

# gorgon gas development backfill fields

information sheet, april 2023



## overview

Chevron Australia is the operator of the Gorgon Project, one of Australia's largest natural gas projects located off the northwest coast of Western Australia.

As outlined in the initial development approval for the Gorgon Project, we are planning to install a subsea gathering network for seven backfill fields in the Greater Gorgon region. A backfill field is a supply of natural gas from an alternative source that will support the continued use of an existing facility.

The Gorgon Gas Development Backfill Fields (the Development) represents the next phase of the Gorgon Project, and the intent is to maintain current rates of Liquefied Natural Gas (LNG) and domestic gas production at the Gorgon Gas Facility on Barrow Island.

We are seeking initial feedback from stakeholders to help us prepare an Offshore Project Proposal (OPP) for submission to the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA).

## location and water depth

The seven fields are located about 200 kilometres north of Onslow and 100 kilometres north-northeast of Barrow Island, at depths of 150 metres to 1,230 metres. Most of the fields are in water depths greater than 800 metres.

The fields are: Chandon, Chrysaor, Dionysus, Eurytion, Geryon, Semele and West Tryal Rocks. The operational area includes a five-kilometre buffer around the most conservative indicative location of the backfill fields' infrastructure (figure 1).

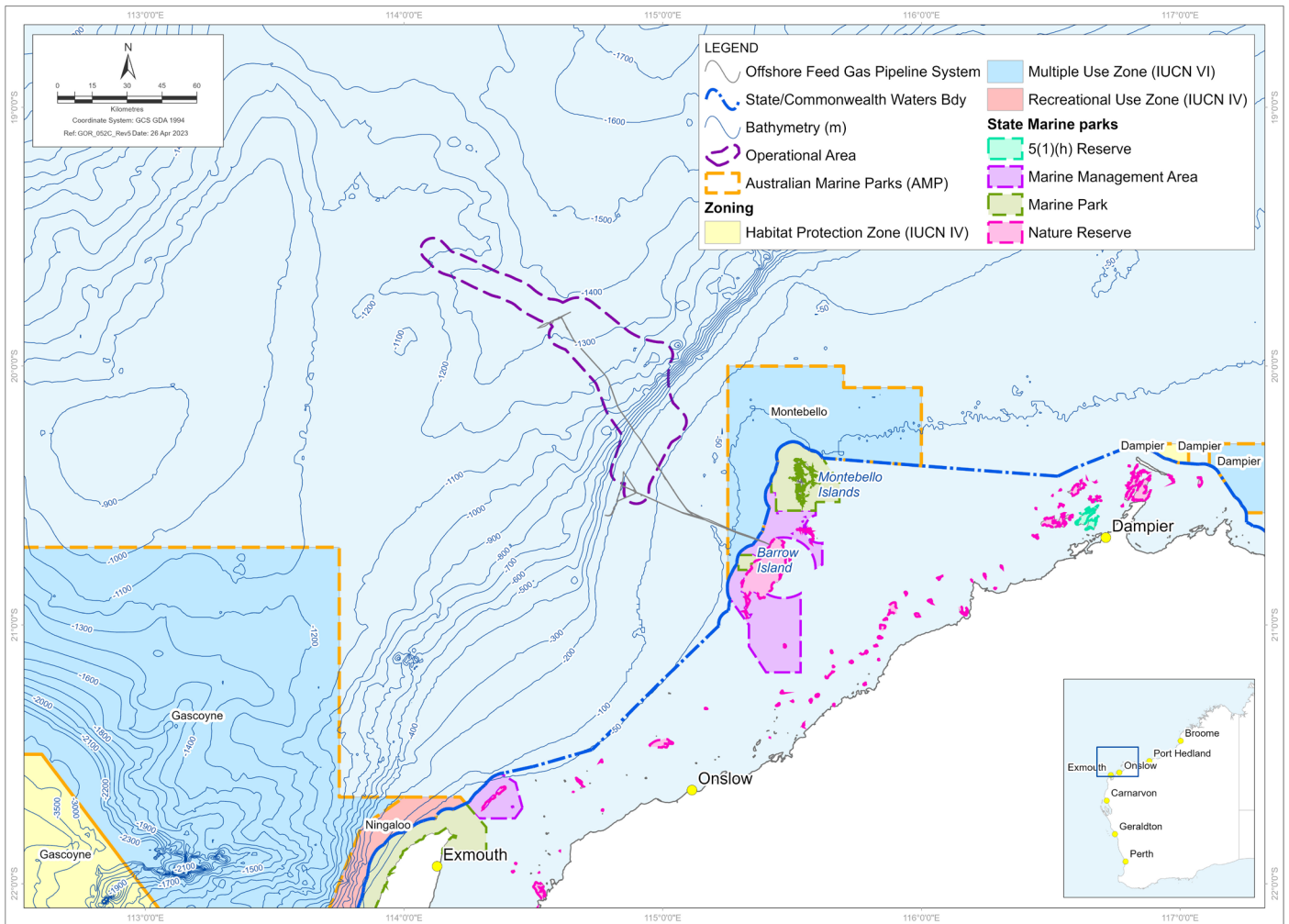


figure 1. location of gorgon gas development backfill fields

The operational area is a five km buffer around the most conservative indicative location of the backfill fields' infrastructure.

## schedule and duration

Activities to start the development of the first field are proposed to commence in 2025. Field development will be staggered so all fields will not be developed in a single campaign. The order of the development of the seven fields has not yet been finalised.

During development periods, work will occur in stages throughout the year and activities could occur during the day or night.

## activity summary

The Development intends to tie in the seven backfill fields with the existing subsea gathering infrastructure which connects the two currently operational gas fields, Gorgon and Jansz-lo, with the Gorgon Gas Facility. From the facility, gas is processed and liquefied for export as LNG or piped to the mainland for Western Australian domestic gas users.

Planned activities in the fields include:

- drilling wells
- installing a subsea gathering network that connects the wells to the existing Gorgon and Jansz-lo pipelines

- conducting geotechnical and geophysical surveys
- commissioning and start-up
- maintaining and repairing infrastructure
- operating vessels, helicopter and remotely operated vehicles
- Decommissioning.

Subsea infrastructure will include:

- wells and associated infrastructure
- flowlines carrying gas from the fields to the Gorgon and Jansz-lo pipeline tie-in locations
- lines to convey electricity, fibre-optic cables, and hydraulic and other fluids, called umbilicals.

No permanent structures will be above the sea surface.

