

Attachment C

The following documents make up the substantial new information and additional contextual information relied upon in our reconsideration request:

- a) the referral, and related documents, for the Browse to NWS Project (if these were not previously before the maker of the NWS Controlled Action Decision);
- b) the controlled action decision for the Browse to NWS Project (if this was not previously before the maker of the NWS Controlled Action Decision);
- c) the draft environmental impact statement and supplement report, and related documents, for the Browse to NWS Project;
- d) the referral, and related documents, for the Browse CCS Project;
- e) the NWS Extension Environmental Review Document Response to Submissions;
- f) Woodside's webpage about the NWS Project;
- g) a now defunct version of Woodside's webpage setting out information about the NWS Extension;
- h) Woodside's webpage about the Browse to NWS Project, which includes information on the Browse CCS Project components;
- i) a now defunct Woodside webpage publishing an interview with Woodside's then CEO and Managing Director, Peter Coleman, about the reason for the failure of the Browse LNG proposal at James Price Point;
- j) an announcement from Woodside about the company's failure to pursue the proposed Browse FLNG project;
- k) a submission made by Woodside to a Western Australia Parliamentary Inquiry into the Western Australian Domestic Gas Policy;
- l) an announcement by Woodside about some preliminary agreements to process third party gas at the NWS gas processing facility in Karratha;
- m) information from Woodside and the Department of Climate Change, Energy, the Environment and Water publicly released via a Freedom of Information request;
- n) the approved Greenhouse Gas Assessment Permits for G-10-AP and G-8-AP;
- o) Woodside's Annual Reports for 2019, 2020, 2021 and 2022;
- p) a newspaper article from WA Today dated 25 August 2024 containing information about negotiations between the NWS Joint Venture and the Browse Joint Venture;
- q) a newspaper article from the Sydney Morning Herald dated 3 April 2023 containing information about negotiations between the NWS Joint Venture and the Browse Joint Venture; and
- r) results of independent analysis by the Australasian Centre for Corporate Responsibility about the economic cost of the Browse to NWS Project.

These documents, or links to these documents, are provided on the following pages.

a) the referral, and related documents, for the Browse to NWS Project (if these were not previously before the maker of the NWS Controlled Action Decision)

This includes:

- the Browse Referral at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/8c0b5a9b-61b3-ec11-983f-00224818ab04/2ab10dab-d681-4911-b881-cc99413f07b6?file=2018-8319%20referral.pdf;
- the Browse Referral Supporting Document at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/8c0b5a9b-61b3-ec11-983f-00224818ab04/2ab10dab-d681-4911-b881-cc99413f07b6?file=2018-8319%20Referral-Attach-Browse%20to%20NWS%20Development%20EPBC%20Act%20and%20EP%20Act%20Referral%20SD%20Rev%200A.pdf; and
- the Browse Referral Protected Matters Report at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/8c0b5a9b-61b3-ec11-983f-00224818ab04/2ab10dab-d681-4911-b881-cc99413f07b6?file=2018-8319%20Referral-Attach-Protected%20Matters%20Report.pdf.

b) the controlled action decision for the Browse to NWS Project (if this was not previously before the maker of the NWS Controlled Action Decision)

This is available at

https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/972db1fc-78b2-ec11-983f-002248d3943d/2ab10dab-d681-4911-b881-cc99413f07b6?file=2018-8319-Referral-Decision.pdf

c) the draft environmental impact statement and supplement report, and related documents, for the Browse to NWS Project

This includes:

- the Browse DEIS and appendices, which is a 1,986 page document currently available on the Proponent's website at <https://www.woodside.com/docs/default-source/current-consultation-activities/australian-activities/proposed-browse-to-north-west-shelf-project---draft-eis-erd.pdf>;
- the Browse DEIS Supplement Report and appendices, which is a 1,668 page document currently available on the Proponent's website at [https://www.woodside.com/docs/default-source/our-business---documents-and-files/burrup-hub---documents-and-files/browse---documents-and-files/proposed-browse-to-nws-project---supplement-report-to-the-draft-eis-\(epbc-2018-8319\).pdf](https://www.woodside.com/docs/default-source/our-business---documents-and-files/burrup-hub---documents-and-files/browse---documents-and-files/proposed-browse-to-nws-project---supplement-report-to-the-draft-eis-(epbc-2018-8319).pdf)

d) the referral, and related documents, for the Browse CCS Project

This includes:

- the Browse CCS Referral at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=00-2024-10028%20Referral.pdf;
- the Browse CCS Referral Supporting Document at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=Att%201%20Proposed%20Browse%20CCS%20Project%20Referral%20Supporting%20Information%20Document.pdf;
- the Browse CCS Protected Matters Report at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=Att%202%20Project%20Area%20Protected%20Matters%20Search%20Tool%20Report%20Appendix%20A.pdf and https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=Att%208%20Hydrocarbon%20Spill%20EMBA%20Protected%20Matters%20Search%20Tool%20Report%20%28Appendix%20D%29.pdf;
- the Browse CCS species presence assessment at https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=Att%203%20Species%20Presence%20Assessment%20%28Appendix%20B%29.pdf; and
- the Browse CCS CO₂ release and hydrocarbon spill modelling report at [https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=Att%207%20CO₂%20Release%20and%20Hydrocarbon%20Spill%20Modelling%20Report%20%28Appendix%20C%29.pdf](https://epbcpublicportal.environment.gov.au/_entity/sharepointdocumentlocation/40931fb8-8cc8-ef11-b8e8-0022481295e6/2ab10dab-d681-4911-b881-cc99413f07b6?file=Att%207%20CO2%20Release%20and%20Hydrocarbon%20Spill%20Modelling%20Report%20%28Appendix%20C%29.pdf).

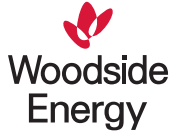
e) the NWS Extension Environmental Review Document Response to Submissions

This is available at

https://www.epa.wa.gov.au/sites/default/files/Proponent_response_to_submissions/North%20West%20Shelf%20Project%20Extension%20Proposal%20Response%20to%20Submissions.pdf

f) Woodside's webpage about the NWS Project

This is currently available at <https://www.woodside.com/what-we-do/operations/north-west-shelf> but is subject to change by the Proponent. A copy of the webpage is on the following pages.



North West Shelf

Experience counts. For 40 years, the North West Shelf has been delivering natural gas to customers in Australia and around the world.

For 40 years, the North West Shelf (NWS) Project has been producing affordable and reliable energy for Western Australian and global customers and investing in the Pilbara community.

