

Otway Offshore Project

Revision of Operations Environment Plan



Information Sheet | February 2023

Natural gas is widely recognised as integral in emissions reduction ambitions being achieved globally and in Australia. It is also a vital aspect of energy security.

Natural gas produced by Beach Energy supplies the ongoing needs of Victorian homes, business and industry.

In the offshore Otway Basin, Beach is continuing development of natural gas to ensure ongoing production at the Otway Gas Plant near Port Campbell.

The Otway Offshore Project commenced production in 2006 from the Thylacine and Geographe fields.

Completion of Drilling Campaign

Phase 4 project activities commenced in 2019 with assessment of seabed locations, followed by a drilling program from February 2021 to July 2022 in which one exploration well and six production wells were drilled.

The drilling campaign saw outstanding safety and environmental compliance, positive engagement with the commercial fishing sector and minimal disruption to their activities, and successful management of safety and logistical challenges due to COVID-19.

Two of the new production wells (Geographe 4 & 5) have already been connected to the existing offshore-to-onshore pipeline to the Otway Gas Plant, processing gas for the Australian east coast gas market. The Otway Offshore Operations Environment Plan (EP) was reviewed last year to include the new Geographe wells.



Connection of Thylacine production wells

Phase 5 project activities commenced on 10 February 2023 and will take approximately nine weeks. Activities include the installation of additional seabed infrastructure to connect the four new Thylacine production wells (see map) to the existing offshore-to-onshore pipeline.

A specialist construction support vessel will use a submersed remote operated vehicle to install the seabed equipment, connect and commission the production wells.

