

Appeal against the content of, and recommendations in, an EPA report on a proposal:

EPA Report 1727 on the North West Shelf Project Extension Proposal

Appellants:

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Date:

21 July 2022

GROUND 1

Failure to consider and make a recommendation or finding about the proponent's Scope 3 emissions claims.

GROUND 2

Failure to recommend the electrification of LNG production at NWS (North West Shelf) Project facilities, the use of renewable energy sources and battery storage to meet electricity requirements, and other direct abatement options for all of the processes involved in producing LNG and domestic gas.

GROUND 3

Failure to fully and properly consider risks to the rock art within Murujuga and misapplication of the precautionary principle.

GROUND 4

Failure to independently assess significance of the proposal's total emissions and the proponent's claims that Scope 1, 2 and 3 emissions are insignificant at the global level.

GROUND 5

The EPA appears to have misunderstood the findings of the IPCC AR6 Working Group I physical science assessment of the risks of exceeding 1.5 degrees and this misunderstanding appears to have conditioned, at least in part, the EPA’s assessment of this proposal.

GROUND 6

The EPA appears to have uncritically accepted the baseline emissions put forward by the proponent from which the emission reductions are calculated in its *Greenhouse Gas Management Plan*. The baseline emissions appear to significantly exceed the actual emissions for the baseline and hence the reductions in the proponent’s *Greenhouse Gas Management Plan* appear inflated compared to the actual emissions in the period leading to 2020 through to about 2030.

GROUND 7

Uncritical acceptance of offsets for application to large scale emission reduction from the NWS project extension, failure to require permanence of offsets used by the proponent over any timeframe and a related failure to consider the long term implications of CO₂ emissions from this proposal beyond the period in which offsets may or may not be effective.

GROUND 8

Failure to consider the inconsistency of the proponent’s 50 year extension of this project with the Paris Agreement compatible energy transition, including the findings of the International Energy Agency’s Net Zero Roadmap, and more recent assessments by the IEA in particular the 2022 World Energy Investment Outlook.

1. As set out in these preliminary appeal grounds, we are concerned that the EPA’s report has not delivered on its purpose and objects in the EP Act and we submit that the Minister

must uphold this appeal and vary the EPA's recommendations to instead recommend that the proposal may not be implemented due to unacceptable impacts;

GROUND 1

Failure to consider and make a recommendation or finding about the proponent’s Scope 3 emissions claims.

2. The EPA erred in failing to consider and make a finding or recommendation about the proponent’s specific claims regarding the Scope 3 emissions from the proposal.

The proponent’s Scope 3 emissions claims

3. During the course of the assessment, the proponent advanced specific claims about Scope 3 emissions from the proposal in the Environmental Review documentation, including in the *Environmental Review Document* and in the two iterations of the proposal’s *Greenhouse Gas Management Plan*. These documents informed the EPA’s assessment of the proposal and public consultation. These documents will also inform decision-making by the Environment Minister and other decision-making authorities about implementation of the proposal.
4. Statements in the proponent’s *Environmental Review Document* and in the two iterations of the proposal’s *Greenhouse Gas Management Plan* make it clear that the proponent believes that the Environment Minister and other decision-making authorities will take the Scope 3 emissions claims made in those document into account when, in the process of reaching an implementation decision, they consider the proposal’s ‘particular characteristics’ and ‘specific circumstances’, pursuant to the State Government’s *Greenhouse Gas Emissions Policy for Major Projects*.
5. Some of the proponent’s specific Scope 3 emissions claims are set out in Table 1 below.

Table 1

Proponent’s Scope 3 emissions claims (Emphasis added by underlining).

Environmental Review documentation

Environmental Review Document

(page 17 – Executive Summary)

The Proposal will contribute up to 0.03% ¹of global greenhouse gas emissions and this contribution is assessed as contributing to a slight impact (i.e. increase) to global emissions. It was not possible to quantitatively assess the impact of the Proposal to any regional, state or global climate changes.

¹ The figure 0.03% reflects ensure total direct (Scope 1 and 2) emissions from the proposal not exceed 7.7 Mtpa, which is said to equate to between 0.01% and 0.03% of annual global greenhouse gas emissions concentrations, depending on future emissions trends, as set out in Table 6-16 of the *Environmental Review Document*. For all

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.

(page 116)

While the Proposal will contribute directly to global GHG emissions, it should be noted that gas significantly contributes to reducing net emissions and improving access to a reliable modern energy supply (e.g. renewable energy) (IPCC, 2014). According to the IPCC (2014), electricity generated from gas has on average half the GHG emissions of electricity generated from coal. The IEA has calculated that the coal-to-gas switching helped avert 95 mt of CO₂ emissions in 2018. Furthermore, gas plays an important role in the IEA sustainable development scenario (SDS) particularly in terms of providing peaking and balancing power instead of baseload generation and replacing more emissions intensive fuels in the industry and transport sectors (IEA, 2019b). Woodside estimates of its global GHG emission contribution do not account for the potential benefits that could be attributed to gas. Woodside is actively working to create and expand markets where LNG substantially reduces emissions and where lower emissions alternatives are unlikely to displace LNG. The potential magnitude of the NWS Project’s contribution to global GHG emissions is assessed as slight, given the above information and the small percentage of the contribution when compared to total global GHG emissions. The Proposal’s GHG emissions are managed through the dedicated GHG Management Plan. With the implementation of the GHG Management Plan, which includes identification and implementation of opportunities to reduce emissions, together with the complex interaction of GHG emissions in the atmosphere and the potential for gas to contribute to a reduction in net global GHG emissions, the residual impact is assessed as low.

Environmental Review documentation

Appendix B – *North West Shelf Project Extension Greenhouse Gas Management Plan* (Revision 1, December 2019) (page 11-12)

In August 2019, the Western Australian Government announced its Greenhouse Gas Emissions Policy for Major Projects (State GHG Policy) to guide Government decision making for major projects that are assessed by the EPA. The Minister for the Environment will consider the particular characteristics of each project and the advice and recommendations of the EPA.