## EMBA: environment that may be affected

Planned activities will have the potential for environment interactions, known as ‘aspects’.

Planned aspects result in environmental impacts and changes to the environment and may present environmental risks.

Unplanned releases and events may occur while conducting activities.

The size of the ‘environment that may be affected’ also known as an ‘EMBA’ is based on an emergency condition’s worst case environmental scenario. In this case, the EMBA has been defined through combining 300 simulations from a loss of well control event from each of the seven fields under different hydrological and meteorological conditions representative of summer, winter and transition seasons in the north west. Figure 2 shows the EMBA.

Control measures to prevent a loss of control event are in place, however, Chevron Australia is required to assess this highly unlikely scenario.

In this scenario, cultural, ecological and social values and sensitivities may be exposed to hydrocarbons. These are considered environmental risks because they are not planned to occur.

Table 1 lists potential environmental impacts and risks and control measures.

## the approval process

The Gorgon Gas Development primary approval under the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) and *Environmental Protection Act 1986* (WA) included developing the Gorgon and Jansz-Lo fields and constructing the Gorgon Gas Facility (also known as the Gorgon Gas Treatment Plant) on Barrow Island.

The backfill fields were envisaged in the initial Gorgon Gas Development approvals process and will tie into existing subsea gathering infrastructure and be processed in the existing Gorgon Gas Facility.

The fields do not increase the life or capacity of the Gorgon Gas Facility beyond the approved Gorgon Gas Development.

Chevron Australia is preparing an OPP to develop the seven backfill fields for submission to NOPSEMA.

The OPP will include:

- an assessment of environmental impacts and risks to show that the activities are environmentally acceptable
- identification and assessment of feasible alternatives including a comparison of environmental impacts and risks
- clearly defined and measurable environmental performance outcomes
- sufficient information to allow the public to provide informed comment.

After submission, NOPSEMA first checks that there is enough information for members of the public to make an informed comment.

NOPSEMA then sets a public consultation period of at least four weeks, during which stakeholders can submit comments. After comments have been received and addressed, NOPSEMA begins their assessment to decide whether to accept or reject the OPP.

NOPSEMA’s acceptance of the OPP is a general indication of the development’s environmental acceptability, however, it does not allow Chevron Australia to commence work.

Before commencing work, we must conduct further and more detailed consultation with relevant persons as part of the process of preparing an Environment Plan (EP). That EP then needs to be reviewed and accepted by NOPSEMA before work can commence.

## your feedback

Stakeholders are invited to provide details of any additional aspects or potential control measures they consider relevant or ask for additional information or consultation.