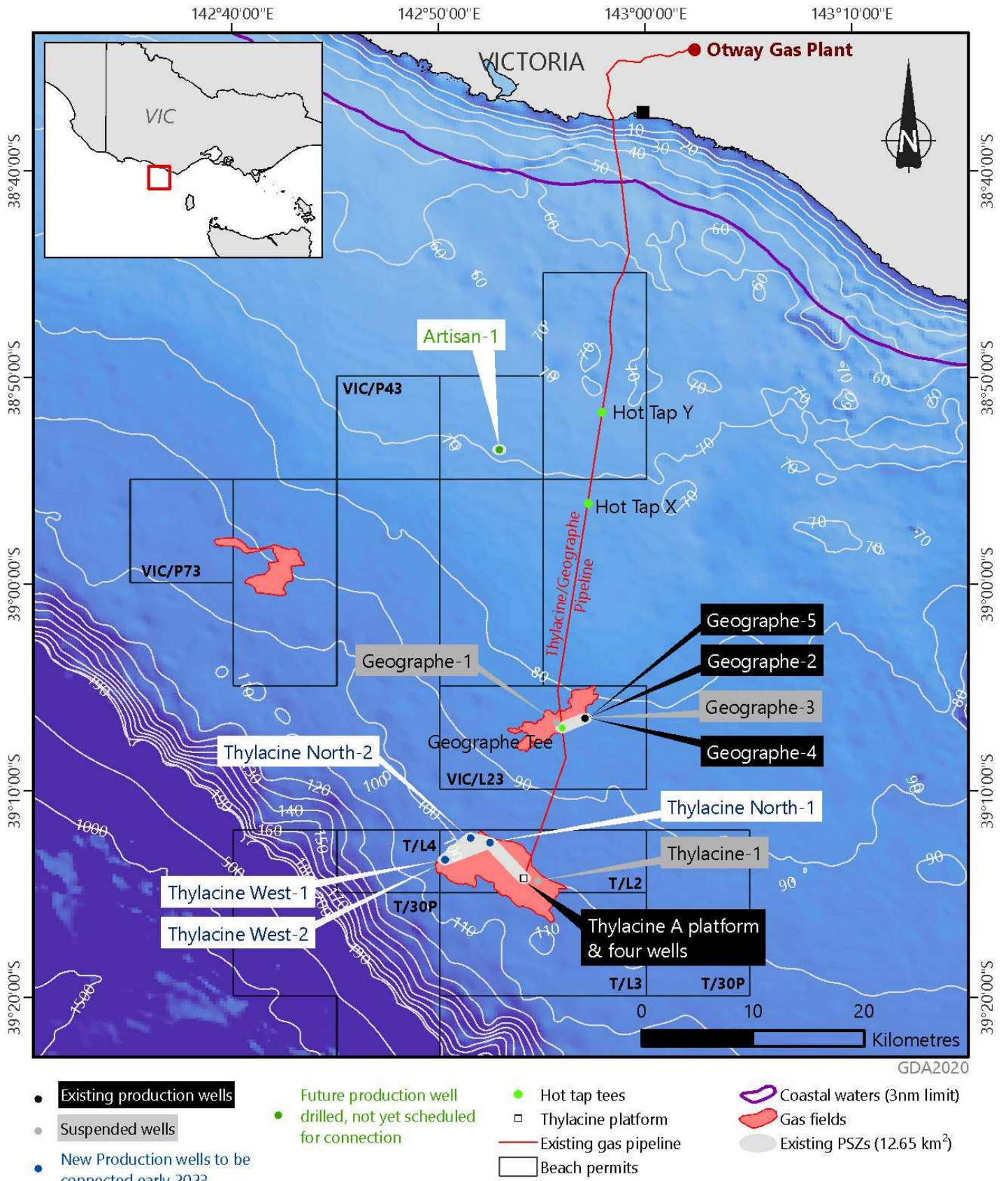
Otway Offshore Operations EP Review

The existing Otway Offshore Operations EP will be reviewed to include the four new Thylacine production wells.

This information sheet provides an overview of:

- Current offshore operations and the additional wells and infrastructure to be included in the revised EP
- Regulatory framework for safety and environment protection, and consultation with relevant persons
- Potential impacts and risks in carrying out these operations, and measures to reduce and manage in accordance with the Environment Regulations.

Project area map



GDA2020

15/11/2022

The locations on this map are accurate at the time of publication and are subject to change

OT22-0010 R5

Activity Location

The Thylacine platform and new Thylacine wells are located approximately 68 to 80 km south of Port Campbell, in Commonwealth waters.

Environmental regulations and approvals

Offshore petroleum activities are regulated by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), in accordance with the *Offshore Petroleum and Greenhouse Gas Storage Act (2006) (OPGGGS Act)* and associated regulations that require Safety Cases, EP and Well Operations Management Plans. The EP must:

- Be appropriate for the nature and scale of the activity
- Include a comprehensive description of the activities
- Describe the existing environment (including social, economic and cultural features) that may be affected by the activities
- Include details of the particular relevant values and sensitivities (if any) of that environment
- Identify and evaluate environmental impacts and risks from the operational activities, including potential emergency conditions
- Include appropriate environmental performance outcomes and control measures to reduce any potential impacts and risks
- Include an appropriate implementation strategy and monitoring, recording and reporting arrangements
- Set out a method to identify "a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the environment plan" (*Relevant Persons*)
- Demonstrate that consultations have been carried out in accordance with the regulations, and appropriate measures adopted, because of the consultations.

The EP must demonstrate to NOPSEMA how the activities will be conducted to ensure that potential impacts and any residual risks will be managed and reduced to 'As Low As Reasonably Practicable' (ALARP) and an acceptable level.

If NOPSEMA is satisfied that the EP meets the criteria set out in the Environment Regulations, it will accept the EP and publish it on its website.

Over the course of the Otway Offshore Project Beach has consulted *Relevant Persons* in the preparation of several EPs.

Beach is currently reviewing the existing Otway Offshore Operations EP to include the four new Thylacine wells. A similar revision was completed last year to include the two new Geographe wells.

Consultation and Feedback

This information sheet has been prepared to inform *Relevant Persons* whose functions, interests or activities may be affected by the activities to be carried out under the environment plan.

Please contact us if you would like further information or to consult with us about how this project may impact your functions, interests or activities.

Beach will consider and respond to all feedback, questions and concerns.

All consultation records and emails will be provided to NOPSEMA in the EP.

Relevant Persons may request that the information they provide not be published, and it will be identified as sensitive information and not published in the EP.

First Nations Peoples

Beach respectfully acknowledges the Eastern Maar Peoples who are the traditional custodians of the land and sea country on which the Otway Gas Development operates.

Beach respects the Eastern Maar Peoples historical and ongoing connection to land and sea country through cultural and spiritual sites, language and ceremony. Beach pays respect to Eastern Maar Elders past, present and emerging.

Activity description

The EP includes a detailed description of the infrastructure and activities, summarised below.

Thylacine Platform

The existing Thylacine platform is a steel jacket structure with topsides consisting of an integrated deck on four levels. The platform is designed to be operated as a 'normally unattended installation'.