As one of the largest liquefied natural gas (LNG) projects in the world, the NWS Project has supplied energy to Australian and international customers since the 1980's, investing hundreds of millions of dollars into the local economy and community. It has pioneered the LNG industry in Australia and is a nationally significant asset.

The NWS Project is a major employer in and around Karratha, supporting the development of a local workforce through training and employment pathways and contracting opportunities throughout Western Australia.

After decades of processing only the NWS resources, the Karratha Gas Plant (KGP) has now also begun processing gas for other resource owners, who pay a toll to use the facility. A transformation that enables this landmark facility to continue to supply energy to Western Australia and international markets for decades to come.



Key stats

40

years operating

6000+

LNG cargoes since 1989

A\$34 BILLION

investment

NWS assets

Karratha Gas Plant

The Karratha Gas Plant (KGP) is one of the most advanced, integrated gas production systems in the world, producing LNG, domestic gas, condensate and LPG. The facility is located 1260 kilometres north of Perth, Western Australia and covers about 200 hectares. The KGP has an export capacity of 16.9 Mtpa, with five LNG processing

trains; two domestic gas trains; six condensate stabilisation units and three LPG fractionation units.

North Rankin Complex

The North Rankin Complex (NRC) includes the North Rankin A and North Rankin B platforms. Connected by two 100-metre bridges, the platforms operate as a single integrated facility. The NRC is Australia's largest offshore gas processing facility. Located 135 kilometres north-west of Karratha, NRC stands in 125 metres of water and has a daily production capacity of up to 66,000 tonnes of dry gas and 6000 tonnes of condensate from the North Rankin and Perseus fields.

Goodwyn A Platform

The Goodwyn A platform is connected to the condensate-rich Goodwyn gas field, located 23 kilometres south-west of the North Rankin A platform and about 135 kilometres north-west of Karratha. Dry gas and condensate produced from the Goodwyn area reservoirs, and Searipple and Perseus satellite field reservoirs, are transported via a trunkline system to the Karratha Gas Plant for processing. Between 2015 and 2018, Woodside implemented the Greater Western Flank Project, connecting an additional eight fields to the Goodwyn A platform using subsea tie-backs.

Angel Platform

The Angel platform is located about 120 kilometres north-west of Karratha and is connected to the North Rankin Complex (NRC) via a 50 kilometre subsea pipeline. Producing from the Angel field, the platform's not-normally manned design enables it to be safely powered and remotely controlled from the NRC, via a subsea cable.

Related documents



2023 North West Australia
Community Development
Report Summary



2023 North West Shelf
Community Development
Report Summary

Pluto-KGP Interconnector

Securing reliable energy for decades to come – North West Shelf Project Extension

The North West Shelf Project has celebrated 40 years of domestic gas production and 35 years of LNG exports – a contribution to reliable energy supply which can continue for years to come.

The North West Shelf Project Extension supports the ongoing operation of the North West Shelf Project. By using existing infrastructure, the Project can continue to support local and global energy security, as well as regional development opportunities in Western Australia.

Woodside and the North West Shelf Joint Venture welcome the Western Australian Government's decision to provide environmental approval for the North West Shelf Project Extension in December 2024. Find out more here.

As part of the State approval, the North West Shelf has committed to greenhouse gas emissions management measures to reduce emissions over time and the implementation of more rigorous air emissions monitoring, including site-based and broader environmental monitoring focusing on health and potential rock art impacts.

The North West Shelf values consultation with Traditional owners and has committed to consulting on cultural heritage and the other management plans covered by the State approval.

2023 North West Australia Community Development Report

We understand the importance of supporting strong local content, economic outcomes, positive social contribution impacts, and sustainable local supply chains that deliver benefits to our host communities.

During 2023, Woodside, as operator of the North West Shelf Project, continued to focus on safe and reliable operations and the delivery of community development outcomes.

82 %

of the A\$1,788 million spent by the NWS Project on operational and capital expenditure went to WA-based businesses.

More than

A\$5 MILLION

invested by the NWS Project in community programs and events in the City of Karratha.

169

contracts awarded to Indigenous businesses and 282 Indigenous people employed by our contractors.



Participating interests

| Participant |
|------------------------------------|
| Woodside (operator) |
| BP Developments Australia Pty Ltd |
| Chevron Australia Pty Ltd |
| CNOOC |
| Japan Australia LNG (MIMI) Pty Ltd |
| Shell Australia Pty Ltd |

**The North West Shelf consists of a number of active joint ventures. Woodside's aggregate interest is 33.33% in all of these apart from the NWS joint ventures with CNOOC. Woodside's participating interest in the CLNG JV is 25% and in the Extended Interest JVs is 31.567%.*

Woodside Energy announced on 19 December 2024 an asset swap transaction with Chevron Australia, which once completed will increase Woodside Energy's equity interest in the North West Shelf. See announcement [here](#).

Pilbara enquiries

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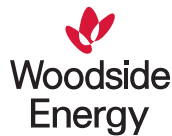
Street Address:

Level 3, 24 Sharpe Avenue
Karratha WA 6714
Australia

Last updated: 10/03/2025 9:34:04 AM

g) a now defunct version of Woodside's webpage setting out information about the NWS Extension

This used to appear on the Proponent's website at <https://www.woodside.com/what-we-do/developments-and-exploration/NWS-project-extension>, but that webpage is now defunct. A copy of that webpage can be viewed on the Wayback Machine website at <https://web.archive.org/web/20241126004707/https://www.woodside.com/what-we-do/developments-and-exploration/NWS-project-extension>. A copy of the webpage is on the following pages.



PROJECT

NWS Project Extension

Transforming the NWS Project into a third-party gas processing facility, enabling the ongoing supply of gas and fluids to domestic and international markets for decades to come.

40 years

Of operation

6,300+

LNG cargoes since 1989

OVERVIEW

NWS Project Extension

The North West Shelf (NWS) Project is WA's largest producer of domestic gas and has been supplying WA pipeline gas for 40 years.

The NWS Project Extension ensures the ongoing operation of the NWS Project to enable the long-term processing of third-party gas and fluids and North West Shelf Joint Venture field resources through the NWS Project facilities until around 2070.

The NWS Project Extension allows existing gas resources to be developed without the need for constructing new processing facilities, provides ongoing employment and social investment in the region, and supports the transition to a lower carbon future.



Environmental management

Woodside has operated on the Burrup Peninsula for 40 years and has a strong track record of undertaking activities safely and in an environmentally responsible way. As Karratha Gas Plant is a brownfield site, no new significant impacts or risks are expected to be associated with the long-term processing of third-party gas and fluids and NWSJV field resources through the NWS Project facilities. The successful management strategy used for the existing NWS Project will be the basis of ongoing management for the Proposal.

