



# Barossa Offshore Project Proposal (OPP)

## Description of the project and alternatives analysis

The Barossa Area Development is a gas and light condensate project that proposes to provide a new source of dry gas to the existing Darwin LNG (DLNG) production facility for approximately 20 years. It is being proposed by ConocoPhillips, on behalf of current co-venturers, SK E&S Australia Pty Ltd and Santos Offshore Pty Ltd. It is proposed that gas from Barossa would supply the existing train at DLNG from 2023, subject to suitable commercial arrangements being put in place.

The development concept includes a Floating Production Storage and Offloading (FPSO) facility, subsea production system, supporting in-field subsea infrastructure and a gas export pipeline.

The FPSO facility will separate the natural gas and condensate extracted from the field with the dry gas proposed to be transported via a gas export pipeline for onshore processing. The condensate will be exported directly from the FPSO facility to offtake tankers. Environmental baseline studies completed as part of the Barossa marine studies program informed this design concept.

The gas export pipeline will be approximately 260 - 290 km long and while appropriate commercial arrangements are yet to be put in place, it is proposed to connect to the existing Bayu-Undan to Darwin pipeline in Commonwealth waters. The exact route of the new pipeline is not final and subject to further studies.

Assuming all the required approvals are in place, offshore development work, starting with the drilling of development wells, will start around 2019. During this period, the FPSO facility will be built and then towed to the development area and other subsea infrastructure and the gas export pipeline will also be installed.

After a commissioning stage where all the systems are tested, operations will start in about 2023. The total number of development wells drilled is anticipated to be in the order of 10-25. Decommissioning of the project will occur at the end of the field life and requires a separate EP before it can occur. Decommissioning is expected to occur from about 2043.

A number of development concepts including an FPSO, an offshore fixed jacket platform, a floating LNG facility and 'no development' option were considered. The evaluation concluded that an FPSO facility will be safer, more environmentally acceptable and will make the eventual decommissioning of the field easier. OPP **Section 8** also contains a description of some design and activity alternatives still under consideration.

### Project activities:

A description of the key characteristics of the project is provided including the proposed wells and drilling methods, the FPSO facility, subsea production system, supporting in-field infrastructure, the gas export pipeline, fibre optic cable and the potential for the project to include future development of the adjacent Caldita Field. As the exact route of the pipeline is not final and subject to further studies, the impacts and risks of laying the pipeline within a broader corridor have been assessed. The new pipeline and associated installation activities will occur within that corridor.

Key environmental aspects of the project include physical presence, seabed disturbance, vessel movements, underwater noise emissions, biosecurity (invasive marine species), atmospheric emissions, light emissions, waste management and planned and unplanned discharges.

## Project indicative timeline

Project activity	Target date/timeframe
<b>Development drilling</b>	
Phase 1	Approximately 6 months–2 years post-FID
Phase 2	Approximately 4 years post first gas
Phase(s) 3(+)	During operations (this may include development of the Caldita Field if it is found to be economically viable)
<b>Installation, pre-commissioning and commissioning</b>	
Gas export pipeline installation (including gas export pipeline infrastructure and fibre optic cable)	Approximately 1–3 years post-FID
In-field subsea infrastructure installation	Approximately 2–4 years post-FID
Tow-out and hook up of the FPSO facility	Approximately 3–5 years post-FID
Commissioning	Approximately 4 years post-FID
<b>Operations</b>	
First gas	Approximately 4–5 years post-FID
Operations	Duration of approximately 20 years post first gas
Decommissioning	Approximately 20 years post first gas

## Key project information - Barossa offshore development area and gas export pipeline corridor

Proponent	ConocoPhillips Australia Exploration Pty Ltd. (ConocoPhillips) on behalf of the current co-venturers SK E&S Australia Pty Ltd and Santos Offshore Pty Ltd
Location	<p>Barossa offshore development area: Approximately 300 km north of Darwin, approximately 227 km offshore (nearest point to mainland) and approximately 100 km north of the Tiwi Islands</p> <p>Gas export pipeline corridor: Connecting the Barossa offshore development area to the existing Bayu-Undan to Darwin gas export pipeline in Commonwealth waters to the south-west of the Tiwi Islands subject to suitable commercial arrangements being put in place.</p>
Relevant jurisdictions	Commonwealth Government; NT Government (unplanned activities only)
Water depths	<p>Barossa offshore development area: 130 metres (m)–350 m</p> <p>Gas export pipeline corridor: Ranging from approximately 20 m (southern end) to 240 m (northern end), with local seabed features within the corridor as shallow as approximately 4 m.</p>
Development characteristics (subject to suitable commercial arrangements being put in place)	<ul style="list-style-type: none"> <li>Floating Production Storage and Offloading (FPSO) facility</li> <li>Subsea production system tied back to the FPSO facility</li> <li>Gas export pipeline with proposed tie-back connection to the existing Bayu-Undan to Darwin gas export pipeline</li> <li>Supporting infrastructure for full field development, including fibre optic cable</li> </ul>
Anticipated hydrocarbon	Natural gas and light condensate
Approximate LNG production rate	3.7 million tonnes per annum (Mtpa)
Approximate condensate production rate	1.5 million barrels per year (MMbbl/yr)
Final investment decision	Target 2019
Operating life	Approximately 20 years
First gas	Target 2023

## Indicative schematic of the FPSO facility development concept

