



Climate Action Merri-bek
P.O. Box 381
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To: Western Australia Environment Protection Authority

Submission: Browse to NWS Development

We are a grassroots Incorporated group of citizens in the municipality of Merri-bek in Melbourne's Northern suburbs active on climate advocacy since 2008. We bring our experience and knowledge of climate science and the need for rapid decarbonisation to address the climate emergency, especially as it applies to our own municipality, but also generally for Australia as a whole.

We have had representatives attend four UN Climate Change Conferences since COP21 in Paris in 2015 as NGO Observers.

We thank the Western Australia Environment Protection Authority for this opportunity to put in a submission on the Browse to NWS Development Project.

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Submission: Browse to NWS Development Project	2
Executive Summary	2
Pollution from Industrial activity.	3
Seismic survey impact on marine environment	3
Habitat Disturbance	4
Subsidence	6
900 km pipeline from Scott Reef to Karratha	6
Oil Spill Risk.	6
Project not consistent with the climate science	7
Conclusion	9

Submission: Browse to NWS Development Project

Executive Summary

We note Woodside Energy changes to the development proposal with a reducing development area, modifications to remove or relocate drilling units to avoid green turtle habitats, minimise flaring to daylight hours, and the adoption of technology to minimise the risk of a loss-of-well control event.

Climate Action Merribek objects to the Browse to North West Shelf Development on several grounds including:

The development will add industrial pollution to a relatively pristine environment and ecosystems. This includes incidental chemical pollution from ships and drilling platforms, light pollution, and sound pollution. While the amendments include upgraded technology to prevent spill accidents, there still remains a risk of accident, and in the event of an accident could be catastrophic to the marine environment.

We note Scott Reef and the waters around provide a habitat which is a unique biodiversity hot spot with many species, some of whom are listed as vulnerable or threatened with extinction. Some of these species such as some of the whales and turtles are migratory and are likely to be impacted by even industrial infrastructure in the vicinity.

We note that extracting gas from the Browse Gas basin is likely to cause subsidence. This combined with climate change driven sea level rise poses an existential threat to the habitat on Sandy Islet of all species that rely on this island, and especially species such as the Green turtle that nest on the island. Subsidence under the reefs will also impact coral reef ecosystems that rely on light penetrating from the surface.

We note that opening a new Gas field such as Browse is not consistent with climate science targets of the Paris Agreement and Australia's commitment at COP28 to transition away from fossil fuels. The science clearly says no new fossil gas projects are needed to meet the Paris Climate Targets.

Pollution from Industrial activity.

We note this amendment proposes moving TRD drilling centre further east to reduce impact on Green turtles. It also proposes to restrict flaring to daylight hours to reduce potential migratory disturbance.

This includes Vessel discharges, drilling activities, and the release of produced water containing contaminants like mercury which could degrade water quality.

Underwater noise from drilling, vessel movements, and other industrial activities could disrupt migratory marine mammals.

Light pollution from flaring and operational lighting may disorient sea turtles and migratory seabirds.

As the area is a migratory route for marine mammals and turtles, the risk of increased ship strike increases.

Seismic survey impact on marine environment

We note seismic survey work and monitoring will be undertaken during construction.

“Underwater noise: generated during drilling, completion and installation activities (including vessel movements using Dynamic Positioning (DP), vertical seismic profiling (VSP) and distributed acoustic sensing (DAS)”

Noise related behavioural disturbance radius of up to approximately 10.5km around drilling and installation activities. Noise related behavioural disturbance radius of up to approximately 500m around subsea infrastructure during operations. Noise from piling and mooring installation as required for operations..

What assessment is being made on the impact of these seismic surveys on threatened marine species, that live or pass through the area on migration routes?

We note the science identifies issues of seismic surveys on marine mammals¹ and zooplankton.² See a recent Literature Review³

¹ Kavanagh, Ailbhe S., et al. "Seismic surveys reduce cetacean sightings across a large marine ecosystem." *Scientific reports* 9.1 (2019): 19164.

<https://www.nature.com/articles/s41598-019-55500-4>

² Runko Luttenberger, Lidija, et al. "Environmental impact of underwater noise." *Pomorski zbornik* 4 (2022): 45-54. <https://hrcak.srce.hr/file/403469>

³ Affatati, Alice, and Angelo Camerlenghi. "Effects of marine seismic surveys on free-ranging fauna: a systematic literature review." *Frontiers in Marine Science* 10 (2023): 1222523. <https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2023.1222523/full>

Habitat Disturbance

The construction and operation of subsea infrastructure, such as mooring lines, pipelines, and anchors, will disturb the seabed, potentially damaging benthic habitats.

