

# COOPER ENERGY ACTIVITIES 2022



## COOPER ENERGY

Cooper Energy is an ASX-listed Australian oil and gas company. Our principal activities are to explore and develop gas reserves, and to supply gas to industry and communities in southeast Australia.

We operate in the Otway and Gippsland regions of Victoria. Our headquarters are in Adelaide, South Australia. We also have teams in Victoria and Perth.

## OUR ACTIVITIES IN 2022

- Deliver gas to the east coast via our facilities in the Gippsland and Otway regions, including the newly commissioned Athena Gas Plant.
- Project planning for facility life-extensions in the Otway including new offshore wells, and end-of life closures at the Basker-Manta Gummy facilities in the Gippsland.
- Investment in carbon offset and land rehabilitation projects in Victoria and South Australia.

## FIND OUT MORE

### Our Company:

[cooperenergy.com.au/our-company](https://cooperenergy.com.au/our-company)

### Our Values:

[cooperenergy.com.au/our-company/values](https://cooperenergy.com.au/our-company/values)

### Our Approach to Sustainability:

[cooperenergy.com.au/our-company/sustainability](https://cooperenergy.com.au/our-company/sustainability)

### Carbon Neutral Certification:

[climateactive.org.au/buy-climate-active/certified-members/cooper-energy](https://climateactive.org.au/buy-climate-active/certified-members/cooper-energy)

### Basker Manta Gummy Closure Project Annual Progress Report (2021):

[cooperenergy.com.au/our-operations/reports](https://cooperenergy.com.au/our-operations/reports)

## GET IN TOUCH

If you would like to know more about the work we do, then please contact us.

We are also keen to hear about local services and community initiatives where we operate. Please get in touch with us to share your ideas.

You can email us at:

[stakeholder@cooperenergy.com.au](mailto:stakeholder@cooperenergy.com.au)  
or call us on (08) 8100 4900.



Athena Gas Plant Team, Victoria



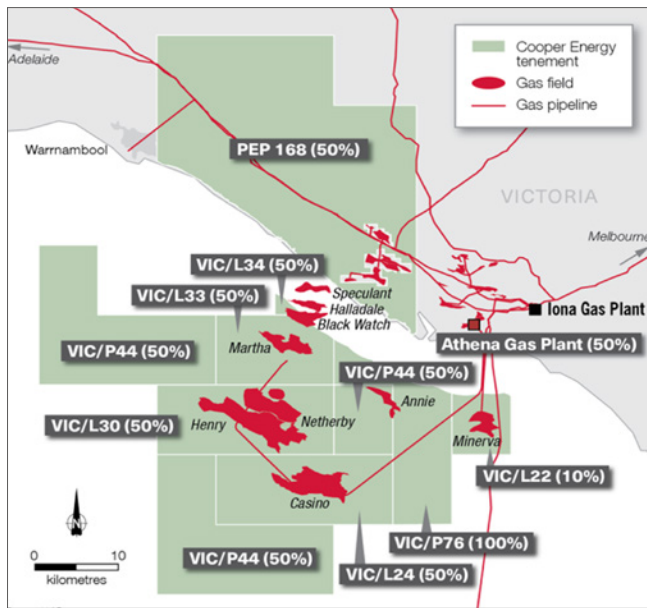
# ONSHORE ACTIVITIES

## ATHENA GAS PLANT, OTWAY

The Athena Gas Plant was commissioned in 2021 following a period of maintenance and minor modifications. The successful completion of our onshore pipeline cutback project has enabled gas from our offshore Casino, Henry and Netherby gas fields to be processed through Athena. This gas supplies our customers in eastern Australia.