As operator of the NWS Project, Woodside will continue to assess emission reduction opportunities that could result in a staged decrease in emissions (including NO_x, CO₂ and VOC) over time, along with continued monitoring and management of environmental impacts. While we are actively pursuing opportunities to operate for longer, there are no plans to increase the capacity for LNG production beyond existing approved limits.

Greenhouse gas emissions

Woodside supports the global effort to reduce greenhouse gas (GHG) emissions and accepts it has a responsibility to minimise the GHG impact of its own operations. Woodside's key priority is to reduce GHG emissions at source, either through energy efficiency improvements or technological solutions. Woodside has a demonstrated history of implementing emissions-reduction opportunities the Karratha Gas Plant and continues to identify new opportunities each year.

The ongoing operation of the NWS Project or the future introduction of third party gas or fluids will not increase the existing annual GHG emissions characteristics of the NWS Project. Woodside proposes to manage direct Scope 1 GHG emissions from the Proposal within the current approved limit of 7.7 mtpa CO₂e.

As part of the NWS Project Extension Proposal, Woodside has developed a Greenhouse Gas Management Plan (GHGMP) that outlines how GHG emissions will be monitored and managed to minimise our contribution to global GHG concentrations.

This is demonstrated through a series of interim and long-term emissions reduction targets on a trajectory towards net zero emissions by 2050, which is aligned with the State's aspiration of achieving net zero emissions in Western Australia in this timeframe.

Under the GHGMP, Woodside will publicly report on actual emissions, progress against the interim emissions reduction targets and details of emission reduction opportunities identified or implemented.

Other management provisions in the GHG Management Plan include:

- Adoption of practicable and efficient technologies to reduce GHG emissions of the Proposal;

- Annual fuel and flare targets;

- Routine emission monitoring and reporting in accordance with the National Greenhouse and Energy Reporting Act;

- Monitor relevant changes and modifications to Proposal to prevent GHG emissions from exceeding 7.7 mtpa;

- Implementation of the KGP Energy Management Plan to manage GHG emissions;

- Compliance with National Safeguard Mechanism to maintain emissions within the NWS Project Baseline; and

- Adherence to Methane Guiding Principles.

Cultural Heritage Management

Woodside's Cultural Heritage Management Procedure reflects our publicly available **First Nations Communities Policy**. This policy includes engaging with affected communities of First Nations peoples in ways that are consistent with the principles of seeking Free, Prior and Informed Consent (FPIC).

Our approach to the identification, management and protection of tangible and intangible cultural heritage seeks to avoid impacts, or if avoidance is not possible, to minimise and mitigate those impacts. We seek to ensure Traditional Owners and Custodians are central to heritage management so that cultural values are understood and

remain protected.

Woodside also prepares detailed Cultural Heritage Management Plans (CHMP) for nearshore and onshore facilities and projects and completes heritage audits and surveys with Traditional Owners and Custodians and independent heritage experts. Woodside is also committed to ensuring our management of cultural heritage is thorough, transparent and underpinned by consultation and continued engagement with First Nations communities.

Specific engagements have been held with Indigenous stakeholders in relation to any potential impacts of the North West Shelf Project Extension Proposal on the national heritage values, including Indigenous heritage values, of the listed National Heritage Place on the Dampier Archipelago.

The NWS Project operates under a Cultural Heritage Management Plan to ensure operation of the Project does not compromise the environmental values of the Burrup Peninsula (including the National Heritage Place and Murujuga National Park). This Cultural Heritage Management Plan will be updated in consultation with representatives of traditional custodians as part of the North West Shelf Project Extension to manage potential impacts of the Proposal on cultural heritage. The implementation of this management plan will ensure that representatives of the Indigenous groups of the area continue to be consulted regarding Woodside's heritage management activities, impacts, and influence Woodside's approach to heritage management.

Woodside is committed to supporting the Department of Water and Environmental Regulation and Murujuga Aboriginal Corporation in their implementation of the Murujuga Rock Art Strategy. The Murujuga Rock Art Strategy is a monitoring, analysis and decision-making framework to protect the Aboriginal rock art located on Murujuga.

Marine discharges

As part of Woodside's commitment to understanding and monitoring the impacts of our operations, for more than 30 years Woodside has implemented an extensive scientific monitoring program within Mermaid Sound and Nickol Bay. This program will continue to be implemented, in conjunction with the Marine Environmental Quality Management Plan (MEQMP) that has been established as part of the ERD. As a result of the monitoring, there has been no indication that Woodside's operations are having a significant impact on the ecosystem health of the surrounding marine environment.

There are two licenced discharge points from KGP, which are regularly monitored. Discharges from these points will be below the criteria established in the MEQMP. The MEQMP complies with the Environment Quality Objectives established in the Environment Quality Plan for the Mermaid Sound, which is described in the Pilbara Coastal Water Quality Consultation Outcomes. The MEQMP ensures that a High level of ecological protection will continue to be upheld in Mermaid Sound.

Read more about the Pilbara Coastal Water Quality Consultation Outcomes [here](#).

Air quality

The key atmospheric emissions for this Proposal include NO_x, Ozone, VOCs and minor contributions of SO₂. The potential introduction of third-party gas and fluids may cause changes to these air emission characteristics. However, emissions are anticipated to remain similar to current emissions. Environmental monitoring and existing

environmental baseline data which include the historical operation of the NWS Project, together with robust and conservative modelling predictions provide evidence that no significant air quality impacts to human health and amenity are expected.

Woodside has developed an Air Quality Management Plan that outlines how air emissions from the Proposal will be managed and monitored so that the environmental and cultural heritage values of the Burrup Peninsula are protected. As part of the Air Quality Management Plan, Woodside proposes to reduce NO_x emissions by 40% by 31 December 2030. The Air Quality Management Plan is available for review as part of the ERD.

In advance of potential changes to industrial air emissions on the Burrup Peninsula, Woodside voluntarily recommenced ambient air quality monitoring in 2019 to further understand ambient air quality in the region. The program is expected to extend the historical dataset and complement ambient air quality monitoring proposed under the Murujuga Rock Art Strategy.

Previously the NWS Project voluntarily established the Burrup Ambient Air Monitoring Program in 2008, which continued until 2011. The intent of the program was to gain a better understanding of how operations on the Burrup Peninsula may affect local air quality. Aspects of the program continued to support the Woodside operated Pluto LNG Development from 2011 through to the end of 2015. The long term data set demonstrates cumulative emissions rates are consistently below NEPM health standards for existing operations.