Although Drilling infrastructure will be restricted to locations deeper than 75 m water depth, there has been little research into biodiversity of these habitats at these depths and how construction may impact species.

Corals and other creatures at these depths have more sensitivity to turbidity and sedimentation. Sensitive species will be smothered by increased sedimentation.

Scott Reef is isolated. Genetic isolation of its corals and other marine organisms, rely on local spawning events. Industrial impacts on habitat can impact reef organism reproduction and replenishment. Increased turbidity, incidental industrial pollution, or an oil spill, may threaten ongoing viability of isolated self-sustaining marine populations, as well as when combined with the impacts of climate change indirectly attributable to fossil fuel extraction.

We note the rich biodiversity according to the OceanWise Scott Reef Review (November 2024)⁴:

- approximately 1500 species of invertebrate have been recorded at Scott Reef, including 305 hard corals, ~200 soft corals, 96 sponges, 372 macro molluscs, 125 echinoderms and 388 crustaceans. Despite the high biodiversity of invertebrates known at Scott Reef, there is a severe lack in survey effort, for many groups only one or two surveys have been conducted, highlighting that the biodiversity known is likely to be an underestimate. Scott Reef could be a speciation hotspot for corals, due to the unique spawning biology and isolation of the reef.
- A number of conservation significant fish fauna are present or are likely to be, including the IUCN listed critically endangered Southern bluefin tuna, vulnerable oceanic sunfish and endangered humphead maori wrasse. 31 species of EPBC act protected Sygnathids (bony ringed fish) are likely to occur at Scott Reef, including 2 IUCN listed vulnerable species, however only eight Sygnathids have been recorded at Scott Reef likely due to a paucity of studies.
- Whale sharks migrating from Australia to Indonesia every year have been tracked passing the eastern perimeter of South Scott Reef. Great White, Tiger, Northern River, Hammerhead, Mako and other Reef Sharks are known or are likely to occur within or around the Scott Reef complex.
- North-West Australia is one of the last remaining regions with viable sawfish populations, two species of which are known to occur at Scott Reef.
- Several species of rays are known or are likely to occur at Scott Reef including manta, eagle and devil rays.

⁴ Oceanwise Australia have published 1 November 2024: Scott Reef. Review of Environmental Values and proposed Browse to North West Shelf Project Environmental Impact Statement/Environmental Review Document
https://assets.nationbuilder.com/ccwa/pages/16127/attachments/original/1736391111/Scott_Reef_Update_2024_Oceanwise.pdf

- There are 9 species of reef dwelling sea snake species are found at Scott Reef with a further 11 whose habitat likely to occur here and 3 more than the Proponent has listed, all of which are listed Marine species under the EPBC Act. Of this, the Dusky sea snake is listed as endangered; the Short-nosed and leaf – scaled sea snake is listed as Critically Endangered under both the EPBC Act and the IUCN Red List. A further 2 are listed as data deficient. The dusky sea snake, *Aipysurus fuscus*, has not been seen anywhere other than the Scott Reef Complex since 2002 and has been listed as endangered under the EPBC Act.
- Green turtles are an Endangered species under both the IUCN Red List and EPBC Act. They are highly migratory and frequent a range of different habitats and localities across the durations of their lifespans. The green turtles nesting at Sandy Islet at Scott Reef and Browse Island comprise a relatively small, but nevertheless unique, genetic stock. The hawksbill turtle is considered a Critically Endangered species by the IUCN (IUCN 2020). It has experienced significant and extensive population declines in all major oceans due to overexploitation, degradation of marine and nesting habitats and fisheries related mortalities. It is known to nest on Sandy Islet. Several other turtles with varied conservation status are known to be migratory through the area of Scott Reef.
- At least twenty-nine species of marine mammal occur or are likely to occur near Scott Reef, including two Endangered, three Vulnerable, one Near Threatened and several Data Deficient species. This included : Pygmy blue whale, Bryde’s whale, Humpback whale, Dwarf Minke Whale, Minke Whale, striped and Australian humpback dolphins, rough-toothed, fin whales, sei whales, pilot whales, killer whales, melon-headed whales, sperm whales. Dugongs have also been recorded in proximity to Scott Reef. Mixed species feeding aggregations are not uncommon in the region, with upwelling areas in particular that found at Scott Reef providing sources of food for species migrating through the area.
- The reef supports 31 seabird species, including the endangered Hutton’s Shearwater and the vulnerable Matsudaira’s Storm-petrel. Critically endangered species, such as the Curlew Sandpiper, Eastern Curlew, and Red Knot, may potentially occur at Scott Reef. This underscores the importance of Scott Reef as a potential conservation priority under the EPBC Act. Sandy Islet, within Scott Reef, is a key breeding and roosting ground for species like Abbott’s Booby, Brown Boobies, and Common Noddies. The region is considered important for various life history stages, including breeding and foraging, for several EPBC Act-listed seabird species, such as the Brown Booby (*Sula leucogaster*), Common Noddy (*Anous stolidus*), Lesser Frigatebird (*Fregata ariel*), Wedge-tailed Shearwater (*Ardenna pacifica*), and Roseate Tern (*Sternula dougallii*)