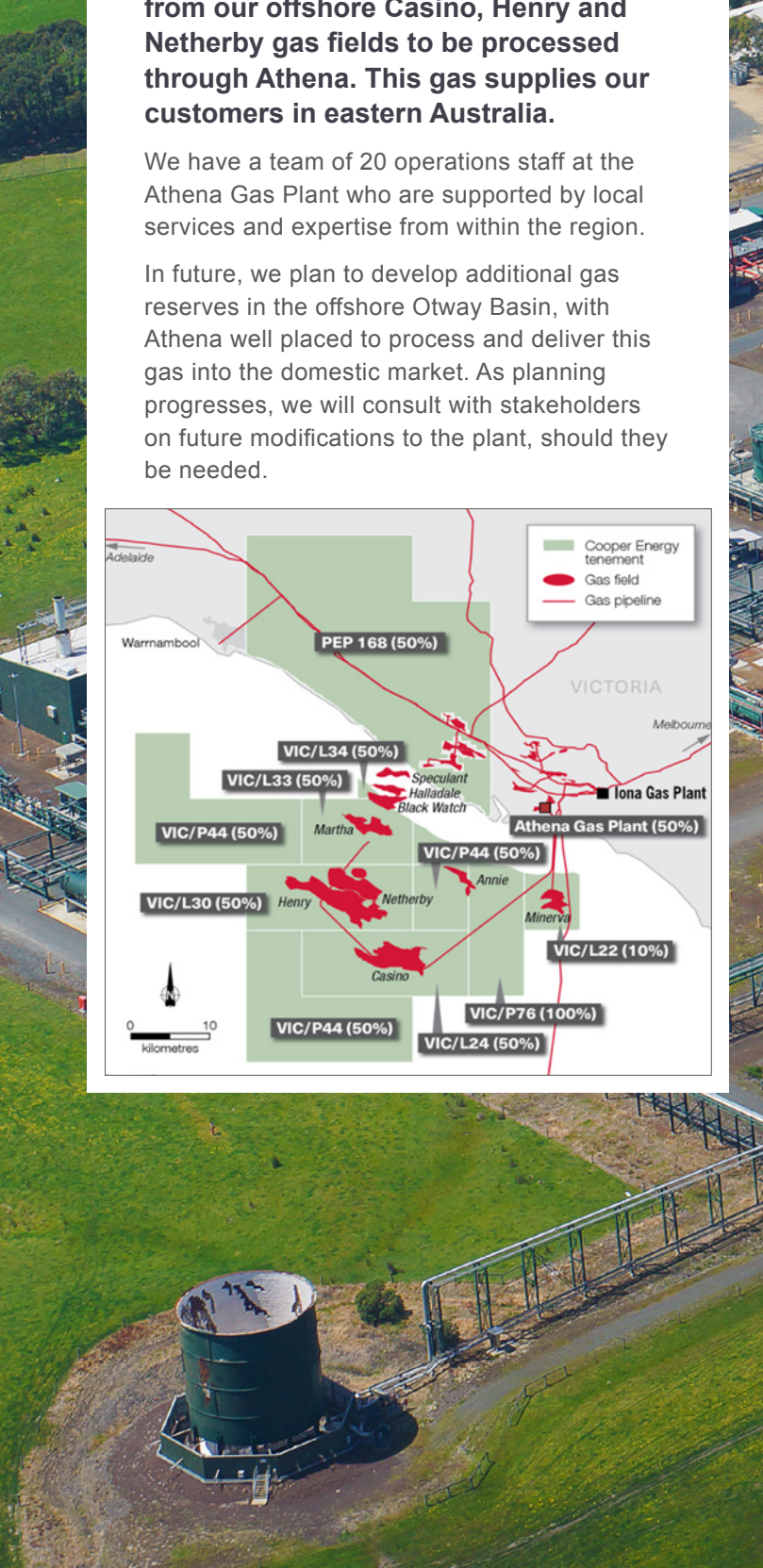
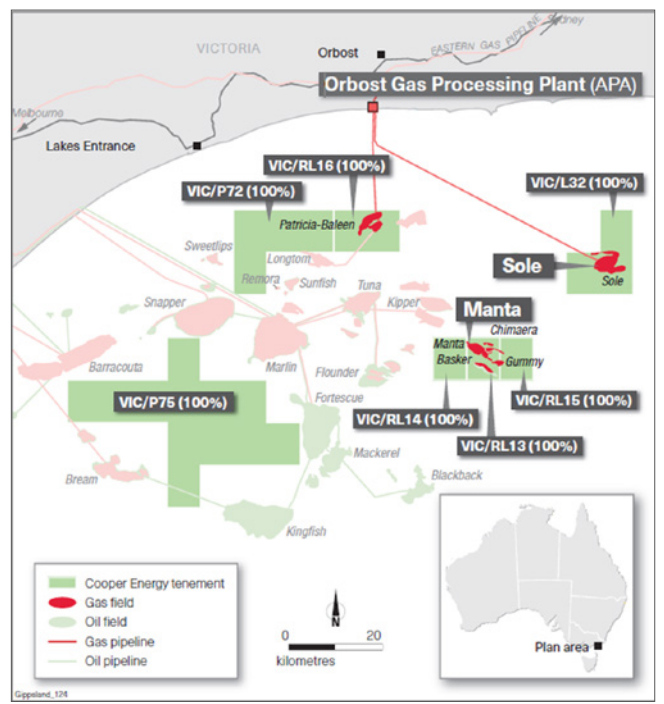
We have a team of 20 operations staff at the Athena Gas Plant who are supported by local services and expertise from within the region.

In future, we plan to develop additional gas reserves in the offshore Otway Basin, with Athena well placed to process and deliver this gas into the domestic market. As planning progresses, we will consult with stakeholders on future modifications to the plant, should they be needed.