You can contact us at:

- 1800 225 195 (toll free)
- [australia.chevron.com/feedback](https://australia.chevron.com/feedback)

## privacy notice

If you choose to provide feedback, Chevron Australia will collect your name and contact details, for the purposes of maintaining contact with you and including your feedback in our submission to NOPSEMA. Provision of this information is purely voluntary, however if you choose not to provide it, we may not be able to contact you in the future. Chevron may transfer your information to NOPSEMA if required and, if you do not identify it as sensitive, to other Chevron affiliates including our head office in the United States. For further information regarding how we protect your personal information, and your rights, please refer to our privacy notice at [australia.chevron.com/privacy](https://australia.chevron.com/privacy).



**Table 1: summary of impacts/risks and key proposed controls**

Aspect	Potential Interaction (impacts/risks)	Proposed control measures
<b>Planned activities</b>		
<p><b>Physical presence of mobile offshore drilling unit (MODU), installation vessels, wellhead, subsea infrastructure and support vessels within the operational area</b></p>	<ul style="list-style-type: none"> <li>• Presence of MODU, installation vessels, wellhead, other subsea infrastructure and support vessels within the OA has the potential to interact with other marine users</li> <li>• Presence of MODU, wellhead, other subsea equipment and support vessels within the OA has the potential to interact with marine fauna</li> </ul>	<ul style="list-style-type: none"> <li>• Marine safety information to be issued via AUSCOAST and/or Notice to Mariners where required prior to commencing key phases of activities</li> <li>• Relevant parties will be advised of the commencement of key phases of activities and any exclusion zone information</li> <li>• Vessels will meet the crew competency, navigation equipment, and radar requirements of <i>Chevron Australia’s Marine, Safety Reliability and Efficiency (MSRE) process</i>.</li> <li>• In accordance with EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans, vessels and helicopters will implement caution and no approach zones, where practicable</li> <li>• Implement Chevron’s Asset Retirement philosophy, which is aligned with legislative requirements</li> </ul>
<p><b>Seabed disturbance from surveys, anchors used for mooring, drilling activities, installation of subsea infrastructure, maintenance and repair works and decommissioning</b></p>	<ul style="list-style-type: none"> <li>• Seabed disturbance may result in alteration of benthic marine habitats and localised and temporary reduction in water quality</li> </ul>	<ul style="list-style-type: none"> <li>• Pre-lay surveys will be conducted to identify and avoid emergent seabed features before installing subsea infrastructure</li> <li>• Mooring analysis will be undertaken before MODU anchoring consistent with relevant codes and standards</li> <li>• Vessels will meet the crew competency, navigation equipment, and radar requirements of Chevron Australia’s MSRE process</li> <li>• Campaign-specific pre-mobilisation Hazard Identification and Risk Assessment (HIRA) undertaken prior to maintenance or repair activities, which includes consideration of environmental impacts and risks of the campaign</li> <li>• Implement Chevron’s Asset Retirement philosophy which is aligned with legislative requirements</li> </ul>

### Light emissions

- Navigation and operational lighting from MODU and vessels within the OA may result in a localised and temporary change in ambient light
- Change in ambient light may result in a temporary attractant for light-sensitive species
- MODU and vessels will meet lighting requirements of the Chevron Australia MSRE process
- Where practicable, planned activities will be scheduled to avoid critical habitat within turtle nesting season (September to March)
- If scheduling of activities outside these spatial and temporal requirements is not practicable, an activity-specific HIRA assessment will be conducted

### Air emissions

- Combustion of fuel from MODU, vessels and helicopters within the OA may result in a localised and temporary reduction in air quality and a contribution to the reduction of the global atmospheric carbon budget
- Reduced sulfur content fuel will be used when available
- Vessels will comply with the requirements of Marine Order 97 (MARPOL 73/78 Annex VI) in relation to air pollution

### Underwater sound from surveys, drilling and installation activities, support vessels, helicopter operations and decommissioning

- Drilling and installation activities, vessels and helicopter operations within the OA may result in localised and temporary change in ambient underwater sound
- Change in ambient sound may result in behavioural disturbance, injury or auditory impairment to marine fauna
- In accordance with EPBC Regulations 2000 – Part 8 Division 8.1 – Interacting with cetaceans, vessels and helicopters will implement caution and no approach zones, where practicable
- Marine fauna interaction mitigation measures to be considered and implemented as appropriate during the EP process
- Vertical Seismic Profiling (VSP) operations will implement EPBC Act Policy Statement 2.1 – Interaction between Offshore Seismic Exploration and Whales: Industry Guidelines as required