In this context, Woodside has included this GHGMP as an Appendix to the ERD for the Proposal to be reviewed by EPA, key DMAs and the general public as part of the assessment process for the ERD. Table 3-1 details how the contents of a GHG Management Plan (as defined by the State GHG Policy), is proposed to be addressed.

Table 3.1

<i>Are unique to a proposal’s specific circumstances</i>	The Proposal for extension of life of an existing facility designed to produce low emissions natural gas fuel into domestic and international markets.
	...

emissions (Scope 1, 2, and 3), and based on an annual emission estimate of 87.89 Mtpa, the percentage contribution of maximum proposal emissions to global greenhouse gas emissions is said to range between 0.14-0.37% (Table 6-16 in the *Environmental Review Document*).

The Proposal will deliver pipeline and export natural gas will contribute to meeting the world’s energy needs and reduce emissions by avoiding the use of higher-carbon fuels whilst also partnering with renewables, as a dispatchable power source that can enable their greater use. These downstream customer benefits (Scope 3 benefits) are outside the scope of this regulatory approval but inform consideration of the Proposal’s specific circumstances.

Proponent response to submissions

North West Shelf Project Extension Proposal Response to Submissions (November 2021)

(page 7)

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 CO₂ equivalent (CO₂-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.

Proponent response to submissions

Appendix E - Greenhouse Gas Management Plan Revision 7 (December 2021)

(page 963)

3.2.3 State GHG Policy

...

The State GHG Policy guides Government decision-making for major projects that are assessed by the EPA. The Minister for the Environment will consider the particular characteristics of each project and the advice and recommendations of the EPA.

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Consideration of NWS Project Specific Circumstances

Also unique to the Proposal, is that despite being a significant source of Scope 1 emissions, the Proposal will deliver pipeline and export natural gas. This will contribute to meeting the world’s energy needs and reduce global emissions by avoiding the use of higher-carbon fuels whilst also partnering with renewables, as a dispatchable power source that can enable their greater use. These downstream customer benefits (Scope 3 benefits) are outside the scope of this regulatory approval but inform consideration of the Proposal’s specific circumstances.

6. These claims are specific and particular factual assertions about the current and future state of domestic and foreign energy markets. Specifically, the claims assert that gas produced by the proposal will be used in foreign and domestic markets in ways that lead to net global greenhouse gas emissions reductions. The claims cast the proposal's Scope 3 emissions in terms of an environmental benefit – e.g. 'downstream customer benefits (Scope 3 benefits)'. At base, the claims assert that the proposal will have an ameliorative, or even beneficial, environmental impact if implemented.
7. Woodside justifies this project by citing a projected future gas supply gap under the International Energy Agency's (IEA) Sustainable Development Scenario (SDS). However, it has been shown that the SDS is not Paris Agreement compatible as it fails to limit warming below 1.5°C.
8. The IEA's NZE scenario is Paris compatible and shows rapidly declining gas demand globally. The IEA's NZE scenario indicates the potential for a collapse by the mid-2020s in Australia's major LNG markets (South Korea, Japan, China) as they begin to implement their Paris Agreement 2030 targets and their Net Zero emissions announcements.
9. Examination of the role of natural gas in 1.5°C compatible energy transitions using IPCC 1.5°C compatible pathways and the IEA Net Zero Emissions (NZE) scenario shows that LNG does not have a significant role in decarbonising major economies, and indeed would slow that down. In the case of the Pluto-Scarborough project, the relevant volumes of LNG export put into electricity grids of countries decarbonising at a rate consistent with the Paris Agreement would likely raise emissions by several hundred MtCO₂e over the period 2026-2040. The NWS plant extension would substantially exacerbate this problem and could contribute to undermining the implementation of the Paris Agreement and the achievement of the long term temperature goal 1.5 degree limit.
10. Contrary to Woodside's claims, therefore, it appears more likely than not that the volume of LNG from the ongoing operation of this plant would slow down decarbonization. The LNG is a very carbon-intensive fuel source and should be compared to alternatives such as renewables and battery storage and green hydrogen, rather than just coal.

The EPA's failure to consider the proponent's Scope 3 emissions claims

11. In its assessment report, the EPA identifies greenhouse gas emissions as a key environmental factor identified in the course of the assessment, but evaluates the proposal's greenhouse gas emissions only in terms of Scope 1 emissions (Scope 2 emissions being

negligible), stating that ‘the Extension Proposal’s GHG emissions assessed in this report hereinafter relate to scope 1 GHG emissions of up to 7.7 Mtpa of CO₂-e’ (page 12) and making findings in relation to the proposal’s Scope 1 emissions in sections 2.1.2 and 2.1.4 to 2.1.7 of the report.

12. The findings in sections 2.1.2 and 2.1.4 to 2.1.7 – regarding Scope 1 emissions alone – then inform the EPA’s conclusions and recommendations, which include:

- a. the recommendation that the proposal may be implemented subject to the conditions recommended in Appendix A; and
- b. the conclusion that ‘(i)t is the EPA’s view that reasonable conditions could be imposed on the Extension Proposal to prevent inconsistency with the EPA’s objectives for environmental factors.’

13. The EPA’s assessment report makes only five references to Scope 3 emissions, four of which merely state the proponent’s estimates of Scope 3 emissions or confirm that the proponent provided Scope 3 estimates. The report states that:

The proponent estimates that the Extension Proposal’s maximum scope 3 GHG emissions will be approximately 80.19 Mtpa of CO₂-e.

14. The fifth reference to Scope 3 emissions, at page 18, merely states that:

The EPA does not consider it reasonable to impose conditions on Scope 3 GHG emissions at this stage because those emissions are beyond the reasonable control of the proponent.

15. Thus, in its assessment report, the EPA:

- a. assessed greenhouse gas emissions arising from implementation of the proposal as a key environmental factor identified in the course of the assessment only in terms of Scope 1 emissions;
- b. did not explain why its assessment of greenhouse gas emissions as a key environmental factor identified in the course of the assessment for the proposal did not consider Scope 3 emissions;
- c. considered Scope 3 emissions only as a subject matter to which implementation conditions could be applied – or, more precisely, as a subject matter to which implementation should be subject, if the EPA recommended (as it did) that implementation of the proposal be allowed;
- d. recommended that Scope 3 emissions be excluded as a subject matter for implementation conditions because those emissions are beyond the reasonable control of the proponent; and

- e. did not consider the proponent’s specific Scope 3 claims.

