

12/6/23

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My biggest concern is, 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.

Another concern is Sea clearing and the industrialisation of Darwin Harbour pose 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.

- There is an overall data deficiency in relation to marine megafauna and ecosystem dynamics in the Harbour; this makes risk assessment and management difficult. The impacts of a spill are too devastating to risk. Imagine toxic hydrocarbon condensate lapping at the shores of Mindil Beach during the markets – this scenario is modelled as a possible outcome of a spill from Santos' own data.

- The rationale for the Darwin pipeline project proceeding is for Santos to pursue CCS at Bayu[1]Undan. They need to build the Darwin pipeline for gas so they can use the existing pipeline to send carbon dioxide to Bayu-Undan.

- 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 cO<sub>2</sub> 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 cO<sub>2</sub>. 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.

- CCS is being used as a rhetorical tool to greenwash Barossa gas to investors, without any sign of genuine intent to pursue the project.

This project cannot go ahead, the emissions are too high and the risk to marine life is unacceptable.

Thanks,

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