## ORBOST GAS PLANT

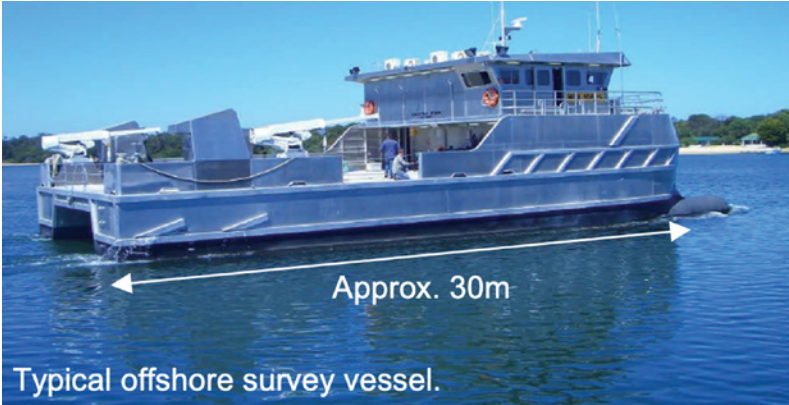
The offshore Sole gas field has been producing gas for our customers in the southeast since Q1 2020. Our Sole gas is produced through the Orbost Gas Plant in Gippsland which is owned and operated by APA Group.





# OFFSHORE ACTIVITIES

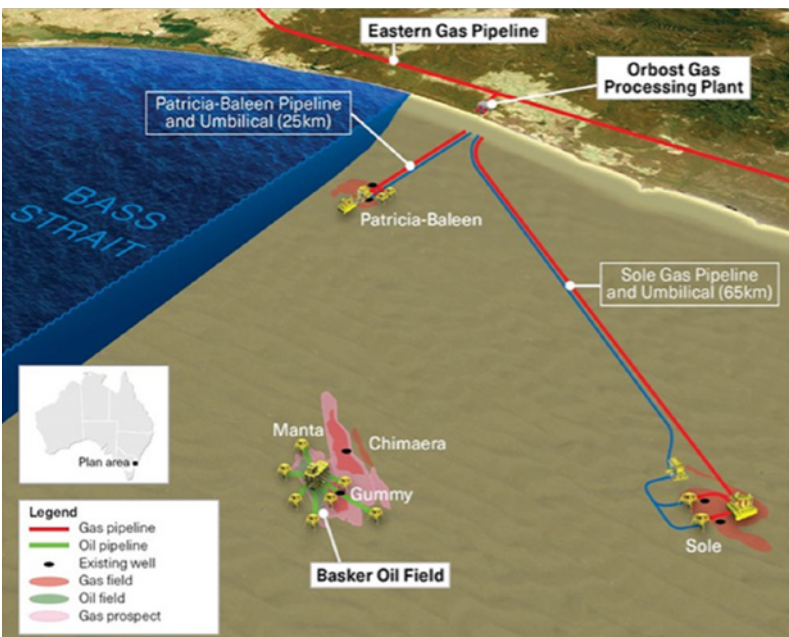
The gas we produce originates from offshore subsea wells. These wells tap into gas reserves that lie over one kilometer beneath the seabed. The gas flows through our wells at a controlled rate into subsea pipelines that connect to an onshore gas processing plant, before making its way to our customers.



## INSPECTIONS & MAINTENANCE

In 2022 we will conduct routine inspections at our offshore facilities in the Gippsland Basin. The inspections will be undertaken at subsea wells, inside petroleum safety zones, and along subsea pipelines.

We will use a survey vessel and remotely operated vehicle equipped with video and sonar to gather data on the condition of the facilities.

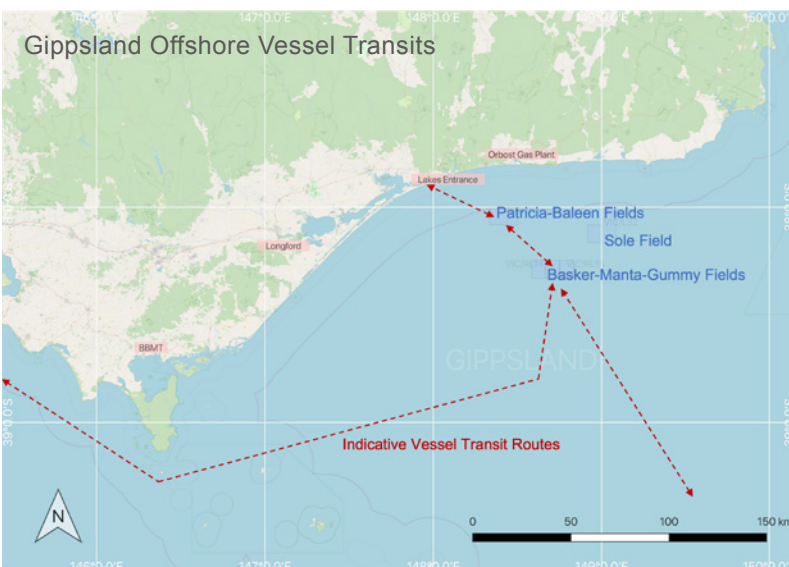


## LOCATION

Our offshore inspections will occur in Commonwealth waters (which are beyond three nautical miles from the shore) at our Gippsland facilities Basker-Manta-Gummy (BMG) and Patricia-Baleen. Vessels will likely transit from Lakes Entrance, Melbourne or Tasmania to the offshore fields.