Why the EPA erred in failure to consider the proponent’s Scope 3 emissions claims

16. Although it is not the case that the EPA must respond to all claims that proponent’s advance in their assessment documentation, it was necessary for the EPA to consider and make a recommendation or finding about the proponent’s specific Scope 3 emissions claims in the *Environmental Review Document* and in the December 2021 version of the proposal’s *Greenhouse Gas Management Plan*.

17. There are several reasons why this is so.

Reason 1 – Decision-makers are likely to rely on the proponent’s Scope 3 emissions claims

18. Firstly, in the absence of an EPA recommendation or finding regarding the proponent’s specific Scope 3 emissions claims, it is open for the Environment Minister and other decision-making authorities to rely on those proponent claims in their decision-making process to reach an implementation decision for the proposal.

19. In preparing its assessment report, the EPA must have regard to the practical realities of the information that the Minister for Environment and other decision-making authorities will draw on to inform their decision-making about the implementation of proposals of this kind.

20. Specifically, the EPA must acknowledge that there is general awareness among Ministers in this State Government of industry claims in the nature of the proponent’s Scope 3 emissions. Table 2² contains an example of debate in the Legislative Council relating specifically to claims by Woodside of avoided emissions and the 2019 version of the ERM Life Cycle Assessment report.

Reason 2 – The proponent has made its Scope 3 emissions claims part of the ‘particular characteristics’ of a proposal which the Minister for Environment will consider

21. Secondly, the EPA must recognise that the Minister for Environment will follow the guidance indicated in the State Government’s *Greenhouse Gas Emissions Policy for Major Projects* when considering this proposal. Specifically, that policy states that:

Where major proposals are assessed under Part IV of the Act, the Minister for Environment will consider the particular characteristics of each project and the advice and recommendations of the EPA.

² Table 2 is located at the end of this document.

22. Although the *Greenhouse Gas Emissions Policy for Major Projects* is not a statutory policy and thus does not formally bind the Minister for Environment, the EPA must recognise that the Minister is nonetheless likely to apply the policy, and thus have regard to what the proponent has indicated are the proposal’s ‘particular characteristics’ and, as regards the proposal’s *Greenhouse Gas Management Plan*, what the proponent indicates is unique to the proposal’s ‘specific circumstances’.

23. Further, the EPA must also recognise that, given the public policy significance of the *Greenhouse Gas Emissions Policy for Major Projects*, the Minister is also likely to give substantial weight to the proponent’s assertions about the proposal’s ‘particular characteristics’ and ‘specific circumstances’, including the proponent’s specific Scope 3 emissions claims.

24. As such – and in the absence of relevant Scope 3 guidance from the EPA – it would be open to the Minister to accept the proponent’s claims and thus conclude that:

- a reduction in net global greenhouse gas emissions may or will occur if the proposal is implemented;
- the Scope 3 emissions estimates which the proponent provided to the EPA must be considered in light of the proponent’s specific Scope 3 emissions claims (e.g. the asserted ‘downstream customer benefits (Scope 3 benefits)’);
- the proposal’s greenhouse gas emissions, as a ‘key environmental factor identified in the course of the assessment’, cannot be properly understood without regard to the proponent’s specific Scope 3 emissions claims;
- the proposal’s overall environmental impact cannot be properly understood without regard to the proponent’s specific Scope 3 emissions claims; and

25. In this way, it would also be open to the Minister, in consultation with other decision-making authorities to accept the proponent’s specific Scope 3 emissions claims and take them into account in determining appropriate implementation conditions for Scope 1 emissions mitigation for the proposal.

Reason 3 – The public interest in the proper disclosure and documentation of proposal emissions requires the EPA to consider the proponent’s Scope 3 emissions claims

26. Thirdly, as the EPA’s *Environmental Factor Guideline: Greenhouse Gas Emissions* states, it is in the public interest that greenhouse gas emissions arising from significant developments in the State, and measures to mitigate those emissions, are documented and disclosed.

27. That public interest requires an EPA evaluation of the proponent’s specific Scope 3 emissions claims – claims which are *environmental* in nature, being assertions about future greenhouse gas emissions arising from the proposal and the contribution of those emissions to climate change – rather than abdicating responsibility for their assessment and leaving it for the Environment Minister and other decision-making authorities to evaluate the merits of those claims and the weight they should give them in their decision-making about the proposal’s implementation.

Reason 4 – *By limiting its assessment of greenhouse gas emissions to Scope 1 emissions, the EPA did not set out the key environmental factors identified in the course of the assessment, as required by section 44*

28. Fourthly, the EPA did not perform its statutory function under section 44 of the Act to prepare an assessment report that sets out what the EPA considers to be the key environmental factors identified in the course of the assessment because the EPA failed to extend its assessment of greenhouse gas emissions to include Scope 3 emissions, even though at least five separate aspects of the proponent’s assessment documentation made the proponent’s specific claims about Scope 3 emissions a live and material issue for the EPA to address in preparing its assessment report:

- a. *Environmental Review Document* (Revision 1, dated December 2019);
- b. *Appendix B – North West Shelf Project Extension Greenhouse Gas Management Plan* (Revision 1, dated December 2019);
- c. *North West Shelf Project Extension Proposal Response to Submissions* (dated November 2021);
- d. *Appendix E – Greenhouse Gas Management Plan* (Revision 7, dated December 2021); and
- e. *Appendix G – Comparative Life Cycle Assessment Browse and Scarborough* (dated April 2020).

29. These five aspects of the proponent’s assessment documentation made the proponent’s specific claims about Scope 3 emissions a live and material issue for the EPA to address in preparing its assessment report for several reasons.