It is remotely operated from the Otway Gas Plant central control room via duplicated communication links ensuring high availability for the control and safety shutdown systems. The platform can continue to operate safely and autonomously upon a loss of communications.

Wells and connections

The Thylacine gas field currently consists of four production wells which are connected to the platform and pipeline, and one suspended subsea well (Thylacine-1). Four new Thylacine wells are being connected through new seabed infrastructure including:

- Integration module of approximately 14m² placed on the seabed near the Thylacine platform
- Flowlines and subsea infrastructure to connect the production wells to the existing platform and pipeline
- Electrical and hydraulic controls within cables that enable monitoring and control of the production wells.

The Geographe gas field consists of three subsea production wells (Geographe 2, 4 and 5), connected to a subsea manifold with an umbilical to the Thylacine platform and a flowline to the existing offshore to onshore pipeline, and two suspended subsea wells (Geographe-1 and Geographe-3). Control and services to the Geographe production well are provided via the main umbilical from the Thylacine Platform.

The Thylacine platform, wells, and subsea manifolds are controlled and monitored 24/7 by the Otway Gas Plant control room. The new wells will be managed in the same manner as the existing offshore wells and will be included in

existing inspection and maintenance schedules to ensure their ongoing integrity.

All wells and associated seabed infrastructure are within existing Petroleum Safety Zones.

Pipeline

The existing offshore to onshore gas pipeline and MEG (mono-ethylene glycole) pipeline, which are piggybacked, run from the platform to the Otway Gas Plant. The MEG pipeline supplies MEG and chemicals for injection into the Otway Gas Pipeline at the platform. The pipelines are approximately 80 km in total length, including the offshore section approximately 69 km long.

Maintenance

Routine maintenance of the platform is undertaken by work crews transported by helicopter approximately once a fortnight during daylight hours. Regular activities include: routine operational checks; instrument and mechanical maintenance; shutdown resets, corrosion monitoring; and chemical replenishment. Specific maintenance and upgrade activities are also carried out to complete requirements identified during the routine checks.

Supply and support vessels

The platform is also visited approximately once per month by a supply vessel for the provision of fuel, chemicals, maintenance consumables and equipment. Vessels are also required for specific activities such as subsea inspection work using Remotely Operated Vehicles (ROVs) and/or divers.

Key matters in the EP review

- Revised impact and risk assessment that will meet any NOPSEMA guidelines released since acceptance of the current Otway Offshore Operations EP, and will demonstrate that the environmental impacts and risks are of an acceptable level and ALARP. See [summary of risk assessment and mitigation measures](#).
- Revised environmental performance outcomes and environmental performance standards that reflect Beach's sustainability goals and emissions reduction target, and will allow Beach to measure and report on its environmental performance.

Environment description

The EP includes a detailed description of the existing environment in the immediate operational area and in the broader emergency planning area where there is a variety of marine fauna including the presence of:

- Blue, humpback and fin whales, particularly during the summer months
- Southern right and minke whales, particularly during the winter months
- Common dolphins and shark species throughout the year
- New Zealand and Australian fur seals throughout the year
- Loggerhead, green turtle and leatherback turtles throughout the year.

There are no marine parks within the activity area. However, within the broader emergency planning area, there are Australian Marine Parks and State Marine Protected areas (see map).

Socio-economic and cultural values within the activity and planning areas include:

- Commonwealth managed fisheries, including southern and eastern scalefish and shark; and southern squid jig fishery
- Victorian managed fisheries, including rock lobster and giant crab
- Commercial shipping activity
- Sea Country values and sensitivities held by First Nation peoples
- Shipwrecks in close shoreline proximity
- Recreational fishing, usually within close shoreline proximity
- Recreational diving focussed on shipwrecks and reefs close to the shoreline
- Significant tourism features and activities associated with the Great Ocean Road, Twelve Apostles and Bay of Islands Coastal Park.

Beach recognises the environmental, cultural, heritage, social and economic values in our activity and planning areas. The Thylacine offshore platform, associated pipeline, gas plant and

associated exploration and drilling activities have operated safely in close proximity to sensitive coastal areas such as the Twelve Apostles Marine National Park since 2007.

Mitigation and management

Beach has a proud track record for safety and environmental performance, adhering to performance measures set out in EPs and Safety Cases accepted by regulators.

