

Bonaparte Carbon Capture and Storage



Carbon capture and storage (CCS) is a proven technology that can avoid carbon dioxide (CO₂) from being emitted into the atmosphere by sequestering it deep underground safely and permanently. The Bonaparte CCS project could provide the opportunity for a large-scale multi-user carbon storage hub strategically located on the doorstep of Asia.

Global Importance of CCS to reach Net Zero

CCS is a key emission reduction technology. The International Energy Agency has concluded that achieving net zero by 2050 is simply not possible without large-scale global deployment of CCS.

Regional Importance of the Bonaparte Basin

Australia has suitable basins for geological large-scale storage of CO₂ along the margins of the Australian continent. The Bonaparte Basin (including the Petrel Sub-basin) offshore northern Australia is considered by Geoscience Australia (GA) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) as one of the most promising settings in Australia for large-scale CO₂ storage.

Petrel Sub-basin has considerable CO₂ storage capacity and has the potential to host multiple hundred million tonne storage projects.

Bonaparte CCS Assessment (GHG Permit G-7-AP)

The Bonaparte CCS Assessment Joint Venture - with INPEX (as Operator), TotalEnergies and Woodside Energy - was awarded the greenhouse gas assessment permit (G-7-AP block) in the Petrel Sub-basin in 2022. The approved assessment work program includes a two-well-assessment drilling campaign, new 3D seismic and a comprehensive post-well analysis program. The assessment program aims to demonstrate the suitability of the saline aquifers of the Petrel Sub-basin for large-scale CO₂ sequestration.

Bonaparte CCS Assessment Joint Venture – INPEX as Operator 53%, TotalEnergies 26% and Woodside Energy 21%.

The Darwin CCS Hub Concept

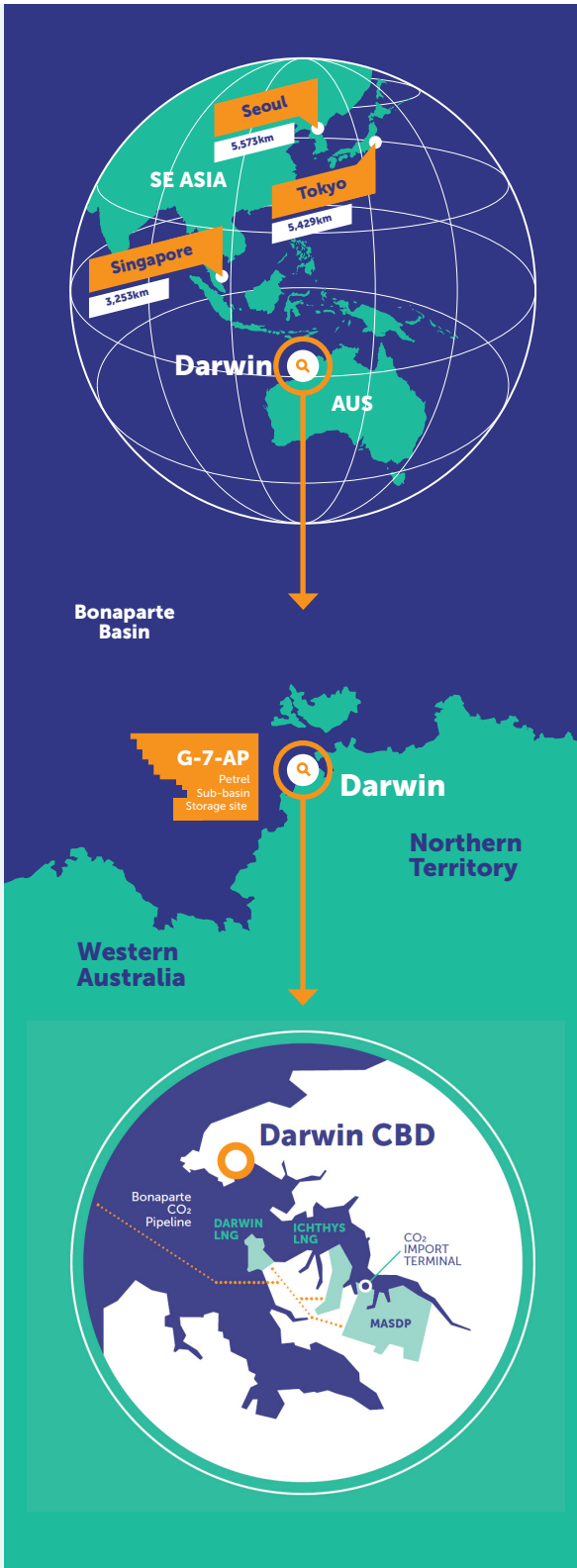
The CCS Hub proposed on Darwin’s Middle Arm peninsula has potential for CO₂ from multiple emitters to be aggregated into a single stream for transportation to the Bonaparte CCS offshore injection site. The CCS Hub is likely to also include common marine infrastructure for the import of CO₂ from overseas.

CSIRO is leading an industry-government collaboration to develop the business case for a large-scale low-emission CCS Hub.

Ichthys LNG and Other Emitters

INPEX is actively working to decarbonise its upstream operations, to provide a stable supply of diverse and clean energy sources. Key to the planned decarbonisation of the INPEX-operated Ichthys LNG facility is the development of a large-scale CCS facility close to Darwin. Bonaparte CCS offers Ichthys and other emitters in the region the opportunity to decarbonise at scale and become foundation customers via the Darwin CCS Hub infrastructure.

