

Gorgon Carbon Capture and Storage - Insights and lessons learned

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This presentation is meant to be read in conjunction with the related transcripts. All materials are posted on chevron.com under the headings “Investors,” “Events & Presentations.”



Who we are

We believe the future of energy is lower-carbon

One of the world's leading integrated energy companies and have been **present in Australia for 70 years**

Our purpose is to develop the **affordable, reliable, ever-cleaner energy** that enables human progress.

We are using our unique capabilities, assets, and expertise to deliver progress toward the global net-zero ambitions of the Paris Agreement



Photo: Operators monitor the injection wells for the Gorgon Carbon Capture and Storage (CCS) system

Our world-class Australian assets

Providing reliable and affordable gas supply for the country and region

Legend

Projects, associated infrastructure and permits

 Gorgon Project and Gorgon CCS

 Wheatstone Project

 North West Shelf

 Domestic gas pipelines

Greenhouse gas assessment permit

 Operated  Non-operated

Supplying reliable energy

Gorgon and Wheatstone account for approx. 6.5% of annual global LNG supply.

Major supplier of WA domgas in 2023

- Chevron operated projects: 47% WA domgas supply
- Chevron market share: 28% WA domgas supply

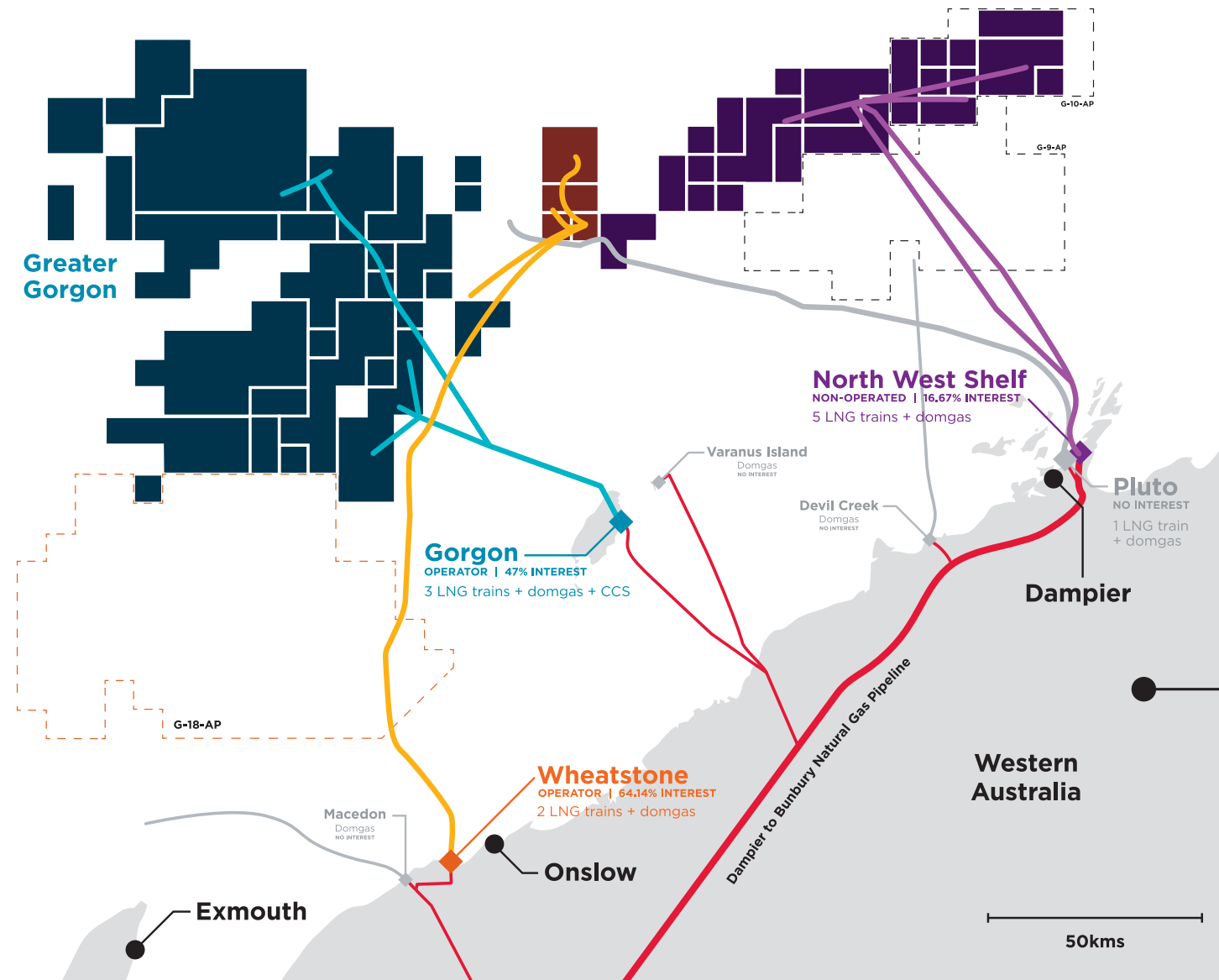




Photo: Gorgon gas processing facility with carbon dioxide removal and compression modules in foreground

