

SCARBOROUGH

The Burrup Hub vision

Woodside, with relevant Joint Venturers, is progressing opportunities that will develop an integrated, regional LNG production centre on the Burrup Peninsula. Utilising proven LNG facilities, the Burrup Hub will provide a long-term solution for processing gas resources to supply domestic and export markets for decades to come.

To realise the Burrup Hub vision a number of activities are being advanced simultaneously: Scarborough; Pluto Train 2; Browse to NWS Project; NWS Project Extension and Pluto-NWS Interconnector.

Woodside is committed to operating responsibly, working sustainably and engaging transparently. We are investing in understanding and managing actual and potential impacts of these activities and consulting with a wide range of stakeholders.

The Scarborough gas resource is located approximately 375 km west-north-west off the Burrup Peninsula and is part of the Greater Scarborough gas fields which are estimated to hold 9.2 Tcf (2C, 100%) of dry gas.

The relevant offshore petroleum titles are all located in Commonwealth waters - Woodside holds a 75% interest in WA-1-R, and a 50% interest in WA-62-R, WA-63-R and WA-61-R, covering the Scarborough, North Scarborough, Thebe and Jupiter gas fields respectively. BHP Billiton Petroleum (NWS) Pty Ltd is Woodside's Scarborough joint venture partner (Refer Table 1).

Woodside is proposing to develop the Scarborough gas resource through new offshore facilities connected by an approximately 430 km pipeline to a proposed expansion of the existing Pluto LNG onshore facility (Pluto Train 2).

The proposal is to initially develop the Scarborough gas field with up to seven subsea, high-rate gas wells, tied back to a semi-submersible floating production unit (FPU) moored in 900 m of water close to the Scarborough field.

The development of Scarborough gas will secure economic growth and local employment opportunities for Western Australia.

During Q1 2019 Woodside awarded contracts in its corporate capacity and funded on a 100% basis, for front end engineering and design activities.

The contracts are for the FPU, the export pipeline and the subsea umbilical risers and flowlines.

These contracts will continue to progress the project schedule towards a final investment decision (FID). Woodside is targeting a FID in 2020 and ready for start-up (RFSU) in 2023.¹

Tieback and future development

The 1.4 Tcf (2C, 100%) Thebe and 0.5 Tcf (2C, 100%) Jupiter gas fields provide opportunities for future tieback to Scarborough infrastructure.

As the proposed export pipeline route crosses the Carnarvon Basin in close proximity to undeveloped fields, Woodside is engaging with other resource owners to explore opportunities for future development.

Environmental approvals

Scarborough spans Commonwealth and State jurisdictions.

A proposal for activities in State waters was referred to the Western Australian Environmental Protection Authority (WA EPA) and the Commonwealth Department of Environment and Energy (DoEE) in December 2018. The referral can be viewed at the relevant regulator's website.

A proposal for Scarborough activities in Commonwealth waters was submitted as an Offshore Project Proposal (OPP) to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) in February 2019. Adjacent Thebe and Jupiter reservoirs were included.

State waters referral

Activities in State waters includes dredging, pipelay, sand backfill and pipeline installation operations in State waters.²

The purpose of the State waters referral is to determine whether components of the proposed development require formal assessment and approval under the *Western Australian Environmental Protection Act 1986* (EP Act) and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).



Figure 1: Indicative subsea layout for Scarborough (not to scale)

¹ These targets are subject to all necessary joint venture approvals, regulatory approvals and/or appropriate commercial arrangements being finalised.

² More information about these proposed activities is available in the Dredging and Pipelay Information sheet at the Woodside website at www.woodside.com.au/

The EP Act is Western Australia's primary environmental legislation. The EP Act provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters connected with these activities.

The EPBC Act is the Australian Government environmental legislation which provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places.

The EPBC Act establishes a requirement for Commonwealth environmental assessment and approval for actions that are likely to have a significant impact on Matters of National Environmental Significance.

The purpose of the referral is to determine whether a proposed action is a 'controlled action' and requires approval under the EPBC Act. If the Minister determines that a proposed action is a controlled action, it would then proceed through Commonwealth assessment and approval processes.

One of the key roles of the WA EPA and the Commonwealth's DoEE, is to provide Government with advice on the environmental acceptability of development proposals to ensure they will meet the requirements under the relevant Acts.