- a. First, the proponent sought, by advancing the specific Scope 3 claims at multiple stages during the course of the assessment, to characterise an important aspect (Scope 3 emissions) of a key environmental factor (greenhouse gas emissions) for the proposal in a way that made the proposal’s implementation appear more environmentally acceptable.

- b. Second, the proposal’s Scope 3 emissions elicited significant community interest during public consultation.
- c. Third, the EPA – having been given notice of the proponent’s specific Scope 3 claims and their relationship with the State Government’s *Greenhouse Gas Emissions Policy for Major Projects* at multiple stages during the course of the assessment– ought reasonably to have foreseen that the Environment Minister and other decision-making authorities might take those claims into account in reaching an implementation decision pursuant to section 45.
- d. Fourth, the *Environmental Factor Guideline for Greenhouse Gas Emissions* provides that the environmental objective of the Greenhouse Gas Emissions factor is to reduce net greenhouse gas emissions in order to minimise the risk of environmental harm associated with climate change. The proponent’s specific Scope 3 emissions claims clearly raised questions about the proposal’s net greenhouse gas emissions and, relevantly, created uncertainty for the community and decision-makers about how the proposal’s Scope 3 emissions. Such uncertainty – about such an important aspect of a major proposal – diminishes public confidence in Part IV decision-making. Specifically, such uncertainty draws into question the quality of the EPA’s assessment and thus the integrity of the decision-making by the Minister and other decision-making authorities.

30. Section 44 of the Act requires the EPA’s assessment report to set out:

- a. what the EPA considers to be the key environmental factors identified in the course of the assessment, and
- b. the EPA’s recommendations as to whether or not the proposal may be implemented, and if the EPA recommends that implementation be allowed, then also:
- c. the conditions and procedures, if any, to which implementation should be subject.

31. The phrase ‘identified in the course of the assessment’ is significant because it emphasises the assessment process under Part IV occurs over a series of steps and over a period of time, such that (e.g.) initial scoping work undertaken immediately after a proposal was referred might fail to identify issues that only emerge later through studies undertaken by the proponent or in the process of public consultation.

32. Section 44, in the context of Part IV, also recognises the significance of the EPA as an expert statutory advisory body. As President McLure said in *Jacob v Save Beelihar Wetlands (Inc)* (2016) 50 WAR 313 [59]:

[The EPA] is an independent expert body whose task is to identify and assess matters within its area of expertise for the purpose of recommending whether or not a proposal may be implemented, and if so, on what conditions and procedures. The EPA, as the sole entity

entrusted with the duty in s 44, is performing an expert evaluative and advisory function, not exercising a discretionary power.

33. Section 45 makes it clear that the decision-making process which leads to an implementation agreement or decision for an assessed proposal (eg that the assessed proposal may be implemented, or may be implemented subject to implementation conditions) relies upon the EPA’s assessment report. Section 45 provides that – after the Environment Minister has caused a report to be published under section 44(3)(a) – the Minister must determine which or whom of the decision-making authorities in relation to the assessed proposal the Minister considers to be a key decision-making authority and, if the key decision-making authority, or one or more of the key decision-making authorities, is or are another Minister or other Ministers, the Minister must then consult and, if possible, agree with that Minister or those Ministers on the implementation issues.
34. The decision-making process which leads to an implementation agreement or decision for an assessed proposal necessarily proceeds on a basis that the EPA’s assessment report adequately and comprehensively assesses key environmental factors for the proposal because the Minister and the decision-making authorities will determine the weight to be given to those environmental factors, and will also take non-environmental factors into account during their decision-making.³

GROUND 2

³ This decision-making process was described by the WA Court of Appeal in *Conservation Council of WA Inc v The Hon Stephen Dawson MLC, Minister for Environment; Disability Services* [2019] WASCA 102, [96]-[97], [99]:

First, the role of the EPA, in preparing its report, does not involve making, or purporting to make, a *decision* on whether the proposal may be implemented. The EPA report identifies key environmental factors and makes a *recommendation* as to whether or not the proposal may be implemented.

Secondly, in making its recommendation, the EPA is confined to a consideration of environmental factors and to the impact of the proposal on the environment.

...

Fourthly, by contrast to the EPA in preparing its report, in determining whether the proposal may be implemented, decisionmakers are not restricted to environmental factors. Under the Act, it is for the decisionmakers ... to determine the weight to be given to environmental factors. If they so decide, the Act permits decisionmakers to reach a view that a proposal may be implemented notwithstanding harmful effects upon the environment, such as its likely impact on an endangered species. Such a decision might be reached, for example, because of economic or other social benefits. Under the Act, decisionmakers are charged with making the decision involved in balancing environmental factors with economic, social, cultural and other considerations.

Failure to recommend the electrification of LNG production at NWS (North West Shelf) Project facilities, the use of renewable energy sources and battery storage to meet electricity requirements, and other direct abatement options for all of the processes involved in producing LNG and domestic gas.

35. The EPA erred in failing to recommend the electrification of LNG production at NWS (North West Shelf) Project facilities and the use of renewable energy sources and battery storage to meet electricity requirements, despite these measures being the obvious solution to substantially reduce the proposal’s greenhouse gas and oxides of nitrogen (NOx) emissions, and the utility of changing the five LNG trains and two dom-gas trains away from gas turbines at this stage.
36. In its assessment of the proposal, EPA has focused on offsets as a means for the proponent to apply the mitigation hierarchy and manage emissions of greenhouse gases and other air pollutants (e.g. NOx).
37. Direct emission reductions at source would be the safest and most effective way to reduce greenhouse gases and other air pollutants, and there is little sign that the EPA has seriously considered reasonable and practicable options for direct emission reductions at source in examining the proponent’s proposed *Greenhouse Gas Management Plan*, and instead has essentially accepted the proponent's view the options are not feasible.
38. The NWS Project has been running for nearly 40 years, and it appears that – in the EPA’s view – very little has actually changed in terms of potential to reduce emissions from LNG production facilities whereas in fact there are a wide array of possibilities now.

GROUND 3

Failure to fully and properly consider risks to the rock art within Murujuga and misapplication of the precautionary principle.