### Planned discharges from MODU and vessel operations

- Planned discharges from MODU and vessel operations may result in localised and temporary change in water quality
- Change in ambient water quality may result in changes to predator-prey dynamics
- Vessels will comply with the requirements of Marine Order 96 (MARPOL 73/78 Annex IV) in relation to sewage discharge
- Vessels will comply with the requirements of Marine Order 95 (MARPOL 73/78 Annex V) in relation to food waste discharge
- Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to oily bilge water discharges

### Planned discharges from drilling and subsea installation activities

- Planned discharges from drilling and installation/ start-up activities may result in localised and temporary reduction in water quality and alteration or smothering of benthic habitat
- A change in ambient water quality may result in indirect impacts to fauna arising from chemical toxicity
- Subsea fluids planned for discharge are subject to the hazardous materials selection process as per Chevron Australia's Hazardous Materials Management Procedure
- Campaign-specific pre-mobilisation Hazard Identification and Risk Assessment (HIRA) undertaken prior to activities, which includes consideration of environmental impacts and risks of the campaign

## Unplanned activities

### Invasive marine pests

- Planned discharges of ballast water or the presence of biofouling on MODU or vessels may have the potential to result in the introduction of an invasive marine pest
- Vessels will meet the requirements of *Chevron Australia's Quarantine Procedure for Marine Vessels*
- Ballast water exchanges will be managed in accordance with the *Australian Ballast Water Management Requirements*
- Where required, vessels and MODU will have a current antifouling system certification in accordance with AMSA Marine Order Part 98 (Anti-fouling systems).
- Where required, vessel pre-arrival information will be reported through the Maritime Arrivals Reporting System as per the Commonwealth *Biosecurity Act 2015*

### Release of waste

- MODU and vessel operations activities may result in an unplanned release of waste to environment causing marine pollution
- Vessels will comply with the requirements of Marine Order 95 (MARPOL 73/78 Annex V) in relation to managing waste (garbage) offshore
- The MODU and vessels will have specific lifting plans in place for cranes before commencing lifting operations and transfers to prevent dropped objects

### Minor loss of containment

- Unplanned release of hazardous material to the environment may result in indirect impacts to fauna arising from chemical toxicity
- Vessels will meet the requirements of Chevron Australia's MSRE process, including the pre-mobilisation inspections of equipment, couplings and secondary containment
- MODU and vessels will have a bulk transfer procedure in place prior to the activities commencing
- Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to having an approved Ship Oil Pollution Emergency Plan in place.

### Accidental release of hydrocarbons from subsea infrastructure (dropped objects)

- Potential environmental impacts associated with hydrocarbon exposure from a subsea release may result in marine pollution, shoreline impacts of subtidal and intertidal habitats, indirect impacts to fisheries, and a reduction in amenity
- Safe lifting of offsets from existing subsea infrastructure
- Monitoring and redundancy of controls to prevent lifting equipment failure
- Emergency response will be implemented in accordance with the response arrangements and strategies detailed in Chevron Australia's Oil Pollution Emergency Plan
- Where required, operational and scientific monitoring will be undertaken in accordance with Chevron Australia's Operational and Scientific Monitoring Plan

## Vessel collision event

- A vessel collision event may occur as a result of a loss of Dynamic Positioning, navigational error or floundering due to weather
- Potential environmental impacts associated with hydrocarbon exposures from a vessel collision event may result in marine pollution, smothering of subtidal and intertidal habitats, indirect impacts to fisheries, reduction in amenity (resulting in impacts to tourism and recreation) and changes to values and sensitivities of marine protected areas
- Vessels will meet the crew competency, navigation equipment, and radar requirements of *Chevron Australia's MSRE process*
- Notification to relevant agencies of activities and vessel movements to allow them to send warnings and/or notices to mariners prior to commencing activities
- Vessels will comply with the requirements of Marine Order 91 (MARPOL 73/78 Annex I) in relation to having an approved Ship Oil Pollution Emergency Plan in place
- Emergency response will be implemented in accordance with the response arrangements and strategies detailed in *Chevron Australia's Oil Pollution Emergency Plan*
- Where required, operational and scientific monitoring undertaken in accordance with *Chevron Australia's Operational and Scientific Monitoring Plan*.