Lower carbon activities and opportunities in Australia

Technical Abatement

- Exploring opportunities technical abatement solutions that can be developed and deployed at scale
- Trialling and piloting carbon capture technology in the US

Carbon Capture and Storage

- Gorgon CCS
- Operator and non-operator across four greenhouse gas storage assessment permits offshore WA

Offsets

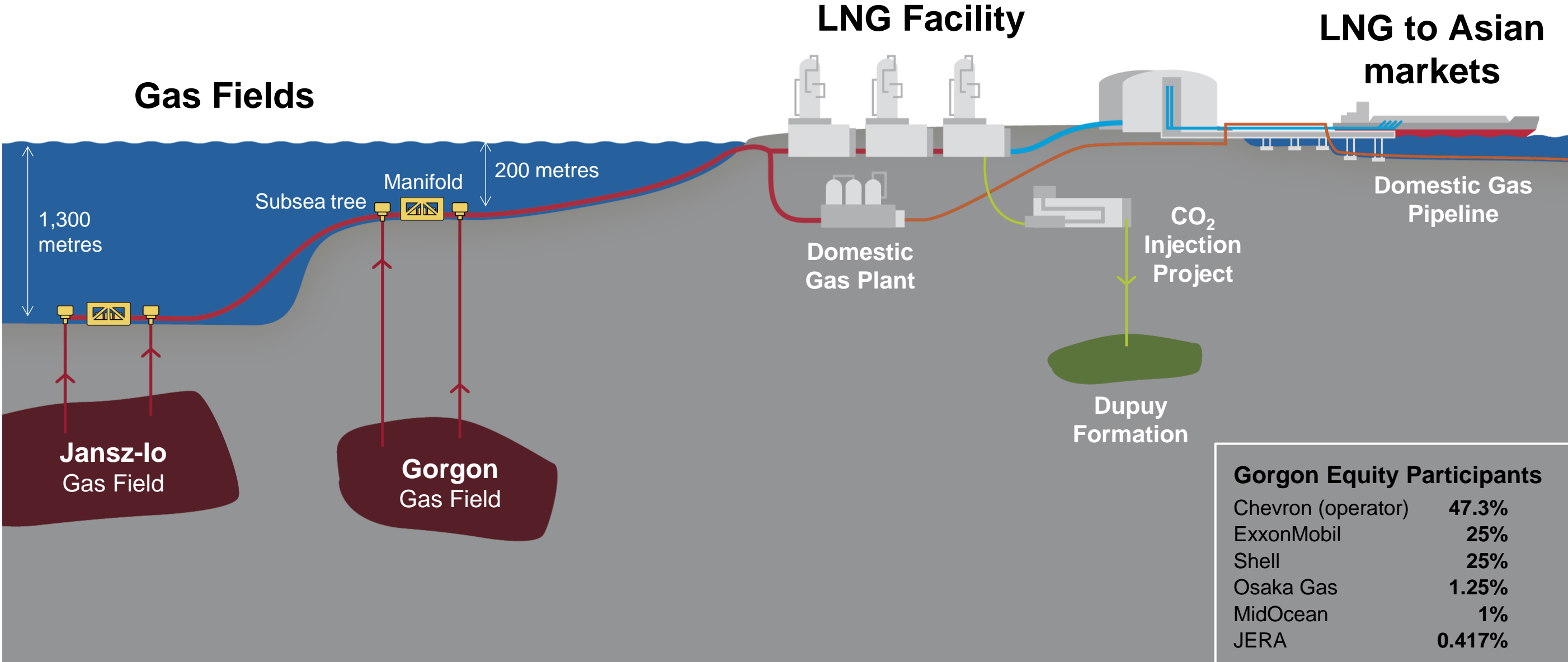
- Active in Australian ACCUs market, including investment in Carbon Sync