39. The EPA found:

...that there may be a threat of serious or irreversible damage to rock art from industrial air emissions (in particular NOx from the Extension Proposal) accelerating the natural weathering.

40. The EPA also assessed that:

...there is lack of full scientific consensus about potential residual cumulative impacts on the significant environmental values (including social surroundings values) associated with rock art within Murujuga.

41. The EPA also indicated that it considered:

whether it should recommend that the proposal not be implemented, or whether measures which are additional to those proposed by the proponent can be recommended to sufficiently reduce the potential for inconsistency with the EPA's environmental objectives for air quality and social surroundings.

42. The EPA then went on then to state that it:

recommends that a cautious, preventative approach be taken, and the proponent be required to ensure no air emissions from the Extension Proposal have an adverse impact accelerating the weathering of rock art within Murujuga beyond natural rates. (Emphasis added).

43. The next step in the EPA's logic is where the precautionary principle appears to have been misapplied. In the absence of any published scientific evaluation at all of the implications of ongoing NOx emissions, and in a context where the proponent repeatedly and publicly denies any adverse implications from air pollution for the weathering of the rock art, the EPA simply plucked a number out of thin air in calling for reduction of oxides of nitrogen by 40% by 31 December 2030.

44. The normal application of the precautionary principle in its common sense meaning is that where there is a lack of scientific certainty decisions should err on the side of caution, in relation to the object at risk. What the EPA has done here is err on the side of the proponent using scientific uncertainty as an explicit justification. Further, the EPA has produced no evidence that is publicly available to justify a reduction of 40% as compared to 100% or any other number in relation to its stated concern about the acceleration of weathering.

GROUND 4

Failure to independently assess the significance of the proposal's total, uncritically accepted the proponent's claims that the project's Scope 1, 2 and 3 emissions are insignificant at the global level, and hence has overlooked the implications for both the WA environment and matters of national environmental significance in Australia.

45. The proponent claimed that the proposal’s annual Scope 1 and 2 emissions ‘are only up to 0.03%’ of global emissions (‘direct’ emissions) and that the proposal’s annual Scope 1, 2 and 3 emissions (‘all’ emissions) are only 0.14 to 0.37% of global greenhouse gas emissions. These claims appear to be uncritically, if implicitly, accepted by the EPA. These claims create a completely false impression of the significance of the emissions of this proposal.
46. These claims are set out in Table 6-16: *Percentage Contribution of Maximum Proposal Emissions to Regional, State, National and Global GHG Emissions* in the PER (page 113). Critically, the denominator for the ‘2030 (1.5°C Pathway)’ calculation in Table 6-16 – which is the highest of the % contribution estimates – is the 1.5 degree global emission pathway for 2030. However, it is well known that global emissions need to drop rapidly and approach zero by around 2050.
47. Consequently, the global significance of the proposal’s Scope 1, 2 and 3 emissions increases dramatically with time, and the emissions extend well beyond the time at which emissions should be reaching net zero around 2050.
48. More importantly, the overall burden of greenhouse gas emissions imposed upon the atmosphere by this proposal are very significant compared to the remaining carbon budget to limit warming with a 50% probability to 1.5 degrees, which was estimated to be around 480 GtCO₂ from the beginning of 2021. Taking into account several years of emissions at present levels of about 40 GtCO₂/yr, the relevant remaining carbon budget for this proposal is in the range 300-340 GtCO₂, meaning total emissions to atmosphere from this proposal would be in the range 1.3-1.5% of the remaining global carbon budget.
49. The 1.5 limit in the Paris Agreement is a critical obligation under the Paris Agreement, set out in Article 2.1 and operationalised in Article 4.1. It is these elements that have led to the focus on net zero globally by 2050 combined with IPCC assessments of pathways consistent with these provisions of the Paris Agreement.
50. As the EPA’s assessment report contains no critical evaluation of the proponent’s assertions about the significance of the proposal’s annual Scope 1, 2 and 3 emissions and the basis by which those claims were calculated, it must therefore be inferred that the EPA has accepted the proponent’s false claims of insignificance for the proposal’s emissions.
51. A correct view of the significance of the proposal’s Scope 1, and 3 emissions is essential if the EPA to properly assess the indirect effects of those emissions on the Western Australian

environment, which is known to be extremely vulnerable to warming. Objectively, a proposal which consumes 1.3-1.5% of the remaining global carbon budget with emissions from the proposal extending 20 years past the time at which CO₂ emissions should be zero is significant.

52. The EPA assessment has been undertaken under the Bilateral Agreement between the Commonwealth government and the WA government and it claims to meet the requirements of the Commonwealth EPBC Act. However, under the Indirect Consequences policy pursuant to the EPBC Act indirect consequences must be assessed. There is no evidence that the EPA has applied the indirect consequences policy in assessing the impacts of the proponents Scope 3 emissions on matters of national environmental significance, including World Heritage areas in Western Australia.
53. As we have shown above this project would consume around 1.5% of the remaining carbon budget if the world is to limit warming to 1.5 degrees. It is well established that the West Australian environment is very sensitive to warming and is already showing substantial damage, including unravelling of ecosystems⁴ which will only be exacerbated if warming exceeds 1.5 degrees Celsius. Consequently it is virtually certain that this project will have certain to have indirect consequences through the climatic effects of scope 3 emissions affecting the risk of severe damage to Matters of National Environmental Significance both within and outside of Western Australia, including Ningaloo and Shark Bay World Heritage areas within WA, and areas such as the Great Barrier Reef, the Wet tropics, Kakadu and southwest Tasmania World Heritage areas and many others.
54. There is no evidence that the EPA has assessed these impacts according to the EPBC indirect consequences policy or any other policy.
55. The EPA's failure to critically evaluate the significance of the proposal's Scope 1, 2 and 3 emissions may reflect the EPA's apparent conflation of its duties to assess the significance of the proposal's environmental impacts and to recommend appropriate implementation conditions. Whether or not is 'reasonable to impose conditions on Scope 3 GHG emissions at this stage because those emissions are beyond the reasonable control of the proponent' for the timeframe the proponent has requested approval is a distinct issue from the EPA's responsibilities to determine the significance of the proposal's Scope 1, 2 and 3 emissions,

⁴ <https://theconversation.com/drying-land-and-heating-seas-why-nature-in-australias-southwest-is-on-the-climate-frontline-170377>

and to assess the contribution of those emissions to climate change in Western Australia and impacts on the environment of this State.