Environmental approvals timeline

The NWS Project Extension is seeking primary environmental approval under the WA Environmental Protection Act 1986 and the Commonwealth Environment Protection and Biodiversity Conversation Act 1999.

Referral

Nov 2018

Environmental Scoping Document (ESD)

Aug 2019

Preparing the draft ERD

Dec 2019

Public comment period

Dec 2019

Respond to comments via preparation of Response to Submissions document

Feb 2020

EPA reviews Response to Submissions

Nov 2021

EPA accepts and publishes proponent’s Response to Submissions

Jun 2022

State and Federal Ministers’ decision and issuance of conditions

COMMUNITY ENGAGEMENT

NWS Project Extension Social Impact Assessment (SIA)

Woodside is committed to delivering sustainable social outcomes in the communities where we operate. Woodside regularly reviews the potential impacts and opportunities of its projects and operations on communities. This approach informs management strategies to enhance project benefits and eliminate or minimise potential impacts.

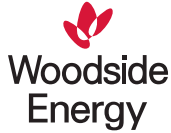
Participating interests

| Participant | Interest |
|------------------------------------|----------|
| Woodside (operator) | 33.33% |
| BP Developments Australia Pty Ltd | 16.67% |
| Chevron Australia Pty Ltd | 16.67% |
| Japan Australia LNG (MIMI) Pty Ltd | 16.67% |
| Shell Australia Pty Ltd | 16.67% |

Last updated: 2/06/2021 8:28:35 AM

h) Woodside's webpage about the Browse to NWS Project, which includes information on the Browse CCS Project components

This is currently available at <https://www.woodside.com/what-we-do/developments-and-exploration/browse> but is subject to change by the Proponent. A copy of the webpage is on the following pages.

**PROJECT**

Browse

Browse is Australia's largest untapped conventional gas resource.

11.4 MTPA

Project capacity LNG/LPG + domestic gas
(100% of project)

2018

Concept definition phase commenced

OVERVIEW

Browse

Woodside, as Operator for and on behalf of the Browse Joint Venture, is proposing to develop the Brecknock, Calliance and Torosa fields located approximately 425 km north of Broome in the offshore Browse Basin.

In September 2018, the BJV selected the Browse to North West Shelf (NWS) Project development concept to progress into the concept definition phase. The proposed development concept includes: two floating production storage and offloading (FPSO) facilities delivering 11.4 Mtpa of LNG/LPG and domestic gas; and an approximately 900 km pipeline to existing NWS Project infrastructure.

A carbon capture and storage (CCS) solution to abate Browse reservoir carbon dioxide (CO₂) has been determined by the BJV to be feasible and the CCS infrastructure has subsequently been incorporated into the development concept.¹

¹ Regulatory approvals processes are ongoing.



Environmental approvals timeline

Woodside continues to work with the State and Commonwealth regulators with regards to the feedback received on the draft EIS/ERD.

Referral

Oct 2018

Scoping document process

Sep 2019

Submission of draft EIS/ERD

Dec 2019

Public comment period

Dec 2019

Supplement draft EIS/ERD

H1 2021

Respond to comments via submission of Supplement draft EIS/ERD

DCCEEW assess acceptability of supplement to the EIS

Sep 2022

Final EIS published

Sep 2022

EPA publishes Response to Submissions and commences drafting assessment report

Dec 2023

Federal and State Ministers' decision

Environmental management

Woodside has a strong track record of undertaking activities safely and in an environmentally responsible manner. Within the Woodside Management System (WMS), the overall direction for environmental management is set through the corporate Health Safety, Environment and Quality Policy. The policy is applied to all Woodside's activities, and all employees, contractors and Joint Venture partners engaging in activities under Woodside operational control.

Woodside has commissioned around 60 key studies within the proposed project area, Scott Reef and the broader region that span approximately two decades. This includes programs to build understanding on humpback whale, turtle, other marine megafauna and fish species in the region, as well as long-term monitoring of coral and fish communities at Scott Reef.

Key management outcomes, key management measures and key assurance and monitoring activities proposed for the Development are detailed in the proposed Browse to NWS Project final EIS and draft ERD.

Greenhouse gas emissions

Woodside as Operator for and on behalf of the BJV, and the BJV Participants, recognise the need to minimise and manage GHG emissions from the proposed Browse Project. Woodside is continuing to work to reduce emissions intensity through improvements in energy efficiency, investments in biosequestration projects and innovation in our production processes, as outlined in the Woodside Climate Change Policy.

GHG emissions are addressed in the proposed Browse to NWS Project Draft EIS/ERD (Chapter 7). This assessment considered the principles of ESD, MNES Significant Impact Guidelines and the WA EPA Environmental Objectives; as well as GHG specific requirements such as the Paris Agreement, Australia's Nationally Determined Contributions and the Safeguard Mechanism (SGM).

The following key energy efficiency and emissions reductions measures have been incorporated into the design of the proposed Browse Project. The associated emissions reductions achieved by these initiatives have been estimated and presented below and in the draft EIS/ERD. Note that estimates are presented as being across two FPSO facilities, operating at maximum pipeline throughout. The measures are:

Waste heat recovery units on gas turbine;

Active heating system used to prevent hydrate formation in flowlines avoiding the requirement for an energy intensive MEG regeneration plant;

Batteries for peak power supply;

Efficient aero-derivative gas turbine; and

Use of nitrogen to purge the flare stack rather than hydrocarbon gas.

The above key energy efficiency and emissions reductions measures result in a saving of approximately 1 MT of CO₂-e on average per year.

Cultural heritage management

No known sites of Aboriginal Heritage significance are located within the proposed Browse to NWS Project development area, according to the WA Department of Aboriginal Affairs' Aboriginal Sites Inquiry System. The existence of any unknown Aboriginal sites or artefacts of significance within the Browse Development Area, or the wider NWMR, is considered highly unlikely due to the site's remote location offshore.

No impact to aboriginal heritage is expected to occur as a result of the proposed Browse to NWS Project.

Slight impacts to traditional Indonesian fisher utilising the MOU 74 area may occur as a result of the physical presence of infrastructure. As no lasting impacts to fish are predicted, no cumulative impacts to Indonesian fishers as a result of impacts to target species and disturbance from the physical presence of infrastructure are predicted.

It is noted that potential impacts associated with atmospheric emissions resulting from the onshore processing of the Browse gas by the NWS JV on the national heritage values of the listed National Heritage Place on the Dampier Archipelago (including aboriginal heritage values) are addressed in the North West Shelf Project Extension ERD.