Hydrogen

- Ongoing interest in hydrogen opportunities in Australia

The Gorgon Project

Australia's largest single resource development

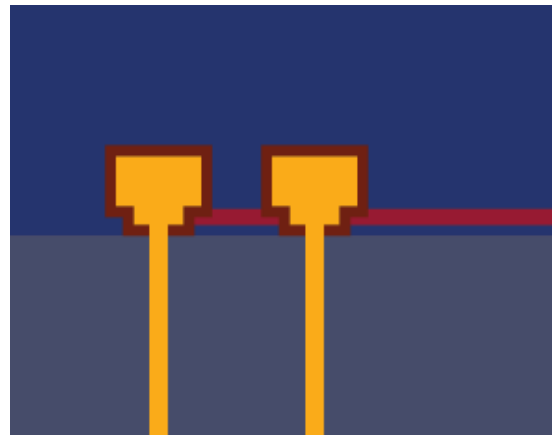


Gorgon Equity Participants	
Chevron (operator)	47.3%
ExxonMobil	25%
Shell	25%
Osaka Gas	1.25%
MidOcean	1%
JERA	0.417%



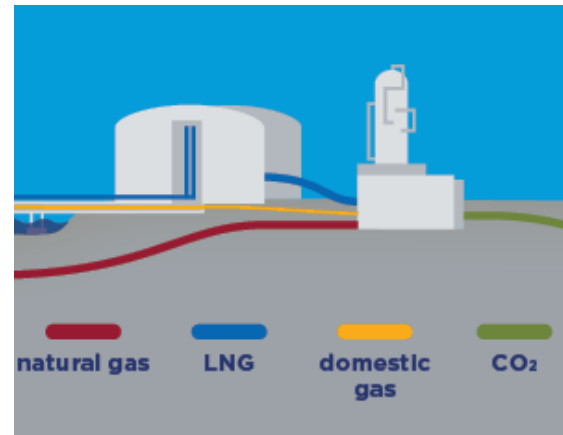
Gorgon CCS: how it works

Production



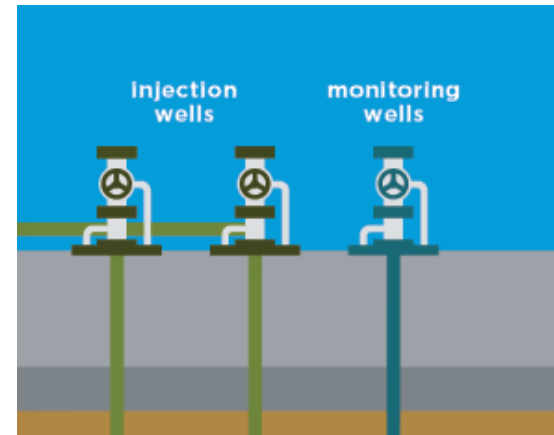
Gas from the Gorgon and Jansz-Io fields contains naturally occurring reservoir CO₂. As the CO₂ would become a solid when the gas is cooled for LNG transport, it must be removed.

Separation



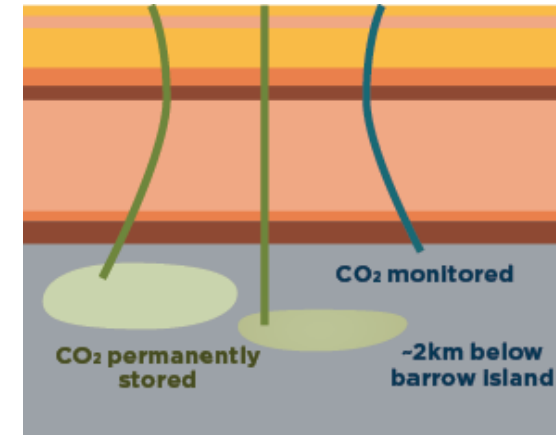
At the Gorgon gas plant, reservoir CO₂ is separated by three acid gas removal units (AGRU), then transported by 7 km of underground pipeline to one of three drill centres.

Injection



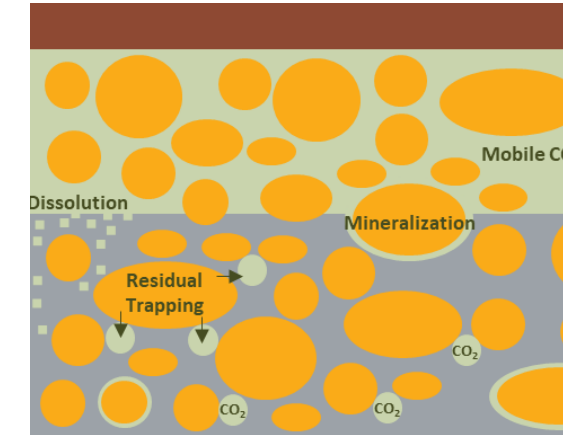
Each drill centre consists of up to four wells for the injection of CO₂. Two drill centres also include an additional surveillance well.