## TIMING

Offshore inspections are expected to take around seven days commencing in March or April 2022, subject to vessel availability and weather. Cooper Energy will provide stakeholders at least four weeks' notice before the commencement of activities.



## ENVIRONMENT PLANS

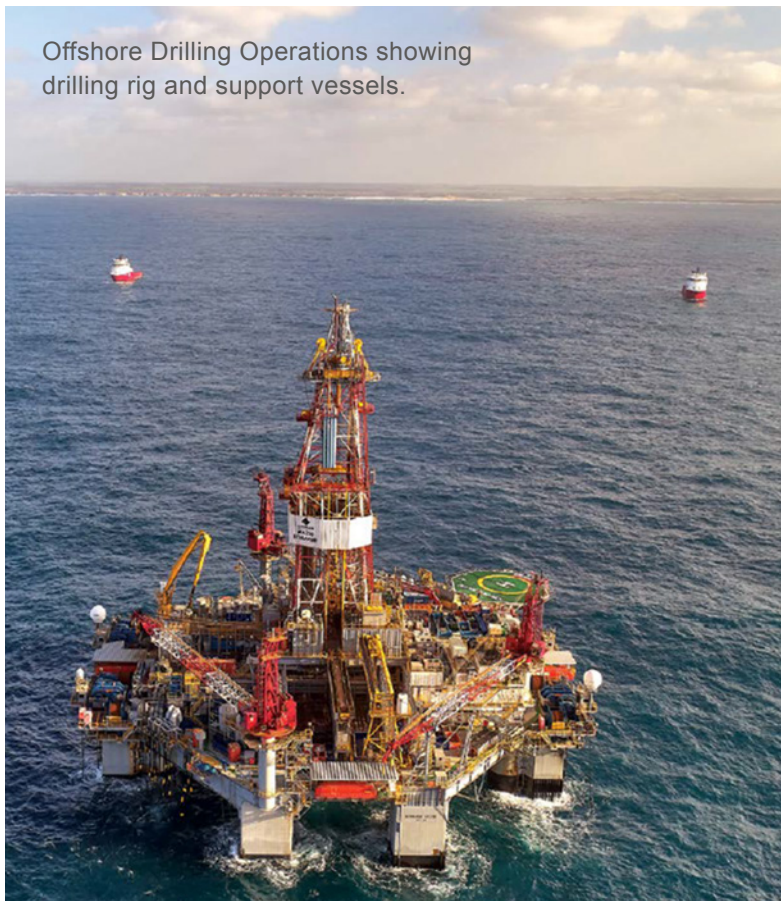
Cooper Energy has developed Environment Plans (EPs) for our ongoing offshore operations in the Otway and Gippsland Basins. These plans describe how we manage the impacts and risks associated with our activities and can be viewed on the regulator's website at: [nopsema.gov.au/home/approved\\_projects\\_and\\_activities](http://nopsema.gov.au/home/approved_projects_and_activities).

# WHAT'S HAPPENING BEYOND 2022?

## OFFSHORE EXPLORATION

Cooper Energy has exploration and appraisal prospects in our offshore Title areas. In 2019 we had planned to drill a subsea exploration well at the Elanora gas prospect within the Otway Basin.

Offshore Drilling Operations showing drilling rig and support vessels.



We have previously consulted on this activity, which the regulator approved in 2019. The well was deferred due to rescheduling requirements. Though the exploration well will be essentially unchanged from our 2019 plans, new regulatory approvals will be sought.

The exploration well (Elanora-1) and contingent geological side-track (ST1) will be drilled with a semi-submersible drilling rig anchored to the seabed for the duration of the campaign. The rig will be supported by two or three anchor handling and support vessels; these vessels will transit between the Elanora field and a shorebase, likely either in Portland or Melbourne area.

Once Elanora-1 has been drilled, we will use specialised tools to collect data from the gas reservoir to help us verify the resource volume within the Elanora field. Once our data collection is complete, we will permanently seal the well and clear the seabed of equipment.

## LOCATION

The Elanora resource is situated entirely within Commonwealth waters across our Title Areas VIC/L30, VIC/P44 and VIC/L24.