Participating interests

Lease/permit interests (State): TR/5 and R2

Lease/permit interests (Commonwealth): WA-28-R, WA-29-R, WA-30-R, WA-31-R and WA-32-R

| Participant | Interest |
|---|----------|
| Woodside Browse Pty Ltd | 30.60% |
| BP Developments Australia Pty Ltd | 44.33% |
| Japan Australia LNG (MIMI Browse) Pty Ltd | 14.40% |
| PetroChina International Investment (Australia) Pty Ltd | 10.67% |

Woodside Energy Ltd is operator for and on behalf of the Browse Joint Venture

Related projects



NWS Project Extension

40 years

Of operation

6,300+

LNG cargoes since 1989

Transforming the NWS Project into a world-class, third-party gas processing facility, enabling the ongoing supply of gas and fluids to domestic and international markets for decades to come.

Download fact sheet 

Last updated: 19/12/2024 9:15:50 PM

i) a now defunct Woodside webpage publishing an interview with Woodside's then CEO and Managing Director, Peter Coleman, about the reason for the failure of the Browse LNG proposal at James Price Point

This used to appear on the Proponent's website at <http://www.woodside.com.au/Investors-Media/Announcements/Documents/12.04.2013%20Company%20Insight%20-%20Explains%20Delaying%20Browse%20LNG%20Project.PDF>, but that webpage is now defunct and redirecting to another webpage. A copy of the original webpage can be viewed on the Wayback Machine website at <https://web.archive.org/web/20130502152009/http://www.woodside.com.au/Investors-Media/Announcements/Documents/12.04.2013%20Company%20Insight%20-%20Explains%20Delaying%20Browse%20LNG%20Project.PDF>. A copy of the webpage is on the following pages.



Woodside Petroleum Ltd.

Date of Lodgement: 12/4/13

Title: “Company Insight – Explains Delaying Browse LNG Project”

Highlights of Interview

- James Price Point not commercial.
 - Various options will be considered for developing the resource.
 - Browse LNG still a valuable asset.
 - Growth still a focus.
-

Record of interview:

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Woodside Petroleum (ASX code: WPL, market capitalisation of ~\$29 billion) has just announced that it not going ahead with the current proposed onshore development for 12mtpa of Browse LNG at James Price Point near Broome, Western Australia. Woodside is a 31.3% equity holder and operator. Can you explain why you have not approved the current concept?

CEO & Managing Director, Peter Coleman

The current concept for Browse was one that the joint venture committed to as part of our retention lease conditions back in 2009. We’ve been meeting the requirements of the retention lease conditions, which included us progressing the development of Browse through a front-end engineering and design process up to and including the consideration of a Final Investment Decision (FID) by 30 June 2013. Woodside now believes we’ve satisfied those conditions. We’ve considered the FID and at this point we believe that it is not commercial to proceed with the James Price Point project.

Woodside will now recommend to the joint venture participants that we consider our path forward and make a submission to the Joint Authority in the near future.

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To what extent is this decision driven by the higher costs of operating in Australia? What was the expected capital cost for the Browse LNG development at James Price Point?

CEO & Managing Director, Peter Coleman

The cost escalation on Browse has been consistent with other projects in Australia. Unfortunately the cost escalation has been such that the total costs for Browse have resulted in the current development concept not being commercial.

Woodside does not discuss publicly the capital costs or the commercial terms used to evaluate the project, nor do we publicly discuss the hurdle rates of investment returns which would likely differ for each joint venture participant. Woodside has applied its usual commercial hurdles and we have decided not to proceed with the James Price Point onshore concept for Browse.

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Does the decision relate in any way to environmental or red tape issues and whether that has made investing in Australia prohibitive?

CEO & Managing Director, Peter Coleman

The decision is a commercial one. While we have seen an increase in both the environmental and administrative compliance requirements and procedures, Woodside is committed to the very highest standards in those areas. We have diligently worked through those requirements while we've assessed the James Price Point option.

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Was the decision influenced in any way by public policy issues?

CEO & Managing Director, Peter Coleman

No. Woodside takes into account the desires of all key stakeholders in Browse and we believe that we have worked very collaboratively with the State and Federal governments and the local communities. However, I stress again, that our decision is a commercial one. It is driven by commercial risk and reward considerations and the proposed concept doesn't provide the economic return required to proceed with the project.

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In an earlier ASX announcement regarding a sale of equity to MIMI (1 May 2012), you stated that the sale was a "strong demonstration of the value of the Browse LNG Development." Many approvals are in place with the Western Australian Government and the local native title claim group to secure the land required to build the onshore facilities and associated infrastructure within the Western Australian Government's Browse LNG Precinct. What therefore has changed the value of Browse?

CEO & Managing Director, Peter Coleman

The significant value of Browse has continued to be demonstrated through subsequent transactions which involved Shell and also BHP's proposed sale of equity to PetroChina. Woodside firmly believes that the Browse resource is world class and is valued accordingly, particularly when considered on a world scale. We are working to underpin this value by bringing forward the earliest possible development on Browse.

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Have you seriously considered alternatives in detail to your original preferred development option of onshore LNG processing facilities at James Price Point? What are the possibilities, particularly when some industry commentators consider Floating LNG facilities to be a cheaper option?

CEO & Managing Director, Peter Coleman

We've been monitoring different development options as we've been progressing our reference case. Over the past two to three years there have been a number of factors which have changed in the LNG industry, such as costs and technology for example. Those factors are well known.

One of the alternative solutions is Floating LNG technology and that is something we will recommend the joint venture consider as we move forward. There are other possibilities which we have looked at previously. We won't pre-empt what we might put forward in our proposed work program and budget to the Joint Authority, but those other options could include a pipeline to existing facilities in the Pilbara and a smaller onshore option around James Price Point. It's too early to say if any of those are commercial, but as I said we need to get together as a joint venture to work out the way forward and then make our submission to Joint Authority.

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Why haven't you seriously advanced viable development options for a potentially valuable project such as Browse LNG Project which has Contingent Resources of 15.5 TCF of dry gas and 417 million barrels of condensate? When do you expect to come up with other potential development alternatives? Is a development at James Price Point completely off the agenda?

CEO & Managing Director, Peter Coleman

The Contingent Resources you've mentioned are world-class. Since accepting the Retention Leases in 2009 the joint venture has invested much on the Browse development. We have achieved a top decile level of definition on the James Price Point Reference case and have determined that it is not commercial to proceed in its current format. We've reached the natural completion point of that work and the next step is to seek and pursue alternative development concepts to accelerate the development of Browse.