Ichthys LNG has an LNG production capacity of 9.3 mtpa and supplies ~10% of Japan’s entire LNG import volumes.



Middle Arm Sustainable Development Precinct (MASDP)

The proposed MASDP is being jointly developed and funded by the Northern Territory Government and the Australian Government. The precinct is planned to allow development of new sustainable industries through land allocation and investment in essential infrastructure and ensuring CO₂ emissions can be captured and transported via the Darwin CCS Hub piping network.

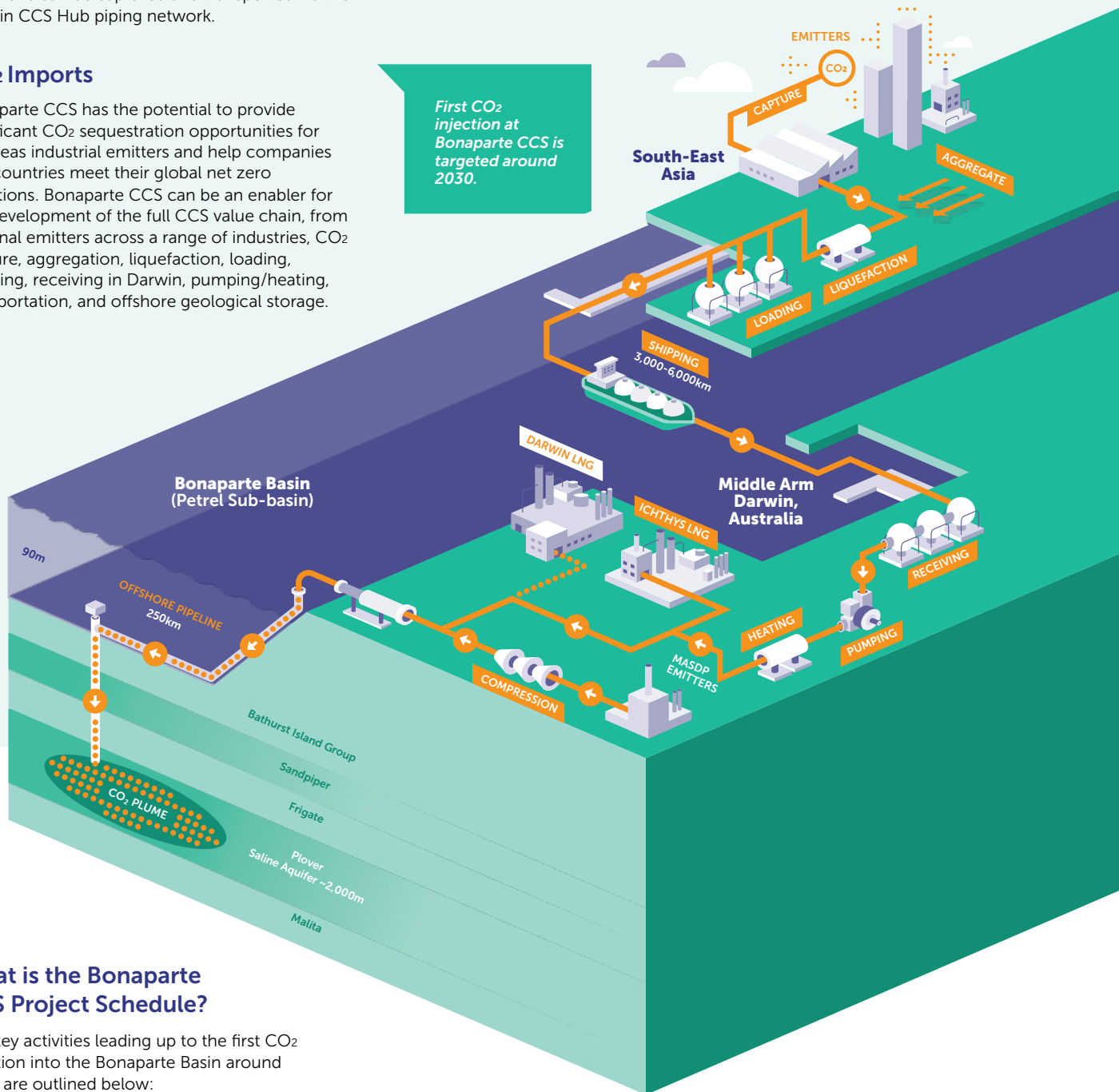
2022-23 Australian Federal Budget includes A \$1.5 billion in planned equity to support MASDP.

INPEX

CO₂ Imports

Bonaparte CCS has the potential to provide significant CO₂ sequestration opportunities for overseas industrial emitters and help companies and countries meet their global net zero ambitions. Bonaparte CCS can be an enabler for the development of the full CCS value chain, from regional emitters across a range of industries, CO₂ capture, aggregation, liquefaction, loading, shipping, receiving in Darwin, pumping/heating, transportation, and offshore geological storage.

First CO₂ injection at Bonaparte CCS is targeted around 2030.



What is the Bonaparte CCS Project Schedule?

The key activities leading up to the first CO₂ injection into the Bonaparte Basin around 2030 are outlined below:

Storage Site Assessment	SEISMIC / WELLS > STUDIES > GHG STORAGE APPROVALS							
Commercial	MARKET EOI > MOU > CUSTOMER BINDING AGREEMENTS							COMMENCE INJECTION
Project Phases	SELECT	DEFINE	EXECUTE		COMMENCE INJECTION			
Timeline	2024	2025	2026	2027	2028	2029	2030	