Storage



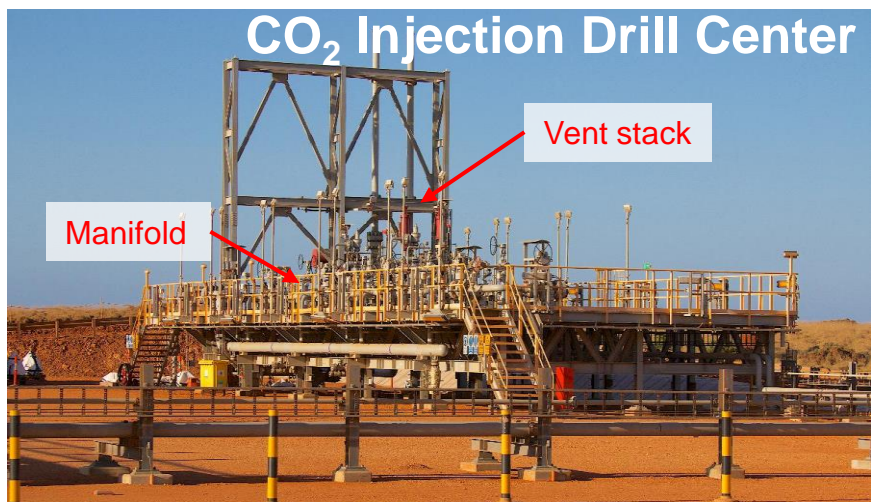
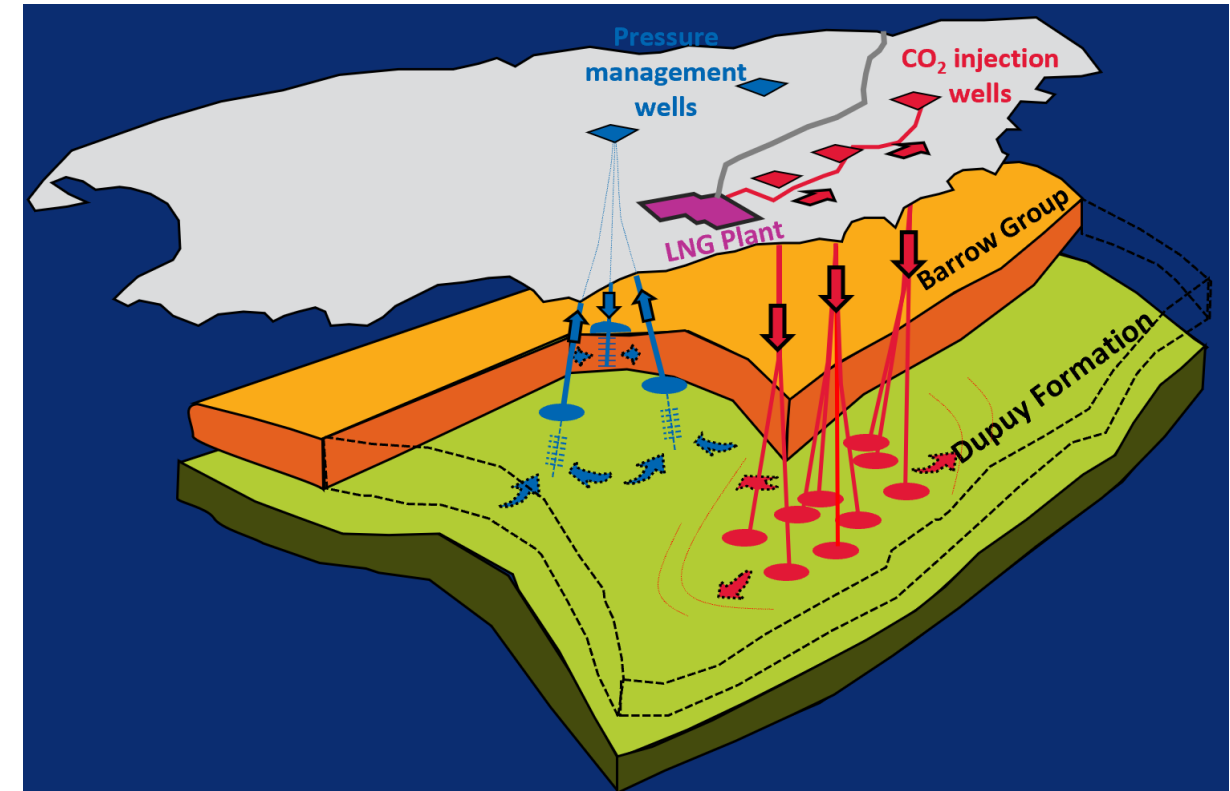
CO₂ is injected into a natural sandstone formation beneath Barrow Island where it becomes structurally trapped beneath a cap rock that acts as a seal to permanently contain the CO₂.