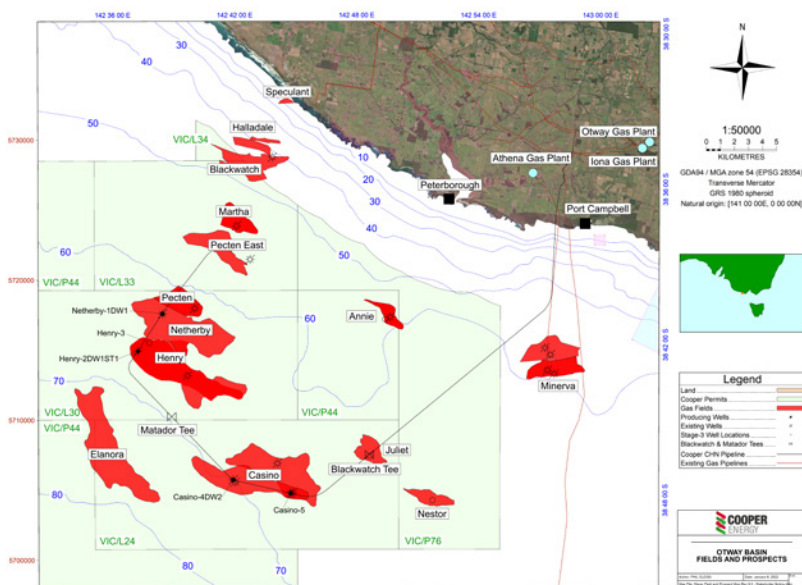
### ELANORA-1 / ST1 SURFACE LOCATION

Latitude	38° 46' 42.49" S
Longitude	142° 36' 04.28" E

The Elanora-1 well will be drilled within VIC/L24, approximately 28km southwest of Port Campbell in a water depth of 78m. A 500m safety exclusion zone will be in place during drilling, centered on the well surface location. Mooring lines will extend approximately 2km from the rig.

## TIMING

Moorings for the rig will be laid around four weeks before rig arrival and will take two to three days. The drilling campaign will take approximately 50-days. Drilling timing is subject to activity approvals and rig availability, and may be combined with other offshore drilling (see OP3D). We will continue to provide information and opportunities to engage with us on this activity during planning.





# OTWAY PHASE 3 DEVELOPMENT (OP3D)

We are working on the next stage of the existing Casino gas development. This will involve the drilling and tie-in of two to three infill subsea wells into the offshore Casino gas pipeline system.



Subsea Construction Vessel



These wells will be drilled with a semi-submersible drilling rig supported by two to three vessels consistent with previous drilling campaigns. We will set up a shore base either in Portland or the Melbourne area to support the offshore campaign.

The infill wells will be connected to the Casino pipeline system via small-diameter flowline and control umbilicals. These components will be installed onto the seabed and commissioned using a subsea construction vessel.

## TIMING

Field development activities may commence from 2024, subject to planning progress, regulatory approvals and rig and vessel availability. We expect to have vessels in our offshore Otway Title areas for around six months. Each well requires approximately 60-days to drill and complete, and the installation of flowlines and umbilicals will require a further 50-days. Offshore works will be undertaken 24/7.

Some early vessel-based geophysical and geotechnical investigations may be undertaken during 2023 or 2024. These vessel-based surveys may utilise seabed scanning, sub-bottom profiling, and coring equipment to help us identify seabed properties and shallow drilling hazards.