It's too early to be committing to the timing on when the joint venture may decide on alternative development options.

We worked the current James Price Point option very thoroughly and it's simply not commercial at the moment. Nonetheless we intend to recommend that the joint venture review a modified James Price Point development concept along with other development concepts.

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What are the implications for the Browse retention leases, particularly as the Western Australian Government was keen to proceed with the James Price Point option?

CEO & Managing Director, Peter Coleman

The current retention lease terms for Browse will continue until the end of 2014. There are certain conditions that we need to meet under those retention leases. We will continue to meet our obligations and we intend to meet with the Joint Authority soon to discuss activities to take us to the end of the current retention lease period.

We have been meeting the retention lease conditions and consequently expect to continue to hold the leases.

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What is Woodside's share of capital expenditure to date on Browse? Has that money been wasted? Will Woodside be required to make any significant write-downs as a result of this announcement?

CEO & Managing Director, Peter Coleman

The Browse Joint Venture has invested considerable resources on a work program to progress the James Price Point reference case.

That money has actually been very well spent as evidenced by the equity sales in the project over the past year. It's our aim to capture value in the asset. To create an understanding of the development options we'll be using a lot of the work to date to assess other development options. This work has been of the highest order and should enable the Browse Joint Venture to make a prudent and considered assessment.

We don't expect there to be any significant write-downs as a result of this announcement.

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Woodside successfully commissioned the large Pluto LNG project in April 2012 (WPL 90% and operator), which along with your other projects is providing substantial operating cash flow for Woodside (\$3.5 billion in 2012, up 55%). You are now delaying a Browse development meaning a lower capex profile for 2013 and 2014. Can you summarise your capital management approach including possible greater cash returns to shareholders? What about ongoing dividend policy and also the potential to transfer Woodside's significant franking credits to shareholders?

CEO & Managing Director, Peter Coleman

Our base business is generating significant cash which provides options. We've previously outlined that value adding growth remains our priority, along with maintaining and where appropriate, growing our dividends.

However if our growth opportunities are slower to come to fruition than expected we will consider additional measures to accelerate the return of capital to investors.

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On 18 September 2012, Woodside announced that it had sold a 14.7% interest in Browse to Japan Australia LNG (MIMI Browse) Pty Ltd (MIMI) for US\$2 billion. This reduced Woodside's interest to 31.3%. Will the delay in the project have any legal ramifications or penalties for Woodside given that the sale was concluded only 7 months ago?

CEO & Managing Director, Peter Coleman

No.

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As part of the Browse equity sale to MIMI, Woodside entered into a sales and purchase agreement to supply 1.5mtpa of Browse LNG. Will you have to pay any penalties with the delay in the project? Will this sales and purchase agreement need to be adjusted in any way?

CEO & Managing Director, Peter Coleman

We value our partnership with MIMI. The equity agreement between Woodside and MIMI included a sales and purchase agreement as well as a joint marketing arrangement for the sale of LNG from Browse. That agreement does not have any penalties attached if there is a delay in the project. We'll be speaking with MIMI to discuss extending that arrangement as we review alternative development options.

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Further on the issue of the marketing of the gas, there has been talk of Japan wanting to base LNG pricing on Henry Hub gas prices in the U.S. now that production from the U.S. shale gas industry is increasing strongly. If that scenario plays out, will that affect your ability to market the LNG from Browse and has that affected the decision to delay the project?

CEO & Managing Director, Peter Coleman

US shale gas was not a relevant consideration in our decision. LNG marketing was not an impediment in considering the potential LNG development at JPP.

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In the 2012 results announcement you described Pluto as having returned an "outstanding performance". Are there any meaningful comparisons you can make for Browse with Pluto?

CEO & Managing Director, Peter Coleman

The positive comparison I would make for Browse is that we have built in the lessons we learnt from developing Pluto, particularly regarding the front-end planning activities such as the quality and cost assurance required. We've shown that Woodside and the Browse Joint Venture participants are very disciplined in their approach to new developments.

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The local Indigenous community was expected to receive a package of benefits and initiatives in excess of \$1 billion. Will the delay in the project affect your relationships with the local Indigenous groups or the Western Australian Government?

CEO & Managing Director, Peter Coleman

We have met our commitments to date under the native title agreement and we will sit down and review the agreement in line with the next steps in the evaluation of the Browse resources. Additionally we will continue to support a range of voluntary social investment activities in the West Kimberley. We'll be working with the Government and local communities to make sure we maintain these very positive relationships.

We continue to value our relationships with the State and Federal governments. We've appreciated the support of both governments in helping us to move the James Price Point option forward, but as I've explained the reason we're not proceeding with Browse at this stage is purely commercial and in no way reflects on the support that we have received from governments.

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Browse was one of the key drivers for 2013 listed in your 2012 annual results presentation. Can you sustain growth that is adequate to satisfy the Board and shareholders now that Browse has been delayed? Can you give an update on your other main development projects?

CEO & Managing Director, Peter Coleman

Our aim is to add value for shareholders by focusing on the total shareholder return targets that we have set. Browse is an important part of that growth, but our focus is on profitable growth and the James Price Point option does not provide adequate returns. As I've said, we'll now be looking at more commercial ways of developing Browse and we're hopeful that we'll be able to bring those opportunities forward in the near term.

Be assured we won't be chasing growth for growth sake; it is all about adding value. Rigor and discipline will continue to be applied as we execute our current projects, pre-FID developments and longer-term opportunities.

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In summary for Woodside, what important issues can shareholders and potential investors look forward to in 2013 across the Company?

CEO & Managing Director, Peter Coleman

Woodside has four main focus areas for 2013. The first is to ensure we execute our core operations to the highest standard; the second is to pursue and capture our growth opportunities; the third is to execute our capital management strategy; and finally to enhance our margins, particularly through LNG contract renegotiations.

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Thank you Peter.

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j) an announcement from Woodside about the company's failure to pursue the proposed Browse FLNG project

This is currently available at <https://www.woodside.com/docs/default-source/asx-announcements/2016-asx/23-03-16-browse-development-update.pdf> but is subject to change by the Proponent. A copy of the webpage is on the following pages.

ASX Announcement

Wednesday, 23 March 2016

ASX: WPL
OTC: WOPEY

BROWSE DEVELOPMENT UPDATE

Woodside, as a participant in the Browse Joint Venture, advises that following completion of front-end engineering and design (FEED) work, the Browse Joint Venture participants have decided not to progress with the development at this time considering the current economic and market environment.