Containment



CO₂ storage gets more permanent & safer over time as post injection reservoir pressure equilibrates and mobile phase CO₂ gradually dissolves into formation water and mineralizes on pore surfaces.

Gorgon CO₂ System Overview



The Gorgon CCS System

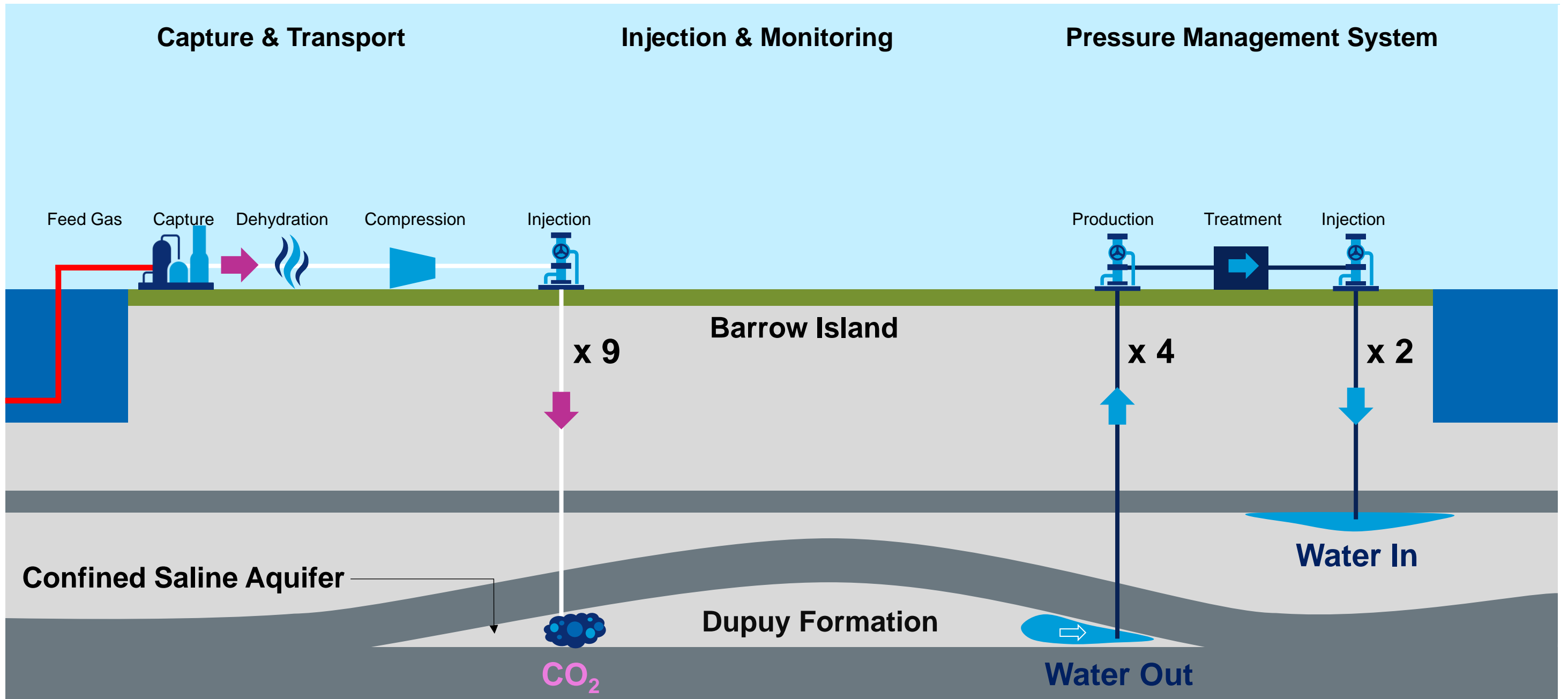
CO₂ Injection

Pressure management

Monitoring and surveillance

