, technology choice, operation and closure.

EPA consideration of what measures can be expected in this regard include:

- identification of the latest technologies and environmental management procedures available at the scale of the relevant proposal
- assurances that the proposed technologies and procedures are capable of achieving stated GHG reductions, and are verifiable
- assurances that proposed mitigation measures (e.g., carbon sequestration or offsets) are effective and verifiable
- identification of local conditions and current circumstances of the relevant proposal that might influence the choice of technologies or procedures to mitigate GHG emissions.

Relationship to requirements by the Commonwealth

In the absence of effective regulatory requirements to mitigate GHG emissions, the EPA will continue to scrutinise emissions from proposals subject to EIA. The EPA does not intend to duplicate other regulatory mechanisms and will revise its policy position if such emissions are adequately regulated through other mechanisms in the future.

Relationship to developments with existing Ministerial Statement

The EPA will have regard to this policy for all new proposals referred as well as previously authorised proposals referred back to the EPA for reconsideration of conditions.

Expectation regarding GHG (carbon) offsets

As climate change is a global phenomenon, and emissions occurring in one location contribute to well-mixed anthropogenic GHG emissions in the global atmosphere, the location of carbon offsets is largely immaterial. However, the EPA advises that where carbon offsets are conditioned, they should meet offset integrity principles and be based on clear, enforceable and accountable methods. The National Carbon Offset Standard, or equivalent international standards, provide an existing benchmark in this regard.

The EPA notes the potential for such offsets to be of wider net benefit to the environment and to society.

Consideration of GHG emissions beyond the implementation of a proposal

The EPA recognises that some development proposals result in products or services that in turn have GHG implications beyond the activities of the proposal itself. Indirect (scope 3) or value chain emissions are generated from upstream or downstream activities by suppliers or customers that use a company's products.

The EPA notes that estimation of scope 3 emissions can be administratively complex, methodologically challenging, and dependent on contestable or speculative assumptions.

Where there is a sufficiently clear link between the proponent's activities and indirect scope 3 emissions, and where the latter are not likely to be trivial or negligible compared with direct (scope 1) and indirect (scope 2) emissions, the EPA will have due regard to such emissions in the EIA process.

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