Since FEED entry, Woodside has been focused on delivering targeted cost savings and value enhancements. While significant progress was made to improve project value, this has been offset by an extremely challenging external environment.

Woodside CEO Peter Coleman acknowledged the high quality of technical and non-technical work completed on the Browse FEED program to enable the Browse Joint Venture participants to reach this decision.

“We have undertaken a comprehensive and rigorous process to assess all elements of the development.

“The decision represents a disciplined approach to large-scale capital investment and is consistent with our requirements for a development concept to be commercially robust across a range of scenarios.

“Woodside remains committed to the earliest commercial development of the world-class Browse resources and to FLNG as the preferred solution, but the economic environment is not supportive of a major LNG investment at this time.

“Accordingly, we will use the additional time to pursue further capital efficiencies for Browse,” he said.

Woodside will now work with the Browse Joint Venture participants to prepare a new work program and budget to progress development activities.

Woodside intends to leverage the high quality work delivered to date, which includes the involvement of the State Government to agree key principles for domestic gas and supply chain arrangements and the State and Commonwealth Governments to manage maritime boundary changes.

Woodside remains focused on satisfying its work program commitments under the Browse retention leases. The Browse retention leases were renewed in 2015 and the current term of the leases ends in mid-2020.

Woodside’s participating interest in the Browse resources is 30.6% (net Woodside 2C share of 4.9 trillion cubic feet of dry gas and 142.6 million barrels of condensate) as reported in the Woodside 2015 Annual Report.

Notes on Petroleum Resource Estimates:

1. Unless otherwise stated, all petroleum resource estimates are quoted as at the balance date (i.e. 31 December) of the Reserves Statement in Woodside's most recent Annual Report released to ASX and available at <http://www.woodside.com.au/Investors-Media/Announcements>, net Woodside share at standard oilfield conditions of 14.696 psi (101.325 kPa) and 60 degrees Fahrenheit (15.56 deg Celsius). Woodside is not aware of any new information or data that materially affects the information included in the Reserves Statement. All the material assumptions and technical parameters underpinning the estimates in the Reserves Statement continue to apply and have not materially changed.
2. Woodside reports reserves net of the fuel and flare required for production, processing and transportation up to a reference point. For offshore oil projects, the reference point is defined as the outlet of the floating production storage and offloading (FPSO) vessel, while for the onshore gas projects the reference point is defined as the inlet to the downstream (onshore) processing facility.
3. Woodside uses both deterministic and probabilistic methods for estimation of petroleum resources at the field and project levels. Unless otherwise stated, all petroleum estimates reported at the company or region level are aggregated by arithmetic summation by category. Note that the aggregated Proved level may be a very conservative estimate due to the portfolio effects of arithmetic summation.
4. 'MMboe' means millions (10^6) of barrels of oil equivalent. Dry gas volumes, defined as 'C4 minus' hydrocarbon components and non-hydrocarbon volumes that are present in sales product, are converted to oil equivalent volumes via a constant conversion factor, which for Woodside is 5.7 Bcf of dry gas per 1 MMboe. Volumes of oil and condensate, defined as 'C5 plus' petroleum components, are converted from MMbbl to MMboe on a 1:1 ratio.
5. The estimates of petroleum resources are based on and fairly represent information and supporting documentation prepared by qualified petroleum reserves and resources evaluators. The estimates have been approved by Mr Ian F. Sylvester, Woodside's Vice President Reservoir Management, who is a full-time employee of the company and a member of the Society of Petroleum Engineers. Mr Sylvester's qualifications include a Master of Engineering (Petroleum Engineering) from Imperial College, University of London, England, and more than 20 years of relevant experience.

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k) a submission made by Woodside to a Western Australia Parliamentary Inquiry into the Western Australian Domestic Gas Policy

This is currently available at https://www.woodside.com/docs/default-source/sustainability-documents/transparency-documents/2023-government-submissions-reports/submission---woodside_inquiry-into-the-wa-domgas-policy.pdf but is subject to change by the Proponent. A copy of the webpage is on the following pages.

Please direct all responses/queries to:
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Woodside Energy Group Ltd.

ACN 004 898 962

Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia

11 August 2023

Economics and Industry Standing Committee
Parliament of Western Australia
Level 1, 11 Harvest Terrace
WEST PERTH WA 6005

Dear Chair

INQUIRY INTO THE WA DOMESTIC GAS POLICY

Woodside Energy Group Ltd (**Woodside**) welcomes the opportunity to contribute to the Economics and Industry Standing Committee's (**Committee**) Inquiry into the WA Domestic Gas Policy (**Policy**). This submission to the Committee is made by Woodside in its corporate capacity.

Woodside has also contributed to the submissions from the Australian Petroleum Production & Exploration Association and the Chamber of Minerals and Energy of Western Australia. We support these submissions' recommendations that there be no change to application of the Policy to offshore projects and increased transparency for the WA domestic gas market.

In making the attached submission, Woodside draws the Committee's attention to the following key points:

- Woodside supports the intent of the Policy to ensure reliable and affordable energy supply to WA households and businesses.
- Woodside supplies domestic gas to the WA market in support of the state's energy needs and continues to act in accordance with the commitments in our various agreements with the State Government.
- Over almost 40 years of operations in WA, Woodside has supplied domestic gas volumes equivalent to more than one third of our exported liquefied natural gas (**LNG**) volumes.
- Without development of future LNG projects, ongoing domestic gas shortages are forecast to become increasingly inevitable in WA.
- This includes the Woodside-operated Browse development, which is critical to resolving the forecast post-2030 gas supply shortage and supporting the state's long-term energy security.
- The State Government can ensure adequate availability of domestic gas into the future by providing stable policy and regulatory settings that facilitate the timely development of new energy supply.
- Strong government leadership is also needed to support community understanding around the role of gas in a stable energy transition.
- Flexible implementation of the Policy is essential to account for the unique aspects of each project and to allow the Policy to evolve in line with the state's needs.
- Transparency by all individual producers around historical and expected supply would improve accountability and confidence in the Policy.

Woodside will continue to work closely with the State Government on solutions that support reliable, competitively priced gas supply for WA into the future. Should you have any queries regarding this submission, please do not hesitate to contact me via the details provided above.

Yours sincerely

Liz Westcott
Executive Vice President Australian Operations

WOODSIDE ENERGY: SUBMISSION TO INQUIRY INTO THE WA DOMESTIC GAS POLICY

Woodside Energy (**Woodside**) is a leading global independent energy company and the largest energy company listed on the Australian Securities Exchange. We are proudly headquartered in Perth, and our Western Australian (**WA**) assets are fundamental to our global success. We provide energy that the world needs to heat and cool homes, keep lights on and support industry.