The Otway Offshore Operations EP details a range of controls to reduce and manage environmental impacts and potential risks to ALARP and acceptable levels. These include:

- The Thylacine Platform, offshore pipeline and wells are marked on navigational charts and the platform, wells and infrastructure have existing 500 metre petroleum safety zones
- Vessels utilised by Beach are required to comply with all applicable marine regulations and observe the minimum approach distances to whales and dolphins set out in national guidelines
- Gas venting at the Thylacine Platform is limited to the minimum required for safe operations. Fuel burning equipment on the platform and vessels is designed and maintained to reduce pollutant emissions to atmosphere
- Beach operates in compliance with the NOSPEMA accepted Safety Cases (click [here](#) for more information) and Well Operations Management Plans (click [here](#))
- The risk of a loss of containment of hydrocarbons or chemicals is managed through the equipment design process and the implementation of asset integrity and maintenance programs. In addition, process parameters are monitored 24/7 by trained and competent personnel who must follow documented procedures
- Contractors utilised by Beach are subject to a prequalification process and assurance over their activities to ensure compliance with the EP.

Emergency Planning

When conducting any offshore activity, there is an extremely unlikely risk of release of hydrocarbons from a well (which are primarily gas) or a spill of marine diesel from vessels in the event of an accident.

Beach standard operating procedures include an Oil Pollution Emergency Plan (OPEP), which is also included in the EP and required to be accepted by NOPSEMA.

Preparing an OPEP involves hydrocarbon and marine diesel release modelling for the local area using a worst-case spill scenario, assuming no control measures are in place. The modelling calculates the transport, spreading, entrainment and evaporation over time, using data on the prevailing metocean conditions (wind, wave and climate), the volume released, and the physical and chemical properties of the hydrocarbons.

The plans also assess the likelihood and consequences of any hydrocarbon release which must be reduced to ALARP through a range of control measures and include detailed response plans.

The OPEP describes the arrangements for responding to and monitoring any release of hydrocarbon and includes:

- 24/7 on-call team for rapid response clean-up actions including mobilisation of personnel and equipment
- 24/7 on-call team for modelling and monitoring of a hydrocarbon release to inform response activities, and monitoring of effectiveness of response activities
- Control measures necessary for ensuring rapid response and maintenance of capabilities (personnel and equipment).

These arrangements are based on the worse case event associated with the proposed activities to ensure that Beach has the appropriate level of response arrangements and capability. Beach

maintains a current contract with Australian Marine Oil Spill Centre (AMOSOC) based in Geelong for access to spill response resources and personnel. In Victoria, the Department of Transport is the control agency for marine pollution emergencies.

For more information on oil spill modelling and why it is required for the preparation of environment plans, [click here to watch a video](#) on the NOPSEMA website.

Maritime safety protocols

At Beach, safety takes precedence in everything we do. Support vessels attending the Thylacine platform for supplies and maintenance activities will operate in accordance with standards, regulated by the Australian Maritime Safety Authority (AMSA) including:

- issuing notifications to the Australian Hydrographic Office before mobilising to the operational area and when demobilising for construction or extended maintenance activities
- providing advanced notice of vessel contact details to Relevant Persons for inspection and maintenance activities
- communicating with other vessels using standard maritime protocols
- maintaining safe operating distances.

Safety exclusion and cautionary zones

Petroleum Safety Zones (PSZs) are administered by NOPSEMA under Section 616 of the *OPGGs Act*. PSZs extend for a radius of up to 500 metres and are gazetted around wells, structures and equipment.

Entry into PSZs is prohibited to all except those vessels authorised to do so by NOPSEMA (as detailed in the gazetted notice) or exempt under *Section 615 of the OPGGS Act*. PSZs are shown as a 'Restricted Area' on navigation charts.

PSZs are currently in place around the Thylacine platform, all wells and infrastructure (see map).

Questions and Answers

What's Beach's approach to climate change?

As an oil and natural gas explorer and producer across Australia and New Zealand, Beach is committed to sustainably delivering energy for communities. Beach recognises that climate change is one of the global challenges of this century and understands the role we must play in managing our carbon emissions.

Beach has an aspiration to reach net zero Scope 1 and 2 emissions by 2050 and a target to reduce emissions intensity by 35% from its entire portfolio by 2030. See further information in Beach's [Sustainability Report](#).

Why is Beach continuing gas development in the Otway Basin?

Natural gas from the Otway Basin has been supplying Australia's east coast gas market for many years. Beach holds several permits in the area near its existing Thylacine platform, which flows raw gas to the Otway Gas Plant for processing and supply to the Australian east coast gas market.