Commonwealth waters

Activities in Commonwealth waters will be assessed separately as part of an OPP to NOPSEMA, and include:

- + drilling of the gas wells and installation of the FPU
- + installation of the pipeline section and related activities within Commonwealth waters

The disposal of dredged material will be the subject of a separate permit application to DoEE and will be managed under a Dredging and Spoil Disposal Management Plan (DSDMP). The DSDMP provides details on the environmental management procedures to limit impacts.

Onshore environmental approvals

A number of Commonwealth and State environmental approvals were granted for the Pluto LNG foundation project.

Existing primary environmental approvals allow for two LNG trains and supporting infrastructure. Associated management

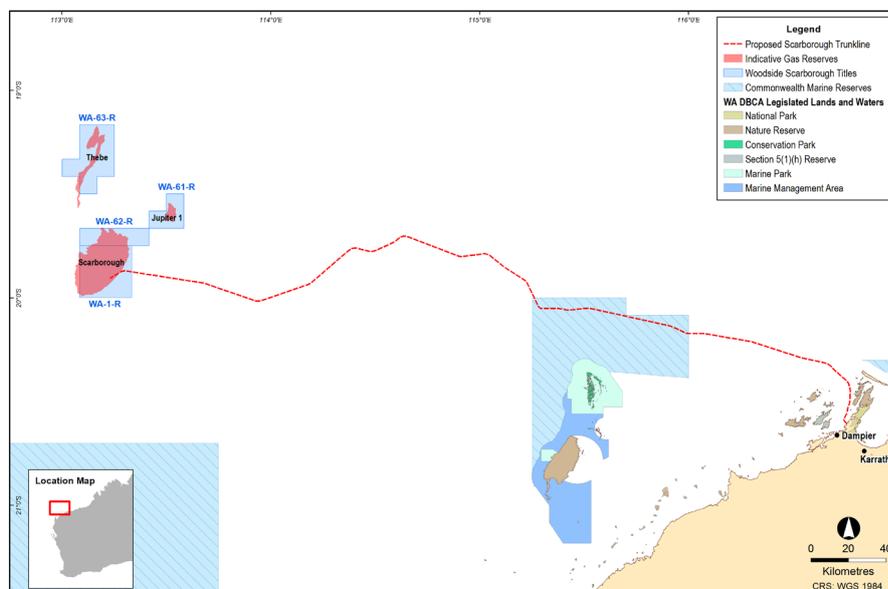


Figure 2: Greater Scarborough gas fields and proposed pipeline route

plans will be evaluated under these approvals and updated as required.

Woodside will obtain all necessary and required secondary approvals and licensing to support Pluto Train 2.

Environmental management

A geophysical and environmental survey of the proposed pipeline route was completed in July 2018, which will assist in defining the environment between the Scarborough and Pluto field area.

Shallow water geophysical and geotechnical surveys in State and Commonwealth waters commenced in Q4 2018 and are targeted for completion in 2019. The surveys will acquire data to support Scarborough design activities.

Scarborough gas is dry and lean and contains extremely low reservoir CO₂ (0.1mol%) compared to conventional oil and gas reservoirs. This contributes to a reduced carbon footprint as well as limited risk of hydrocarbon spills.

Woodside believes that natural gas, with low carbon content like Scarborough gas, will be an important part of the solution to meeting global energy demand and reducing emissions during the next 50 years.

We accept the scientific consensus on climate change and will be a significant contributor in

the global effort to reduce carbon emissions.

Woodside is committed to continued investment in technologies that reduce emissions and promote energy efficiency in our facilities.

Our engagement approach

Woodside has been part of the Pilbara community for more than 30 years. In our relations with communities and stakeholders, we are engaged, responsible and focused on building long-term, sustainable operations.

Opportunities to comment

Woodside invites parties interested in the Scarborough OPP to comment during the public comment periods associated with the environmental approval submissions.

SCARBOROUGH JOINT VENTURE		
Gas Fields	Woodside Interest	BHP Interest
Scarborough (WA-1-R)	75%	25%
North Scarborough (WA-62-R)	50%	50%
Thebe (WA-63-R)	50%	50%
Jupiter (WA-61-R)	50%	50%

Table 1: Equity participants.

Providing feedback and further information

If you would like to comment on the proposed activities outlined in this fact sheet, or would like additional information, please contact Woodside by email to feedback@woodside.com.au or toll free on 1800 442 977.

All information is current as at April 2019.

www.woodside.com.au