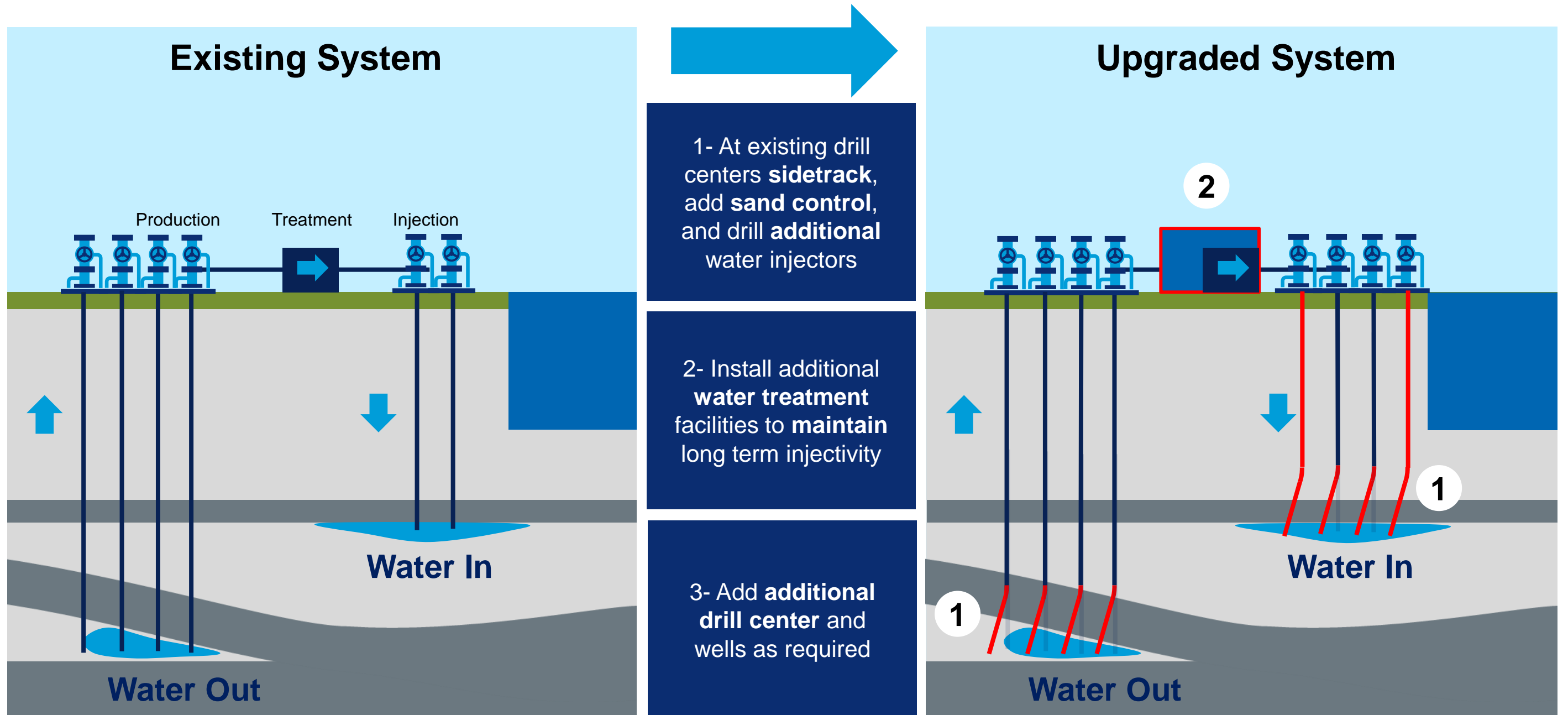
Gorgon Carbon Capture and Storage

More than 10 million tonnes stored to date



More pressure management

System optimization plans focus on additional water production and injection



Gorgon CO₂ Project – early system performance

CO₂ Capture System

- △ Excess water drop-out risk under transient conditions
- + Innovative solution and reliable operation