Beach has continued development of the Thylacine and Geographe fields in accordance with requirements set out by the National Offshore Petroleum Titles Administrator (NOPTA).

Industry and regulators continue to see gas shortages for south-east Australia. To positively impact declining production from existing fields as reservoirs deplete, new gas projects need to be undertaken.

Why do we still need natural gas?

Natural gas has a wide variety of uses in our daily lives. This includes generating electricity, residential heating, hot water and cooking. In the industrial sector, gas is a primary heat source for manufacturing glass, steel, cement, bricks, wood, ceramics, tiles, paper and in producing food. Gas is a common ingredient in the manufacturing of fertilisers, plastics, pharmaceuticals and fabrics.

The Australian Energy Market Operator's (AEMO) latest [Victorian Gas Planning Report](#) in March

2022 forecasts demand shortfall risks as soon as 2023.

What role is natural gas playing as Australia transitions to renewable energy?

Carbon emissions of natural gas are 50% to 70% lower than coal. As old coal fired power stations are removed from Australia's energy mix, electricity powered from natural gas ensures a stable energy supply as our economy transitions to renewable energies. AEMO's [2022 Integrated System Plan \(ISP\)](#) forecasts more gas will be required in all modelled scenarios. In the most ambitious "Step Change" scenario, a 90% reduction in carbon emissions from power generation is achieved by 2041-42 as a result of 33% more gas fired electricity generation, enabling generation from renewables to increase by 285%.

Is Beach Energy increasing retail gas prices?

No. Beach Energy is a gas wholesaler and supplies the majority of its gas under contract to energy retailers in Australia. Beach does not set retail prices.

Is Beach exporting gas from the Otway Basin?

No. Beach does not export gas from the Otway Basin. The gas processed at the Otway Gas Plant in Victoria is supplied via an existing pipeline to the Victorian gas market to meet residential, business and industry demands.

How will you ensure that you operate safely?

Safety takes precedence in everything we do. Beach has over 60 years' experience in the oil and gas industry and our marine exploration, development and operations teams have extensive local and international experience. Beach personnel undertake regular competency assessments and training to ensure their knowledge and skills meet strict operational requirements.

Beach has stringent procedures for assessing, selecting and managing specialist contractors to conduct our marine activities to ensure they will keep our operations safe, operating in accordance with Safety Cases, Wells Operation Management Plans and EPs.

What is ALARP?

ALARP stands for “As Low As Reasonably Practicable”. It is an assessment principle commonly used in the oil and gas industry to assess and reduce potential impacts and risks that cannot be completely eliminated. For information on how NOPSEMA assesses ALARP click [here](#).

What about impacts on commercial fishing?

The Otway Offshore Project is located within existing designated Commonwealth and State fisheries. Each fishery covers a vast area, whereas the wells, platform and seabed infrastructure cover a very small area.

Prior to developing EPs for the Otway Offshore Project, Beach assessed commercial fishing in the area, consulted with the commercial fishing industry, and has continued consultation throughout the activities to minimise the risk of disruption to commercial fishing.

Beach has a Fair Ocean Access procedure which sets out Beach’s commitment to consultation, minimising impacts of its activities, circumstances in which a fisher may claim compensation, evidence required and how to make a claim.

What about impacts to whales?

Based on the low intensity sound generated from marine vessels, any impacts to whales will be minor and temporary. Avoidance and disturbance of whales will be managed in accordance with the *Environment Protection and Biodiversity Conservation (EPBC) Regulations 2000*. This includes adhering to required speeds and distances from whales, and in accordance with mitigation measures set out in EPs, which include independent Marine Mammal Observers on drilling rigs, construction support vessels, and maintenance vessels operating for extended periods.

About Beach Energy

Beach Energy is an ASX listed oil and gas, exploration and production company headquartered in Adelaide. It has operated and non-operated, onshore and offshore, oil and gas production from five production basins across Australia and New Zealand and is a key supplier to the Australian east coast gas market.

In Victoria, Beach is the operator of all onshore and offshore assets held in joint venture by: Beach (60%) and O.G. Energy (40%).

We welcome your questions and feedback. Please contact us:

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E: community@beachenergy.com.au

www.beachenergy.com.au

All consultation records will be provided to NOPSEMA in accordance with regulations.

Please advise us if you do not want any consultation information published by NOPSEMA.