GROUND 5

The EPA appears to have misunderstood the findings of the IPCC AR6 Working Group I physical science assessment of the risks of exceeding 1.5 degrees and this misunderstanding appears to have conditioned, at least in part, the EPA’s assessment of this proposal.

56. At page 16 in its assessment report, the EPA states:

The EPA notes that since the UNFCCC Paris Agreement and IPCC 1.5 Report (IPCC 2021b), the IPCC ‘The Physical Science Basis’⁵ report August 2021 now **indicates 1.5 degrees of global warming is more likely than not to be exceeded in the near term (2021-2040) even under low and very low GHG emissions scenarios (IPCC 2021b)**. Global temperatures could decline back toward 1.5 degrees of global warming by the end of the 21st century, but only under a very low GHG emissions scenario (IPCC 2021b). (Emphasis added).

57. What the IPCC 6 Assessment report actually says at SPM Paragraph B.1 is:

global warming of 1.5°C and 2°C will be exceeded during the 21st century **unless deep reductions in CO₂ and other greenhouse gas emissions occur in the coming decades** (Emphasis added).

58. Further, the IPCC AR6 WGI SPM goes on to elaborate the question of 1.5 degrees C exceedance at SPM B.1.3, which in full states:

Global warming of 1.5°C relative to 1850–1900 would be exceeded during the 21st century under the intermediate, high and very high GHG emissions scenarios considered in this report (SSP2-4.5, SSP3-7.0 and SSP5-8.5, respectively). Under the five illustrative scenarios, in the near term (2021–2040), the 1.5°C global warming level is very likely to be exceeded under the very high GHG emissions scenario (SSP5-8.5), likely to be exceeded under the intermediate and high GHG emissions scenarios (SSP2-4.5 and SSP3-7.0), more likely than not to be exceeded under the low GHG emissions scenario (SSP1-2.6) **and more likely than not to be reached under the very low GHG emissions scenario (SSP1-1.9).**²⁷ Furthermore, for the very low GHG emissions scenario (SSP1-1.9), it is more likely than not that global surface temperature would decline back to below 1.5°C toward the end of the 21st century, with a temporary overshoot of no more than 0.1°C above 1.5°C global warming. {4.3, Cross-Section Box TS.1} (Table SPM.1, Figure SPM.4) (Emphasis added).

⁵ https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf

59. In other words, what the IPCC AR6 WGI report actually says – which is consistent with the earlier IPCC 1.5°C Special Report⁶ – is that the **very low GHG emissions scenario (SSP1-1.9) if followed would limit peak 21st century warming to 1.5 degrees, and would lead to peak surface temperature declining below 1.5 degrees by the end of the century. This is a completely different picture than is created in the EPA assessment report.**
60. There are concrete implications for global and national – and, relevantly, sub-national – emission reduction profiles arising from the IPCC assessment of 1.5 degree pathways. It is very surprising that the EPA has not considered these implications in its assessment.
61. Further, it is very surprising that the EPA has not, or alternatively set aside or ignored, the IPCC AR6 WG III report on mitigation, adopted 4 April 2022.⁷
62. The IPCC AR6 definition of 1.5°C compatible scenarios is the same as the low or no overshoot 1.5°C pathways in the IPCC 1.5°C Special Report – namely those that ‘limit warming to 1.5°C in 2100 with a likelihood of greater than 50%, and reach or exceed warming of 1.5°C during the 21st century with a likelihood of 67% or less’. In other words, 1.5°C compatible scenarios are pathways that are not likely to exceed 1.5°C over the 21st century. Such pathways exhibit a limited overshoot of about 0.1°C or less (median estimate) or no overshoot at all. Median peak 21st century warming of these pathways is 1.6°C, with warming returned to 1.3°C by 2100.
63. What is very relevant for the assessment of this proposal are the fully Paris Agreement compatible pathways summarised in the SPM of IPCC WG III. The AR6 Working Group III has now made net zero greenhouse gases an explicit criterion consistent with Article 4.1 of the Paris Agreement, and established a subcategory C1a, where all pathways achieve net zero greenhouse gas emission around 2070-2075. These pathways also reach net zero CO₂ emissions around 2050, in line with the findings of the Special Report on 1.5°C. The graphic below compares the IPCC pathway categorisation across the IPCC SR1.5 and AR6 WG III.⁸

⁶ <https://www.ipcc.ch/sr15/>

⁷ <https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/>

⁸ <https://climateanalytics.org/blog/2022/new-pathways-to-15c-interpreting-the-ipccs-working-group-iii-scenarios-in-the-context-of-the-paris-agreement/>

Special report on 1.5°C categories	New AR6 WG III categories	New AR6 WG III subcategories
Below 1.5°C	C1 limit warming to 1.5°C (>50%) with no or limited overshoot	C1a reaches net zero GHGs
1.5°C low overshoot		C1b does not reach net zero GHGs
1.5°C high overshoot	C2 return warming to 1.5°C (>50%) after a high overshoot	
Lower 2°C	C3 Limit warming to 2°C (>67%)	

64. Results of these pathways are to be found in IPCC WG III Table SPM.2 *Key characteristics of the modelled global emissions pathways*. Relevantly, the reductions for the C1a pathway for total greenhouse gas reductions are 41% by 2030 from 2019 levels, 66% by 2040 and 85% by 2050, with peak CO₂ and greenhouse gas emissions by 2025, and net zero CO₂ emissions by 2050-2055.
65. The EPA’s misunderstanding of the IPCC’s conclusions on 1.5 degrees combined with its failure to assess the significance of the proposal’s overall emissions for the remaining global carbon budget contributes to the very strong impression that the EPA has not given priority to the achievement of the Paris Agreement 1.5 degree limit. A more serious consideration of this, including assessment of the indirect effect of Scope 3 greenhouse gas emissions on the Western Australian environment, as well as matters of national environmental significance, would have led to a serious consideration of a much shorter time frame of approval for this proposal.
66. These considerations are important for the EPA to properly advise the Environment Minister and other decision-making authorities of the significance of the proposal’s annual and total (life of proposal) contributions to State and global GHG emissions.