CO₂ Injection System

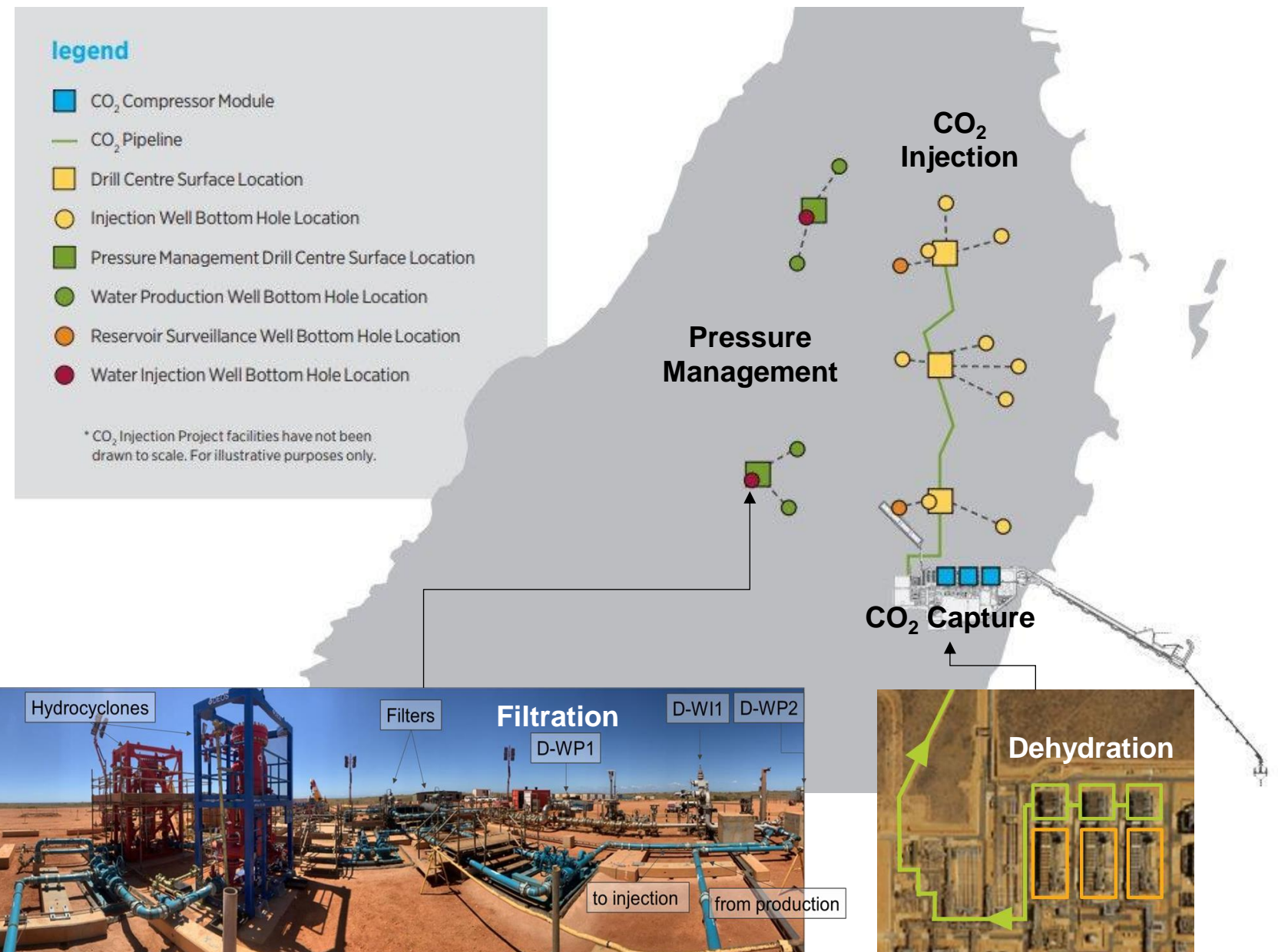
- + 10 million tons of CO₂ injected
- + Injectivity above expectations
- △ Well intervention efficiency

Pressure Management System

- △ Late start and below expectations
- △ High side solids, & residual hydrocarbons in water
- + Rapid evaluation and remediation (filtration)
- + Demonstrated reservoir connectivity to CO₂ injectors

Subsurface Uncertainty

- + Comprehensive monitoring and verification
- + CO₂ plume behavior as expected
- △ Low-side connected pore volume



More than 10 million tons of CO_{2e} sequestered to date

Key learnings

Leverage key technological and digital advances - Mechanical Earth Modelling, Monitoring and Verification

Emphasis on high volume **water handling** where required for confined CCS systems

Monitoring and verification is important for containment assurance, system optimization & safe operations