## LOCATION

### ANNIE-2 SURFACE LOCATION

Latitude	38° 41' 01.74" S
Longitude	142° 49' 24.46" E

### HENRY-3 SURFACE LOCATION

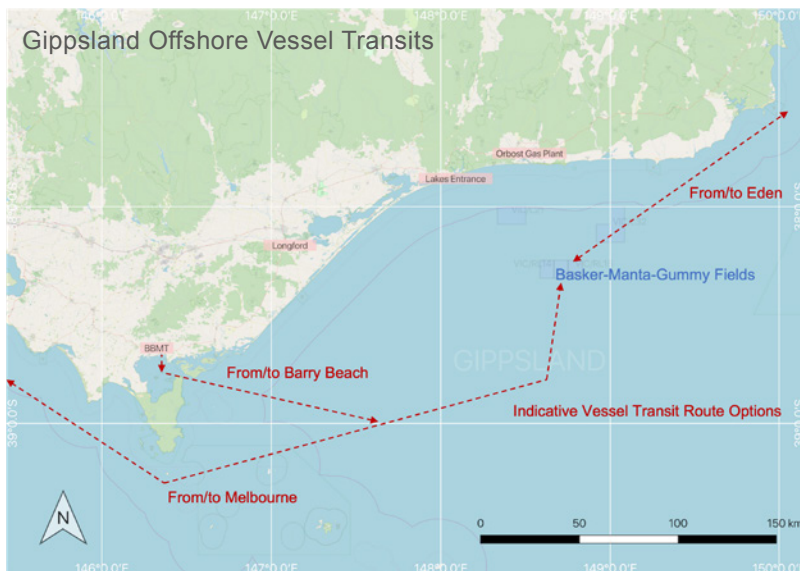
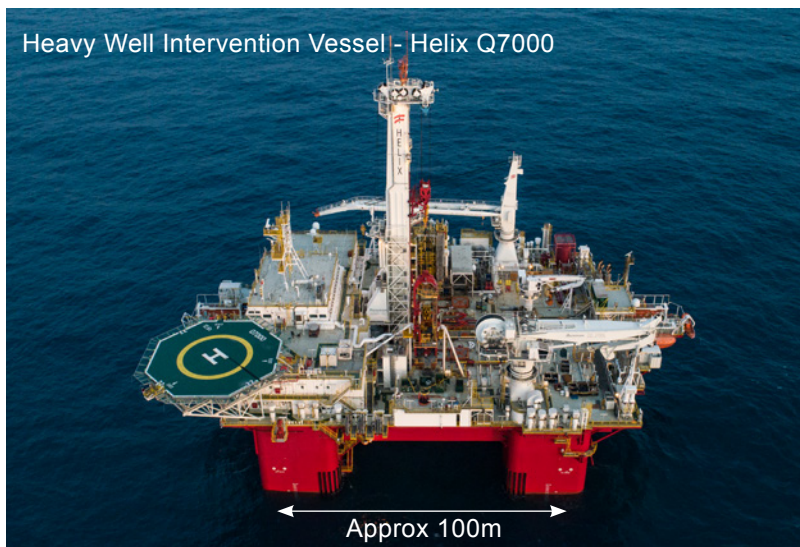
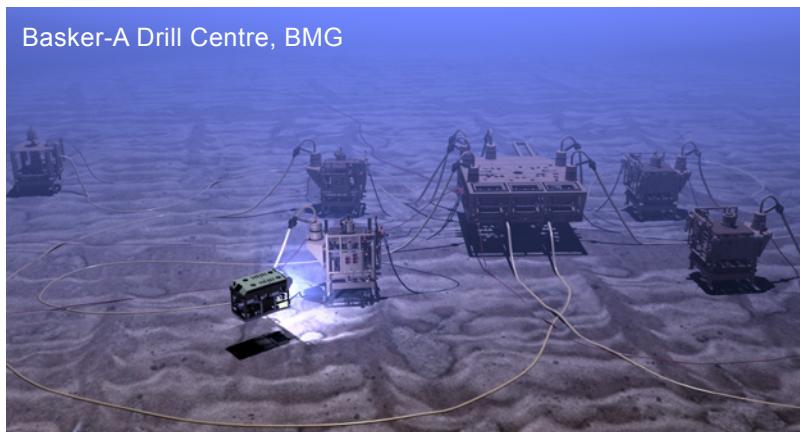
Latitude	38° 41' 55.84" S
Longitude	142° 37' 46.38" E

The future infill gas fields are in close proximity to the existing Casino infrastructure within Cooper Energy title areas, including VIC/L30, VIC/L24, VIC/P44 and VIC/P76. The infill wells will include Annie-2 and Henry-3. An additional infill well may also be drilled as part of this campaign within an existing Title area; further details will be provided as planning progresses.

Further information will be provided as our plans progress, and we will allow time for consultation with the community and other relevant stakeholders. These activities will require the development of a suite of regulatory approvals, including an Environment Plan submitted to the regulator NOPSEMA for assessment, which must be accepted before undertaking any activities.

# OFFSHORE DECOMMISSIONING

We plan to commence decommissioning of the remaining Basker Manta Gummy (BMG) subsea facilities during 2023. BMG is a legacy facility previously owned and operated by ROC Oil. There are seven wells, auxiliary structures, and a network of around 22 km of flowlines and umbilicals.



The decommissioning works will comprise of two phases.

**Phase 1** of decommissioning at BMG will:

- Prepare the facilities for decommissioning through cleaning and flushing activities.
- Safely install cement plugs deep inside the offshore wells to permanently seal them by the end of 2023.
- Remove subsea structures from the seabed; this aspect may be completed in Phase 2.
- Complete seabed/debris surveys.

This scope requires a Heavy Well Intervention Vessel and one or more support vessels. These will operate inside the BMG Field for approximately 120 days (24/7). Support vessels will also transit between BMG and Barry Beach or an alternate port in the region.

An Environment Plan for the Phase 1 scope has been submitted to NOPSEMA and is available to view at [BMG Closure Project Phase 1 EP](#). We have also prepared an annual project progress report which provides further details and can be viewed on the Cooper Energy website.

**Phase 2** of decommissioning will deal with removing any remaining structures and, as a base case, removing all flowlines and umbilicals, leaving a clear seabed. One or more construction support vessels may be used for this scope; the activity duration is likely to be in the order of 30-days. The window for this activity is 2024-2026, with the possibility of some follow-up inspection and monitoring.



