This update includes information on:

- Development of an Offshore Project Proposal (OPP) which will be submitted to the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) for the wells and subsea infrastructure associated with the Artisan, La Bella and Hercules gas fields.
- An overview of the proposed wells, infrastructure and development activities covered by the Otway Offshore Project and which have been previously communicated via information sheets in 2019.
- Information on how the proposed activities fit together to ensure a continuous supply of natural gas to the Otway Gas Plant for years to come.

About Beach

Beach Energy is an ASX listed oil and gas exploration and production company with headquarters 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 of domestic natural gas to Australia.
Otway Offshore Project Locations and Proposed Petroleum Safety Zones

The locations of the proposed wells, umbilicals, and flow lines are indicative only.

- **Existing wells**
- **Proposed wells**
- **Existing gas pipeline**
- **Thylacine platform**
- **Gas fields**
- **Hot tap tee**
- **Beach permits**
- **Coastal waters (3nm limit)**
- **Planned PSZ**
- **Existing PSZ**
- **Proposed umbilicals**
- **Proposed flow lines**

**Geocentric Datum of Australia 1994**

Date: 16/12/2019

There is no warranty that this map is free from errors or omissions
Otway OPP

Beach is required to submit an Offshore Project Proposal (OPP) to the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) for the wells and subsea infrastructure associated with the Artisan, La Bella and Hercules gas fields.

The planned wells and infrastructure for the Geographe and Thylacine fields which have been communicated via Otway Offshore Project Updates are included in the original Otway Gas Development (refer to Project History below) approved under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) (Reference No: 2002/621).

Beach are required to develop an OPP as the first step in gaining approvals for any new development wells not already covered by the current EPBC Act approval detailed above. The OPP process involves NOPSEMA’s assessment of the potential environmental impacts and risks of the activities conducted over the life of the project, to ensure they will be managed by Beach to an acceptable level. Following approval, Beach is then required to submit environment plans to be assessed and approved by NOPSEMA before each activity can commence.

During the OPP process, a public comment period takes place whereby stakeholders can review and provide comment on the OPP once NOPSEMA has determined the OPP is suitable for publication. Following the public comment period, Beach must prepare a consultation report and the final OPP for assessment by NOPSEMA.

Guidance on the OPP and public comment process is available on the NOPSEMA website: www.nopsema.gov.au/environmental-management/offshore-project-proposals

Environmental, Heritage, Social and Economic Values within the Project Area

Beach recognises the environmental, heritage, social and economic values in the areas in which we operate.

The environment within the project area is characterised by:

- Water depths ranging from approximately 70 to 110 metres
- Seabed consisting of open sand habitat with little or no fauna. Where fauna does exist it is likely to consist of bivalves, polychaetes and crustaceans.

A variety of marine fauna occur in the project area including the potential presence of:

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

Economic values within the project area are:

- Commonwealth managed fisheries, including: Southern and Eastern Scalefish and Shark Fishery
- Victorian managed fisheries, including: Rock Lobster and Giant Crab
- Commercial shipping activity.

No social or heritage values were identified in the project area including State or Australian Marine Parks.
How it all fits together
The Otway Offshore Project will consist of new development wells at the La Bella, Artisan, Hercules, Geographe and Thylacine natural gas fields.

Natural gas flows from the wells, through a manifold into the Thylacine/Geographe pipeline to the Otway Gas Plant. Umbilicals are used to control the wells and provide chemicals for corrosion and hydrate prevention.

Existing Wells and Infrastructure

• Thylacine platform with four producing wells
• Two subsea wells at the Geographe field. The Geographe-2 (G-2) well is a producing well while the Geographe-3 well is plugged and suspended and has never produced
• The G-2 well is connected to a subsea manifold with an umbilical to the Thylacine platform and a flowline to the Thylacine/Geographe pipeline
• Thylacine/Geographe pipeline to the Otway Gas Plant
• Two subsea tees to allow for future tie in of production flowlines.
- Thylacine North-1 (TN-1), Thylacine North-2 (TN-2), Thylacine West-1 (TW-1) and Thylacine West-2 (TW-2) subsea wells and subsea production manifold with a flowline and umbilical to the Thylacine platform
- Geographe-4 (G-4) and Geographe-5 (G-5) subsea wells tied-back to the existing Geographe subsea production manifold

- La Bella-2, La Bella-3, Artisan-1 and Hercules-1 subsea wells with the following:
  - umbilical between La Bella-2 and La Bella-3 subsea wells
  - umbilical between Artisan-1 and Hercules-1 subsea wells
  - subsea production manifolds at La Bella, Hercules and/or Artisan
  - umbilical from the subsea production manifolds to Thylacine or Geographe
  - flowline between La Bella-2 and La Bella-3 and then to Artisan-1 or direct to the Thylacine/Geographe pipeline
  - flowline between Artisan-1 and Hercules-1 and then to the Thylacine/Geographe pipeline.
Recap on Development Activities
Otway Offshore Project development activities will include:

- Seabed assessments to determine the suitability of the seabed for the drilling operations and installation of infrastructure to connect new production wells to the existing platform or pipeline
- Drilling of up to three exploration and eight production wells
- Inspections and modifications to existing seabed infrastructure to prepare for the new production wells
- Tie-ins to connect new production wells to the existing platform and pipeline
- Plugging and discontinuing of one or more wells in the Geographe and Thylacine fields.