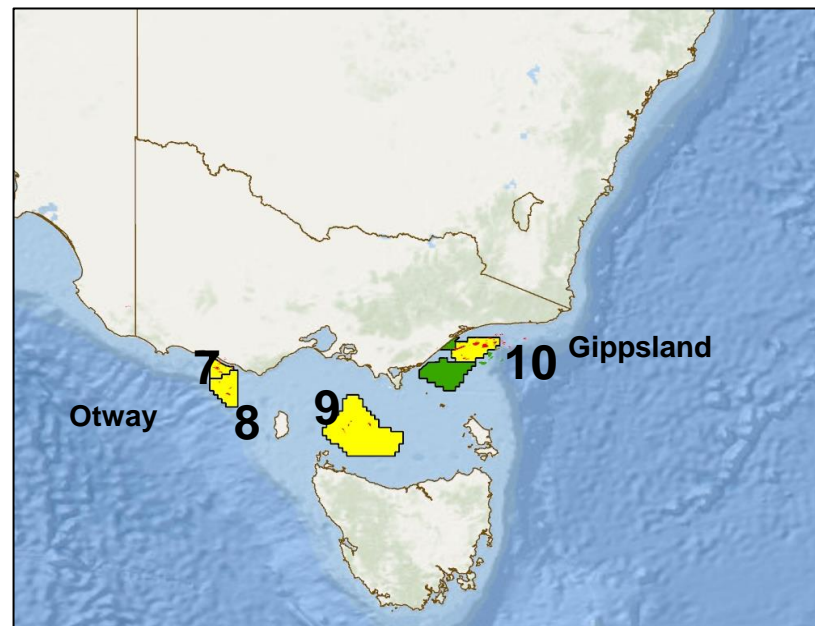
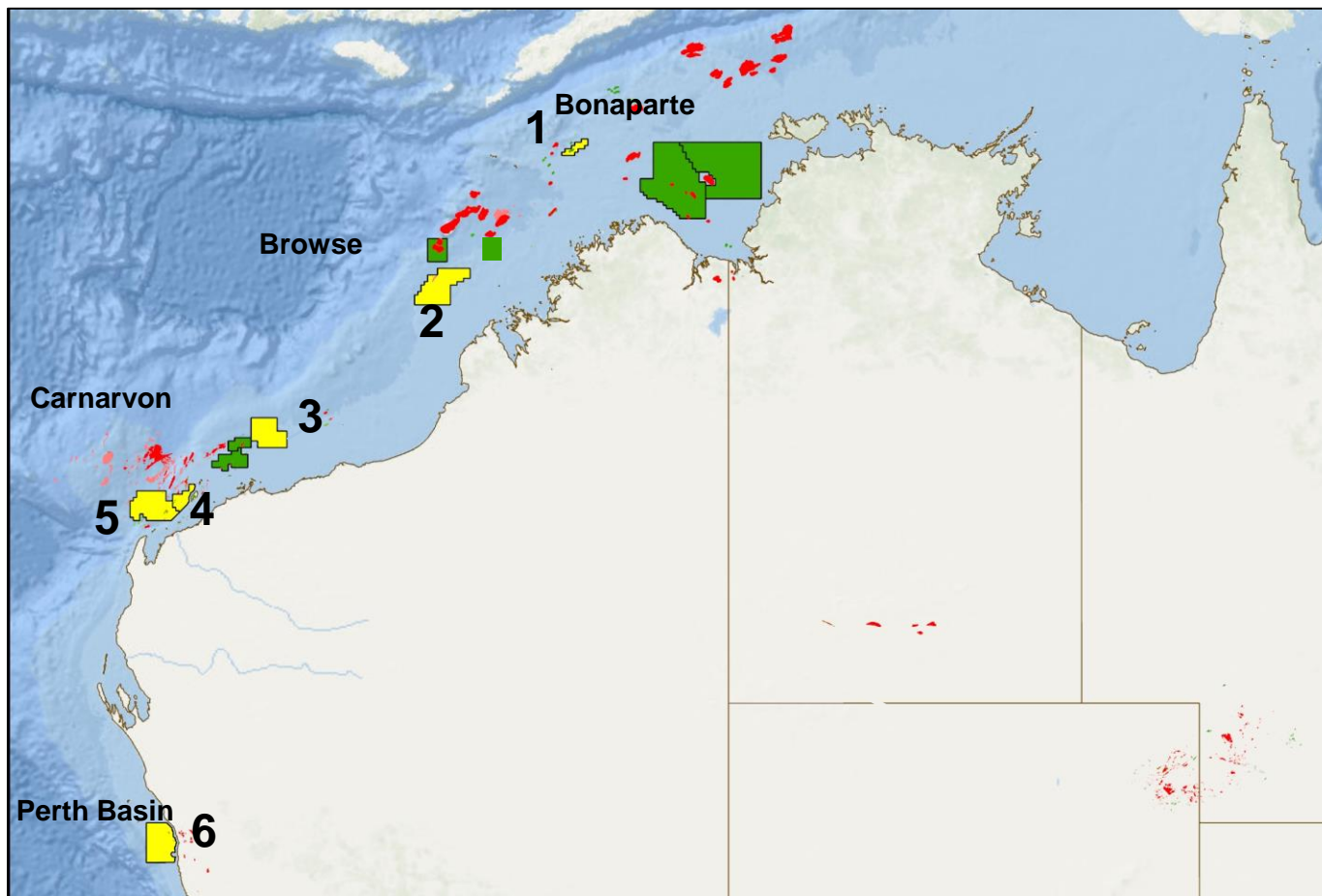
Design for a **wide envelope** of operating conditions (e.g. start up, shut down, maintenance)

Integrate **early performance** data and learnings to optimize system performance



Australia's CCS Potential

Good rocks and increasing activity



Existing Federal GHG Acreage
Nominated Federal GHG Acreage

Pipeline of projects

- In Operation:
 - Gorgon
 - Santos Moomba
- In Development
 - Santos Bayu-Undan CCS
 - Inpex Bonaparte Basin CCS
 - Angel CCS
- R&D Facility
 - Otway CO₂CRC site

Lowering the region's emissions

- Transboundary CO₂

Future Gas Strategy

- Action 5: Promote geological storage of CO₂ and support our region's net zero transition

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