We particularly note the final paragraph of the OceanWise review report executive summary on Page 7, noting that the project risks irreversible harm to a unique marine ecosystem and agree that the precautionary principle should be invoked and the project not approved:

Multiple likely and potential impacts are understood and are known to pose unacceptable risks to the Scott Reef ecosystem and the broader marine environment. Without more thorough baseline research, particularly in deeper habitats and on migratory species, it is challenging to make confident predictions about the risk of long-term impacts of the project on Scott Reef particularly in the

context of cumulative impacts. The findings of this report underscore the environmental significance of Scott Reef; the adverse nature of risks posed by the Browse to NWS project; the need for further research before any large scale industrial activity is considered; and the need for comprehensive environmental monitoring to protect Scott Reef from the compounding threats of climate change and industrial development. For these reasons we conclude the information is not adequate to assess the risks. **Given the known threats and significant knowledge gaps, the precautionary principle should be applied. Approving this project risks irreversible harm to one of Australia's most unique marine ecosystems, contravening our global obligations to conserve biodiversity and reducing our climate change emissions.**

Subsidence

Extracting gas underneath Scott Reef is likely to lead to geological subsidence, which, when combined with the impacts of climate change of rising sea levels and increasing acidification, accelerate the decline of coral reef ecosystems. There has been little research on the ecosystem impacts and long-term effects of subsidence in this region.

This poses an existential risk to all species using Sandy Islet as a breeding site, and generally for the coral reef ecosystems.

900 km pipeline from Scott Reef to Karratha

We note that the proposed trunkline route traverses across approximately 900 km of seabed and rises from along the continental slope through Rowley shoals Marine park to Karratha.

The only evidence presented is some video data on 20 sites to characterise the 900 km route. There is no sonar mapping that might identify complex geomorphic and bathymetric features that support spatially restricted biotic communities of high conservation value.

Building the pipeline and its operation will add to industrial pollution and Risk of oil spill to the ecosystems along the route.

Oil Spill Risk.

While Woodside have advanced an increased technological response to reduce oil spill risk, which is part of this amendment, the fact remains that ANY oil spill in this pristine ecosystem and biodiversity hotspot would be an ecological disaster.

Impacts would be difficult to monitor and manage.

Even for a small oil spill, residues would likely persist in the environment for decades, bioaccumulating into food webs and into apex predators like demersal fish, sharks and marine mammals.

It would also likely have catastrophic impacts for sensitive coral species and the reef ecosystem.

Woodside argue a hydrocarbon leak is only a theoretical risk, yet these spills happen regularly. For example on 26 May 2025 it was reported that Woodside spills 16,000 litres of oil into the ocean north of Ningaloo Reef.

In the previous project proposal the 'worst case credible' scenario for a hydrocarbon spill arising from Torosa drilling activities could result in a 77 day loss of containment event, releasing up to 142,154 m³ of condensate.

Woodside in this amendment is proposing the provision of pyrotechnic shear ram technology that might reduce duration of a blowout to 12 hours, resulting in release of up to 887 m³ of condensate.

The company that thinks a damaging oil spill from its planned drilling near Scott Reef is "only a mere theoretical possibility" yet in May 2025 one of those 'theoretical accidents happened releasing a cocktail of hydrocarbons, chemicals and water into the Indian Ocean.⁵

Project not consistent with the climate science

The International Energy Agency, the United Nations and IPCC scientists all say that no fossil fuel projects should proceed in order to reach net zero by 2050. The Browse to North West Shelf Development is not consistent with Australia signing the Paris Agreement to strive to keep temperatures to 1.5 degrees C.