GROUND 6

The EPA appears to have uncritically accepted the baseline emissions put forward by the proponent from which the emission reductions are calculated in its *Greenhouse Gas*

Management Plan. The baseline emissions appear to significantly exceed the actual emissions for the baseline and hence the reductions in the proponent’s Greenhouse Gas Management Plan appear inflated compared to the actual emissions in the period leading to 2020 through to about 2030.

67. The proponent’s *Greenhouse Gas Management Plan*, as accepted by the EPA,⁹ shows baseline emissions in 2020 of 7.7 Mtpa CO₂-e. However, no evidence has been provided in any of the assessment documents to justify that this figure represents the real emissions from the NWS Project facilities.

68. The baseline emissions assumed by the EPA are based on those put forward by the proponent¹⁰ of 7.7 Mt CO₂-e/yr:

Scope 1 emissions are up to 7.7¹ Mtpa CO₂-e, with relative contributions from key sources described in Section 2.3.2. This estimate is based on the prescribed maximum allowable production output of LNG of 18.5 million tonnes per annum (Mtpa).

69. However, on its website the proponent¹¹ specifies that the maximum production capacity of the Karratha Gas Plant (KGP) is 16.9 Mtpa – ‘The KGP has an export capacity of 16.9 Mtpa, with five LNG processing trains; two domestic gas trains; six condensate stabilisation units and three LPG fractionation units’. Company Stock Exchange reports submitted over the years indicate that it has rarely reached these levels of production, and indicate something in the range of 15.5 to 16 Mtpa for a few years before 2020. This means that the proponent’s baseline emissions are likely exaggerated. Certainly, 7.7 MtCO₂-e/yr from the Karratha Gas Plant appears quite inconsistent with the Clean Energy Regulator reports for the emissions from Woodside’s entire operations for the period through 2020.

70. What this means for the proponent’s *Greenhouse Gas Management Plan* is that the proponent’s target emission reductions for the next decade are above or close to recent historical emissions from the plant.

⁹ At page 10, the assessment report states: ‘The proponent has developed the North West Shelf Project Extension Greenhouse Gas Management Plan, Revision 7, G2000RF1401194400 (GHGMP) (Woodside 2021b) which has been used to inform the assessment of GHG emissions.’

¹⁰Section 2.3.1 Project Baseline Emissions Levels

https://www.epa.wa.gov.au/sites/default/files/Proponent_response_to_submissions/Appendix%20E%20-%20Greenhouse%20Gas%20Management%20Plan%20Revision%207.pdf

¹¹ <https://www.woodside.com/what-we-do/operations/north-west-shelf>

Table 3-1 NWS Project Extension Interim Emissions Reduction Targets (as per MA1)

Period	Interim net emissions (CO ₂ e) targets (mtpa)
2020 - 2024	7.70
2025 - 2029	6.55

GROUND 7

Uncritical acceptance of offsets for application to large scale emission reduction tasks and a related failure to consider the long term implications of CO₂ emissions from this proposal beyond the period in which offsets may or may not be effective.

71. It is well established that fossil CO₂ emissions to the atmosphere have a very long lifetime, with approximately 25% of a unit of present emission remaining in the atmosphere on multi-thousand year timescales.¹² In other words, a sizable fraction of CO₂ emissions from this proposal will still be found in the atmosphere in 1000 or more years.
72. It is also well established that there are considerable problems with offsets, including whether or not emission reductions attributed to an offset are additional to what would otherwise have happened, whether or not they are permanent, and whether they are measurable and verifiable. Extremely serious concerns have now been raised in relation to each of these aspects by researchers at the ANU who have labelled key aspects of the Australian system as essentially fraudulent.¹³ The Federal Government has recently appointed an independent panel to review the integrity of Australian Carbon Credit Units (ACCUs).¹⁴
73. Within the Australian system sequestration (land-based, CCS, savannah burning) offsets are not permanent, and depending upon what is chosen may have a lifetime of 25 to maximum 100 years. Industrial emission avoidance offsets are looked at over a time span of seven years, with no ongoing requirement for permanence. In other words, the Australian

¹² <https://denning.atmos.colostate.edu/ats760/Readings/18.LongTail.Archer.pdf>

¹³ <https://law.anu.edu.au/news-and-events/news/australia's-carbon-market-fraud-environment>

¹⁴ <https://minister.dcceew.gov.au/bowen/media-releases/independent-review-accus>

offset system is more or less entirely deficient in relation to permanence, and in particular the timescales or permanence required to offset the effects of fossil CO₂ emissions to atmosphere.

74. There's been absolutely no recognition by the EPA of these fundamental issues in considering its support for the proponent's proposed *Greenhouse Gas Management Plan*. To properly assess the application of the mitigation hierarchy to avoid, reduce and offset emissions from the proposal, the EPA must critically evaluate the effectiveness of proposed offsets over all relevant time frames.

75. If emission reductions at source are not deployed by the proponent, the obligation to measurably, verifiably offset the effects of the proponent's CO₂ emissions to the atmosphere completely needs to extend over all climatically relevant time frames. To do otherwise would be, in a word, greenwashing, by the EPA.

76. At the very least, the present situation put forward by the proponent and accepted by the EPA will leave future generations with the task of extracting this proposal's CO₂ emissions from the atmosphere, even if offsets work in the short term which appears extremely unlikely.

GROUND 8

Failure to consider the inconsistency of the proponent's 50 year extension of this project with the Paris Agreement compatible energy transition, including the findings of the International Energy Agency's Net Zero Roadmap, and more recent assessments by the IEA in particular the 2022 World Energy Investment Outlook.