## Loss of well control

- An unplanned loss of effective well control may occur due to an unplanned hydrocarbon influx, breach of well fluids, or loss of hydrostatic barrier
- Potential environmental impacts associated with hydrocarbon exposures from a loss of well control may result in marine pollution, smothering of subtidal and intertidal habitats, indirect impacts to fisheries, and reduction in amenity (resulting in impacts to tourism and recreation) and changes to values and sensitivities of marine protected areas
- A NOPSEMA-accepted Well Operations Management Plan will be in place prior to the commencement of the petroleum activity
- A blowout preventer will be installed and tested
- Certifications as required by *Chevron Australia's Wellsafe Standard Operating Procedure* will be in place prior to commencement of the petroleum activity
- Emergency responses will be implemented in accordance with the Source Control Emergency Response Plan and the response arrangements and strategies detailed in *Chevron Australia's Oil Pollution Emergency Plan*
- Where required, operational and scientific monitoring undertaken in accordance with *Chevron Australia's Operational and Scientific Monitoring Plan*

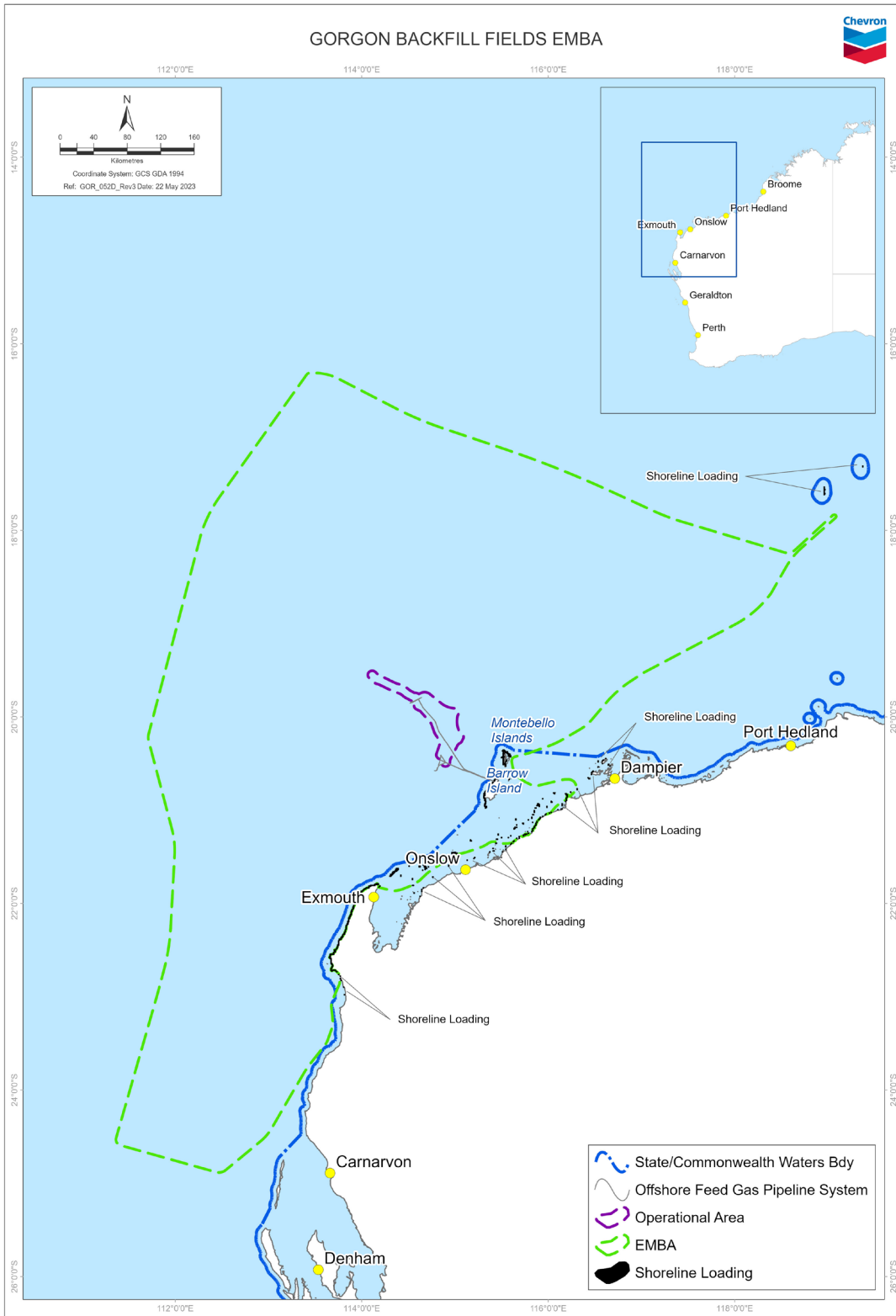


figure 2: gorgon gas development backfill fields EMBA map