The International Energy Agency 2021 report, [*Net Zero by 2050 – A Roadmap for the Global Energy Sector*](#), makes it clear that no new fossil fuel development can be made if the world is to reach net zero by 2050.

Samantha Hepburn, Professor in the Deakin Law School, Deakin University wrote at The Conversation in 2022:

"Australia is heading in the wrong direction by opening up new fossil fuel exploration. The move will damage our longer-term security and undermine our climate imperatives. It ignores the glaring economic realities that will eventually push gas out of the market. And opening new gas fields while carbon-capture remains uncertain is dangerous for the planet." - [The Conversation](#), 25 August 2022

⁵ Peter Milne, Boiling Cold, 26 May 2025, Woodside spills 16,000 litres of oil into ocean north of Ningaloo, <https://www.boilingcold.com.au/woodside-spills-16-000-litres-of-oil-into-ocean-north-of-ningaloo/>

New gas development is incompatible with achieving the Paris Agreement target of limiting global warming 1.5. It will make climate change worse for all of us. (See references below)

The science on fossil fuel extraction and climate targets:

Welsby, D., Price, J., Pye, S. et al. Unextractable fossil fuels in a 1.5 °C world. Nature 597, 230–234 (2021). <https://doi.org/10.1038/s41586-021-03821-8>,

<https://www.nature.com/articles/s41586-021-03821-8>

Nogrady, Bianca, Nature, 8 September 2021, Most fossil-fuel reserves must remain untapped to hit 1.5 °C warming goal

<https://www.nature.com/articles/d41586-021-02444-3>

Kelly Trout et al (17 May 2022), Existing fossil fuel extraction would warm the world beyond 1.5 °C , Environ. Res. Lett. 17 064010, DOI 10.1088/1748-9326/ac6228,

<https://iopscience.iop.org/article/10.1088/1748-9326/ac6228>

In a 2023 report the International Energy Agency states:⁶

“In a scenario that hits global net zero emissions by 2050, declines in demand are sufficiently steep that no new long lead-time conventional oil and gas projects are required. Some existing production would even need to be shut in.”

“In net zero transitions, new project developments face major commercial risks and could also lock in emissions that push the world over the 1.5 °C threshold. Producers need to explain how any new resource developments are viable within a global pathway to net zero emissions by 2050 and be transparent about how they plan to avoid pushing this goal out of reach.”

We note the provisional approval of the North West Shelf Extension by the Federal Environment Minister Murray Watt on 28 May 2025. Climate Science NGO Climate Analytics have analysed the full implications of Australia’s North West Shelf decision. The researchers called the decision “an historic mistake and a denial of climate science.” The Briefing Note outlines the implications of this decision, from the enormous emissions that will pollute the atmosphere for thousands of years, their impacts on the ground, the ability of the Federal government to meet its Paris Agreement commitments (and indeed its net zero ambitions), and counter some of the claims being made by the government around Australia’s need for gas, and the need of trading partners. They note approval of North West Shelf is a doorway to approval of the Browse to NWS Project, and call it a carbon bomb.⁷

⁶ IEA, 23 November 2023, Oil and gas industry faces moment of truth – and opportunity to adapt – as clean energy transitions advance
<https://www.iea.org/news/oil-and-gas-industry-faces-moment-of-truth-and-opportunity-to-adapt-as-clean-energy-transitions-advance>

⁷ Climate Analytics (5 June 2025). The full implications of the North West Shelf Decision
<https://climateanalytics.org/publications/the-full-implications-of-australias-north-west-shelf-decision>

Conclusion

The Browse to NWS Development Project should not be approved, based on

1. Pollution from industrial activity, including underwater noise including seismic survey work
2. Habitat disturbance, including from subsidence, providing an existential threat in a biodiversity hot spot to many species, many of which are vulnerable or threatened.
3. The impact of the 900 km pipeline from the drill site at Scott Reef to Karratha has not been sufficiently investigated and poses environmental risks from accidental pipeline leaks.
4. The Oil spill risk can be minimised, but not eliminated. Any spill or leak would be catastrophic on the marine environment and ecosystems.
5. Climate Science says clearly that development of the Browse Basin Gas should not take place. Development of the resource undermines both Australia's international commitments with the Paris Agreement, and commitment to transition away from Fossil Fuels made at COP28.

We think the precautionary principle should be invoked and the Browse to NWS Development Project should not be approved by the WA Environmental Protection Authority.