# OFFSHORE ACTIVITY DETAILS

TIMING	CIRCA MARCH / APRIL 2022	FROM 2023	CIRCA 2024
REGION	GIPPSLAND	GIPPSLAND	OTWAY
<b>Activity Plan overview</b>	<ul style="list-style-type: none"> <li>Offshore Inspection.</li> </ul>	BMG Decommissioning: <ul style="list-style-type: none"> <li><b>Phase 1:</b> Inspect and clean equipment, permanently seal existing wells, remove structures.</li> <li><b>Phase 2:</b> Remove remaining structures and either remove or decommission in situ flowlines and umbilicals.</li> </ul>	<ul style="list-style-type: none"> <li>Drill up to 3 development wells.</li> <li>Well flow tests and cleanup (flaring)</li> <li>Tie-in development wells to existing CHN pipeline.</li> <li>Offshore exploration drilling including at Elanora</li> </ul>
<b>Location</b>	BMG subsea facilities, Patricia-Baleen subsea facilities Permit: VIC/RL13, VIC/RL16, VIC/L32	BMG subsea facilities Permit: VIC/RL13	CHN subsea facilities Permits: VIC/L30, VIC/L22, VIC/P44, VIC/P76 Elanora gas prospect Permits: VIC/L30, VIC/L22, VIC/P44
<b>Approx. Duration</b>	7 days	100-130 days	OP3D: around 6-months in field. Exploration: 50-days
<b>Water Depth</b>	50m - 280m	130m - 280m	50-80m
<b>Petroleum Safety Zone (PSZ)</b>	PSZ already established around well sites only. <u>Casino, Henry, and Netherby PSZ Coordinates</u>	<ul style="list-style-type: none"> <li>PSZ already established around infrastructure: <u>BMG PSZ Coordinates</u></li> <li>PSZ may be modified (in consultation with fisheries and government) as decommissioning progresses.</li> </ul>	<ul style="list-style-type: none"> <li>Temporary Safety Exclusion Zone established around the rig via notice to mariners.</li> <li>PSZs would be established around new development wells.</li> </ul>
<b>Vessels</b>	<ul style="list-style-type: none"> <li>1 x Construction Support vessel (dynamically positioned).</li> </ul>	<ul style="list-style-type: none"> <li>1 x Heavy Well Intervention Vessel supported 1-3 supply/support vessels.</li> <li>Note, an alternative to the Heavy Well Intervention Vessel is to use a drilling rig. A drilling rig would be likely be anchored within the BMG field.</li> </ul>	<ul style="list-style-type: none"> <li>Mobile Offshore Drilling Unit (rig) and support vessels.</li> <li>Pipelay vessel.</li> <li>Construction and support vessels.</li> <li>Some of the drilling and installation activities would involve anchoring in and around the CHN and tie-in fields.</li> </ul>
<b>Supply Base</b>	Lakes Entrance or Melbourne area	Barry Beach or Melbourne area	Portland or Melbourne area

# POTENTIAL OFFSHORE ACTIVITY IMPACTS AND RISKS

This table shows the typical impacts and risks considered for these types of activity and indicative management measures.