77. In addition to the matters raised above in relation to the inconsistency of this project with the energy transition needed to achieve Paris Agreement's 1.5 degree limit, including the IEA's NZE Roadmap, the IEA's 2022 World Energy Investment Outlook¹⁵ provides

¹⁵ <https://www.iea.org/reports/world-energy-investment-2022/overview-and-key-findings>

1.

analysis which is relevant to the EPA's consideration of the approval of a 50 year lifetime extension for the NWSLNG project.

78. In reviewing the implications of the Russian induced energy crisis the IEA asks the following question:

Where does this crisis leave fossil fuel producers? In the short term it leaves most of them considerably wealthier. High prices are generating an unprecedented windfall, especially for oil and gas suppliers. This is a once-in-a-generation opportunity for producer economies to fund diversification activities and for the major oil and gas companies to deliver more diversified spending.

Some of this revenue will be ploughed back into supply, but the case for investment in fossil fuels – and the risks associated with this spending – rests on the strength of global efforts to curb demand. ...

If countries move beyond their existing pledges and get on track for a 1.5°C cap on global warming, then the case for committing capital to new fossil fuel projects becomes very weak. The landmark IEA Roadmap to Net Zero Emissions by 2050 published in May 2021, indicated that declining fossil fuel demand in this scenario, arising from a massive surge in investment in renewables, energy efficiency and other clean energy technologies, could be met through continued investment in existing production assets, but without any need for new oil or gas fields, and no new coal mines or mine extensions.

79. These conclusions reinforce the 2021 NZE Roadmap And in particular that further investment in continuation of production assets appears inconsistent with limiting warming to 1.5 degrees Celsius

80. The IEA further goes on to observe:

In the short term the scramble to diversify supplies away from Russia and to meet associated supply shortages implies some near-term investment upside for other producers, as well as some new LNG infrastructure, even in a world working towards net zero emissions by 2050. However, no one should imagine that Russia's invasion of Ukraine can justify a wave of new large-scale fossil fuel infrastructure in a world that wants to limit global warming to 1.5 C.

81. The proponent does indeed seem to imagine that the present situation justifies a continuation of large-scale fossil fuel infrastructure that it owns well beyond the time at which global emissions should be reaching zero and including at scale during the period in which emissions should be rapidly reducing to zero globally.

82. The EPA Assessment shows little or no awareness of these factors and considerations which are fundamental to energy policy within the state and globally and which had profound relevant to the question of whether or not a project such as this should be mandated to continue for 50 years.

Table 2

Parliament of Western Australia, *Parliamentary Debates*, Legislative Council, 20 November 2019, p9028b-9044a (Hon Stephen Dawson, Minister for Environment)

Comparing emissions from Western Australia’s LNG production with emissions from the production of coal can be misleading. In terms of total carbon emissions and toxic pollutants, LNG is cleaner than coal. However, LNG extraction and processing is emissions intensive, and I am happy to admit that. But there needs to be a balance in this policy area, and that is certainly what this government is trying to do.

Greenhouse gas emissions from LNG processing accrue to Western Australia, while the benefits of coal to gas switching—the emissions avoided by the displacement of coal with gas for energy generation and heating—occur elsewhere. Anthropogenic climate change is a global rather than a national or state phenomenon. Actions and industries developed in Western Australia can assist the global transition to net zero emissions. It is very important that we should not be penalised in Western Australia because the benefits of LNG are likely to be received by other countries, not here on the ground. We certainly have a role to play. I have a real issue with people who say that we should be closing down this industry in Western Australia because there is absolutely no benefit to us here. I totally disagree. It employs thousands, if not tens of thousands, of Western Australians. It is absolutely better for the environment across the world than coal. I am disappointed to hear people calling for the industry to close, and we certainly will not be supporting that.

The global benefits of lower emission fuels over higher emission fuels are recognised. The International Energy Agency has estimated that coal to gas switching avoided 95 million tonnes of CO₂ emissions globally in 2018. The IEA acknowledges that unabated consumption of fossil fuels is inconsistent with long-term climate solutions. However, there can be significant CO₂ and air quality benefits in specific countries, sectors and time frames from using fewer emissions intensive fuels.

LNG production contributes a portion of Western Australia’s overall greenhouse gas emissions. Up to 70 per cent of Western Australia’s overall greenhouse gas emissions are from other sources, including mining and manufacturing, energy generation, transport and agriculture. I am pleased that at least those people have not said that we should close down those industries too, because if we did, no jobs would be left in Western Australia. Certainly, this

[5]

Extract from *Hansard*

[COUNCIL — Wednesday, 20 November 2019]
p9028b-9044a

Hon Alison Xamon; Hon Stephen Dawson; Hon Charles Smith; Hon Jacqui Boydell; Hon Dr Steve Thomas;
Hon Aaron Stonehouse; Hon Robin Chapple; Hon Tim Clifford; Hon Colin Tincknell; Hon Diane Evers

government believes that all sectors of industry need to play their part in tackling emissions. I think it is very unfair to pounce on one industry.

While we are on this issue, I wanted to mention an article—I have not had a briefing on the issue yet, but I look forward to it—that appeared in the business section of *The West Australian* last Saturday, titled “Gas good for global emissions: Woodside”. It states —

Woodside chief Peter Coleman says a new report on “life cycle” emissions from the company’s proposed developments off WA confirms gas has a significant role to play in reducing global emissions.

The oil and gas giant commissioned ERM to produce a report on the global greenhouse emissions from its Scarborough and Browse gas fields over the life of the proposed projects.

It modelled the emission reductions to be gained if customer countries switched to gas, compared with the likely power mixes in those export markets.

The report, which was critically reviewed by the CSIRO, showed an emissions reduction of more than 400 million metric tonnes over the period to 2040.

As I said, I have not yet seen or been briefed on the report.

Hon Dr Steve Thomas: I will be referring to it later.

Hon STEPHEN DAWSON: Maybe the member has more information on it than I do. Certainly, this report has been peer reviewed by the CSIRO and shows that absolutely there are benefits.

Hon Dr Steve Thomas: I will give you a bit more detail then.

Hon STEPHEN DAWSON: That is great. I could say a few more things about it, but if the member is going to comment, I will use my four minutes for something else.