

Christine Cox Submission  
Santos 'Barossa Darwin Pipeline

I have lived in the NT and Darwin for more than 30 years and have been primarily employed in tourism and environmental education in national parks and in schools all around the NT. I live in Darwin as a long term home owner and I would like to stay here for the rest of my life but the potential risks from gas projects and their human health risks and impact on climate change are making Darwin less liveable for older people like me.

Please reject the Santos 'Barossa Darwin Pipeline to help keep Darwin a liveable city for me and other retired long term residents including first nations people.

I believe that the NTEPA should reject Santos 'proposal to build a new Darwin pipeline for the following main reasons:

- Unacceptable impacts on marine life, the emissions the pipeline would facilitate, and the risks posed to Darwin Harbour.
- Unacceptable risks and impacts should not be imposed on Darwin Harbour in order to facilitate a speculative project, CCS, that may not even happen, and is being used to greenwash Barossa gas.
- Barossa emissions as a whole are relevant for each approval, and should be considered unacceptably high, so the project should not proceed

I have the following major concerns with the Darwin Pipeline.

Barossa's carbon emissions would be enormous, according to Santos 'own estimates, the lifecycle emissions of the Barossa project would be 296Mt Co<sub>2</sub>-e. For context, the NT's total annual emissions for 2018 were less than 18mt co<sub>2</sub>- e. Barossa is a carbon bomb.

- Barossa gas has an extremely high Co<sub>2</sub> content, at 18%. This would make it one of the dirtiest gas fields in Australia, and means that very little gas is produced per tonne of emissions produced.

I also am very concerned about the amount of sea clearing and the increasing industrialisation of Darwin Harbour which poses an unacceptable risk to marine life and ecosystems

- Construction will result in over 550 vessel transits in Darwin Harbour during construction. Marine megafauna is threatened by the increased vessel activity and associated light and noise impacts, and possible collisions.
- The project requires sea clearing ("dredging"); 40m width of cleared seabed to lay the pipe. Sea clearing in this manner can result in temporary and/or permanent habitat loss due to direct removal of habitat, or damage to habitat through dumping of dredge material. Additionally, there is a risk that the disturbance of the sediments may mobilise contaminants, including arsenic which is found at levels above the National Assessment Guidelines for Dredging screening levels.
- Marine mammals that are found in the project area are the false killer whale, Australian humpback dolphin, Australian snubfin dolphin, Indo-pacific bottlenose dolphin, and dugongs. Darwin Harbour forms part of the Biologically Important Area (BIA) for the three dolphin species.
- Dolphin numbers in Darwin Harbour are already decreasing and would be at risk of further decline if the industrialisation of the Harbour goes ahead. Unfortunately, because of existing decline in the dolphin population, Santos has not attempted to collect further baseline data for dolphins. This means that impacts on an already vulnerable population will be difficult or impossible to assess.
- Six species of marine turtles are found in the project area: loggerhead turtle, green turtle, hawksbill turtle, flatback turtle, leatherback turtle, Olive Ridley turtle. Four of these species were previously considered absent by Santos, but in the SER have been reclassified as 'likely 'or 'potential'.
- There is an overall data deficiency in relation to marine megafauna and ecosystem dynamics in the Harbour; this makes risk assessment and management difficult

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The impacts of a spill are too devastating to risk a toxic hydrocarbon condensate lapping at the shores of Mindil Beach during the markets – this scenario is modeled as a possible outcome of a spill from Santos 'own data. (Figure 12.11 Zones of potential entrained hydrocarbon exposure at 0-10m below sea surface from an offshore pipelay vessel fuel tank rupture at KP91.5 during wet season conditions.

The project rationale is not strong enough to justify the risks

- CCS is being used as a rhetorical tool to greenwash Barossa gas to investors, without any sign of genuine intent to pursue the project.
- There is no evidence that Santos is serious about pursuing its CCS project at Bayu Undan; Santos have stated that they are willing to use offsets to meet their requirements under the Safeguard Mechanism until Bayu Undan CCS is in operation, but are not pursuing required approvals to realise the CCS project.
- Santos 'justification does not detail the expected amount of c02 to be captured, the additional emissions created, and net emissions reduction anticipated from a CCS project. Previous analysis of potential for CCS at Bayu Undan has suggested no net reduction in emissions because of the high level of emissions involved in transporting and compressing carbon dioxide. If this is the case, this project is unnecessary and poses unacceptable risk.
- There is no confirmation that the existing pipeline infrastructure is appropriate for transporting carbon dioxide, which requires reengineering to avoid corrosion and other effects of concentrated c02. At the time of publishing the SER, Santos is still awaiting a Statement of Conformity to establish the possibility of using existing infrastructure for CCS.

Thankyou for your consideration

Christine cox