IMPACTS AND RISKS	RELEVANT ACTIVITIES	MANAGEMENT MEASURES (NOT EXHAUSTIVE)
<b>Temporary and localised seabed disturbance, and shallow seabed depressions.</b>	<ul style="list-style-type: none"> <li>• Exploration/development drilling</li> <li>• Rig moorings</li> <li>• Equipment installation and removal</li> <li>• Seabed surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Site surveys.</li> <li>• Identify and avoid sensitive features.</li> <li>• Location-specific mooring plans.</li> </ul>
<b>Long term changes to the seabed and local environment</b>	<ul style="list-style-type: none"> <li>• Assessment of alternate (leave in-situ) decommissioning options at BMG</li> </ul>	<ul style="list-style-type: none"> <li>• Studies conducted to determine the impacts of in-situ equipment degradation over time.</li> <li>• Habitat and fisheries studies.</li> <li>• Comparative assessment process.</li> <li>• Continued consultation as plans progress.</li> </ul>
<b>Temporary and localised changes to water quality.</b>	<ul style="list-style-type: none"> <li>• Planned vessel discharges (surface)</li> </ul>	<ul style="list-style-type: none"> <li>• Routine discharges will meet legal / MARPOL requirements.</li> <li>• Australian Ballast Water and Biofouling Management requirements.</li> <li>• Invasive Marine Species Risk Management Procedure.</li> </ul>
	<ul style="list-style-type: none"> <li>• Planned operational discharges (surface and subsea).</li> </ul>	<ul style="list-style-type: none"> <li>• Discharges to marine environment meet approved discharge criteria.</li> <li>• Chemical additives selected to minimise ecotoxicity.</li> <li>• Solids control equipment to treat fluids allowing for their reuse.</li> <li>• Disposal of waste fluids into the subsurface reservoir where practicable during BMG decommissioning works.</li> </ul>
<b>Localised light emissions, potential for disorientation of fauna.</b>	<ul style="list-style-type: none"> <li>• Project light (vessels, ROV)</li> <li>• Flaring (e.g., during development drilling)</li> </ul>	<ul style="list-style-type: none"> <li>• Lighting kept to a minimum while maintaining navigational and workplace safety requirements.</li> </ul>
<b>Localised noise, potential impacts include fauna avoidance behaviour.</b>	<ul style="list-style-type: none"> <li>• Seabed surveys and inspections</li> <li>• Engine noise (vessels, helicopter)</li> <li>• Drilling</li> <li>• Decommissioning (e.g. cutting, grinding, trenching)</li> </ul>	<ul style="list-style-type: none"> <li>• Adaptive management plans integrating marine mammal observation, whale avoidance and reporting during offshore drilling and well decommissioning works.</li> </ul>
<b>Temporary and localised reduction in air quality.</b>	<ul style="list-style-type: none"> <li>• Power generation</li> <li>• Flaring and venting</li> </ul>	<ul style="list-style-type: none"> <li>• Air emissions managed in line with MARPOL requirements.</li> <li>• Well testing (flaring) is avoided during exploration drilling where practicable.</li> </ul>
<b>Contribution of project GHG emissions to climate change.</b>	<ul style="list-style-type: none"> <li>• Power generation</li> <li>• Flaring and venting</li> </ul>	<ul style="list-style-type: none"> <li>• Reuse of existing infrastructure and materials where practicable to avoid new embedded emissions.</li> <li>• GHG emissions sources eliminated where practicable.</li> <li>• Well testing (flaring) is avoided during exploration drilling where practicable.</li> <li>• Offset all remaining GHG emissions (scope 1, 2 and controllable scope 3).</li> </ul>
<b>Waste management.</b>	<ul style="list-style-type: none"> <li>• Recovery of downhole equipment and materials (e.g. casing, tubing, cement cuttings) from within the well</li> <li>• Recovery of equipment from the seabed</li> </ul>	<ul style="list-style-type: none"> <li>• Retention / disposal of materials inside the well where practicable.</li> <li>• Application of waste hierarchy to recovered equipment and materials from the seabed with preference for re-use and recycling within Australia.</li> </ul>
<b>Marine fauna injury.</b>	<ul style="list-style-type: none"> <li>• Vessel use (unplanned vessel strike)</li> </ul>	<ul style="list-style-type: none"> <li>• Marine mammal caution and 'no approach' zones.</li> <li>• Crew inductions include marine fauna observation, reporting requirements and mitigation measures.</li> </ul>
<b>Unplanned release of hydrocarbons / chemical from offshore operations</b>	<ul style="list-style-type: none"> <li>• Unplanned vessel collision</li> <li>• Unplanned bunkering spills</li> <li>• Unplanned deck spills</li> <li>• Unplanned dropped objects</li> </ul>	<ul style="list-style-type: none"> <li>• Notice to Mariners, JRCC, ongoing stakeholder engagement.</li> <li>• Petroleum Safety Zones gazetted on NOPSEMA website.</li> <li>• Vessel crew and navigational equipment meet legal requirements.</li> <li>• Emergency Management Plans.</li> <li>• Response arrangements with oil spill and emergency specialists in place before commencement.</li> </ul>
<b>Damage to third party property.</b>	<ul style="list-style-type: none"> <li>• Presence of subsea infrastructure</li> <li>• Support vessel movements</li> </ul>	<ul style="list-style-type: none"> <li>• Petroleum Safety Zones for production wells are gazetted on the <a href="#">NOPSEMA website</a>.</li> <li>• Structures removed during BMG decommissioning.</li> <li>• Studies conducted to determine long term implications of in situ decommissioning at BMG.</li> <li>• Ongoing/routine consultation with relevant stakeholders.</li> </ul>
<b>Unplanned release of hydrocarbons from subsea well.</b>	<ul style="list-style-type: none"> <li>• Emergency scenario – loss of well barriers whilst drilling or during well intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Testing and verification of well barriers and drilling and intervention control systems.</li> <li>• Weighted fluids to control hydrostatic pressure.</li> <li>• Spill drills conducted before drilling or entry into wells.</li> <li>• Approved Safety Case(s) and Well Operations Management Plans.</li> <li>• Emergency response plans and monitoring plans in place.</li> <li>• Scalable response arrangements with oil spill and emergency specialists.</li> </ul>





## FOR ADDITIONAL INFORMATION

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