Where an exploration well is proven successful it may be converted to a gas producing well. Commercially unviable wells will be plugged and discontinued.

Consultation already undertaken
Consultation has been undertaken to date for the following activities associated with the Otway Offshore Project:

- Seabed Assessment and Drilling Program 2019 – 2021 (April 2019)
- Proposed Drilling Locations (June 2019)
- Seabed Assessment Locations (17 October 2019)
- T/30P seabed assessment (1 November 2019).

Information sheets associated with these activities, including further information on exclusion zones, managing impacts to commercial fishing and marine life, and maritime safety, are available on the Beach website at: www.beachenergy.com.au/vic-otway-basin. Further information sheets will be developed for future activities and provided to stakeholders as part of the ongoing stakeholder consultation for the project.

Timing
The timeline diagram below outlines the activities starting in October 2019 and running over several phases through to late-2021. Approximate duration of key activities are:

- Seabed assessments:
  - Otway Development: up to 70 days
  - T/30P: up to 30 days
- Drilling activities for exploration wells: 35 to 55 days per well
- Drilling activities for production wells: 70 to 90 days per well
- Plugging wells: 30 days per well
- Inspections and modifications to existing seabed infrastructure: 30 - 120 days per field.

Project timing
Project History


To date, three development phases have been completed to enable production at the Otway Gas Plant: construction of the gas plant; construction of the Thylacine offshore platform; and the development of the currently producing gas wells. To maintain natural gas production, further phases to develop additional offshore wells are being planned.

Beach is planning to carry out further activities in the Otway Basin to ensure continued production at the Otway Gas Plant, which will help ensure natural gas supply for Victorian households and businesses.

Questions and Answers

Why are you developing in the Otway Basin?
The unique geological characteristics of the Otway Basin mean it is an abundant source of natural gas which has been produced in the region for many years.

Why are you doing an OPP?
The purpose of an OPP is to identify and assess the potential environmental impacts and risks of the activities conducted over the life of the project, ensuring that environmental impacts and risks will be managed by Beach to an acceptable level. This process allows opportunity for public comment on the project early in the project lifecycle, to assist Beach in identifying and understanding how different stakeholders’ functions, interests and activities may be affected by the project activities. Such information shapes measures to reduce any impacts and risks from the project.

Will an exclusion zone exist?
During the seabed assessments and other activities using vessels such as inspections and modifications to existing infrastructure and the installation of new subsea infrastructure and tie-ins, exclusion zones may exist around the vessel for the period of the activity. These exclusion zones will be communicated to stakeholders as per of the activity specific consultation.

During drilling, all vessels are required to be aware of a 2 km radius cautionary zone around the drill rig, overlaid by a 500 m safety exclusion zone around the drill rig.

This formal safety exclusion zone will be communicated via a ‘Notice to Mariners’ outlining the exclusion zone and timeframe for the drilling activity.

The safety exclusion zone will be monitored by supporting vessels once the drill rig is anchored into position.

Beach will apply to NOPSEMA to put in place petroleum safety zones around the completed production wells and some subsea infrastructure to protect its assets and to ensure fishing equipment and anchoring are not snagged or damaged. The proposed petroleum safety zones are detailed in the map on the previous page and will cover an area of approximately 13.4 km². Beach is committed to minimising the impact of its activities to other marine users so if these petroleum safety zones will impact on your activities please contact us.

How will any accidental releases of hydrocarbons be managed?
An accidental release of hydrocarbons has a low probability of occurrence. A Well Operations Management Plan must be accepted by NOPSEMA prior to drilling. This plan details how the well will be managed to prevent any accidental releases. An Environment Plan must be accepted by NOPSEMA prior to any of the project activities, including drilling. The Environment Plan must include an Oil Pollution Emergency Plan (OPEP) for managing any accidental hydrocarbon releases.

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

- The control measures necessary for rapid response
- Response arrangements and capability in place to ensure rapid implementation and provide for the ongoing maintenance of capability
- Response arrangements and capability in place for monitoring oil pollution to inform response activities as well as monitoring the effectiveness of these activities.

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

Want to know more?
For further information and Q&As on exclusion zones, managing impacts to commercial fishing and marine life, and maritime safety on the Otway Offshore Project visit the Beach website at: www.beachenergy.com.au/vic-otway-basin.
Consultation

Beach values stakeholder consultation and feedback. The purpose of consultation is to understand how different stakeholders’ functions, interests and activities may be affected by the project activities.

Beach will consider all feedback, including any concerns and objections. Measures will be explored to reduce any impacts and risks, and responses will be provided to stakeholders. All stakeholder feedback, records of consultation, copies of correspondence, including emails will be considered alongside technical and environmental assessments as the OPP and activity specific Environment Plans are prepared for submission, and will be communicated to NOPSEMA as required by legislation.

The OPP will be available for public comment and all Environment Plans will be publicly available on the NOPSEMA website. Stakeholders can register to receive notifications when OPP and Environment Plans are publicly available.

See information on the NOPSEMA website at: www.nopsema.gov.au/information-for-the-community