Woodside's WA-based projects make a significant contribution to the WA economy and community. For example, our operations support more than 3000 WA-based jobs and a significant local contractor workforce. More than \$1.1 billion in operational and capital expenditure from the Woodside-operated North West Shelf (**NWS**) Project was spent with WA-based businesses in 2022, while \$3.6 billion of contracts have been awarded within WA on the Scarborough and Pluto Train 2 projects. Woodside contributed \$2.7 billion in taxes and royalties to Australian governments in 2022. Royalties from the NWS Project contributed almost A\$1.4 billion (estimated) to WA Government revenue last financial year.

Woodside has been supplying reliable, competitively priced domestic gas to WA for almost 40 years. Our share of production from assets currently owned by Woodside is 3787 petajoules (**PJ**) of domestic gas, which is equivalent to 38% of our exported liquefied natural gas (**LNG**) volumes over this period.¹

We continue to supply the WA market in line with our LNG Project domestic gas agreements, and from the Macedon Project.² Woodside equity volumes from these projects accounted for approximately 16% of domestic gas supplied to the WA market in 2022.

Evolution of the WA Domestic Gas Policy

The WA Domestic Gas Policy (**the Policy**) is the primary mechanism by which the State has ensured the timely delivery of gas to the WA domestic market. Woodside supports the intent of the Policy to ensure reliable and affordable energy supply to WA households and businesses.

As a long-standing producer of domestic gas and exporter of LNG, Woodside has a history of active engagement with the State Government as it has iteratively applied the Policy.

Domestic supply obligations were initially given effect in State Agreement Acts negotiated between LNG project proponents and the State Government.

In October 2006, the Domestic Gas Policy was formalised, setting out three pillars:

- 1) reserving domestic gas equivalent to 15% of LNG production from each LNG export project;
- 2) developing and obtaining access to the necessary infrastructure (including a domestic gas plant, associated facilities and offshore pipelines) to meet domestic gas commitments; and
- 3) showing diligence and good faith in marketing gas to existing and prospective consumers.

The Policy states it will be applied flexibly by State Government. Woodside supports the WA Government maintaining flexibility to apply the Policy in a manner that recognises the specific circumstances of particular projects and the needs of State.

In 2020, the State Government further clarified the policy would not allow the export of gas via the existing WA pipeline network other than in exceptional circumstances, or consider LNG used to supply Australian east coast markets or international shipping as domestic gas.

Since its formalisation, the Policy has generally been implemented through domestic gas commitment agreements negotiated between LNG project proponents and the State, rather than State Agreement Acts.

Over the past decade, these agreements have become more prescriptive with regard to the timing of delivery of domestic obligation volumes. Whereas older agreements provide some timing flexibility by requiring 15% of LNG export equivalent volumes to be delivered to the domestic market over the life of a project, newer arrangements require approximate equivalence with the 15% to be maintained throughout the project's life.

¹ Includes volumes acquired as part of the merger of Woodside and BHP Petroleum in 2022, which contribute 1013 PJ (equivalent to 30% of LNG production) with pre-merger Woodside assets contributing the remaining 2,744 PJ (equivalent to 42% of LNG volumes).

² Macedon is a 100% domestic gas project, acquired in 2022 as part of Woodside's merger with BHP Petroleum.

As a result of this iterative application of the Policy, obligations differ between agreements and projects. Furthermore, some terms within these agreements may adapt elements of the Policy to accommodate project specific challenges or the prevailing economic conditions. The 2006 Pluto Domgas Arrangements are a case in point, which are discussed in further detail below.

Woodside acknowledges and continues to support the efforts of the Department of Jobs, Tourism, Science and Innovation (DJTSI) to progressively modernise the domestic gas agreements and standardise reporting requirements.

Woodside's Contribution to WA Domestic Gas Supply

Woodside's domestic gas agreements with the State Government underpin our commitment to the WA Domestic Gas Policy's objectives and contribution to state development. We are party to the following domestic gas agreements:

- *North West Gas Development (Woodside) Agreement Act 1979*
- *Pluto Domgas Arrangements (2006)*
- *Pluto Acceleration Domestic Gas Commitment Agreement (2021)*
- *Additional Domgas Commitment Agreement (2021)*
- *Wheatstone – Ashburton North State Development Agreement (Wheatstone Project) and Julimar-Brunello Domestic Gas Producer Agreement (2011)*
- *Scarborough Domestic Gas Commitment Agreement (2021).*

In respect of each of the projects in which Woodside is a participant, each joint venture (**JV**) participant markets their own gas separately according to their equity position in such projects.

In projects where Woodside also acts as Operator, Woodside's role is to develop, operate and maintain the facilities of each venture. In that capacity, Woodside does not have visibility over its partners' marketing activities or the extent to which they comply with their respective domestic gas obligations.

Woodside's contribution to the WA domestic gas market through each of these agreements is outlined the agreement summaries below.

North West Gas Development (Woodside) Agreement Act 1979 (NWS State Agreement)

The WA gas market was established through the NWS State Agreement negotiated with the State Government and NWS joint venturers, including Woodside. The NWS State Agreement provided the basis for the then state-owned electricity provider, the State Energy Commission of WA, to enter a 20-year offtake agreement with the NWS JV, partially underwriting the development of the project and the Dampier to Bunbury Natural Gas Pipeline (**DBNGP**). The NWS State Agreement has proven successful in establishing an LNG export industry in the Pilbara and securing long-term gas supplies for WA.

Prior to formal implementation of the Policy in 2006, Woodside (including pre-merger BHP Petroleum volumes) supplied domestic gas volumes equivalent to 50% of LNG export volumes over that period.

The State Agreement has been amended and updated several times, including in 2015 when the NWS JV assumed an additional domestic gas commitment, equivalent to 15% of the increase to its LNG export approval of up to 86 million tonnes (Mt). NWS JV companies, including Woodside, began supplying domestic gas against this "New Domgas" commitment in 2016 and marketing gas on an individual basis.

In addition, the 2015 amendment to the NWS State Agreement required future users of the NWS LNG facilities to enter into domestic gas commitments with the state consistent with the terms of the NWS State Agreement. The Pluto Acceleration and Waitsia approvals were provided on this basis.

Through to 2022, Woodside (including pre-merger BHP Petroleum volumes) has supplied 57 PJ of gas to the domestic market as part of the New Domgas commitment. This equates to 14.7 percent of LNG export volumes over the period. Prior to the merger with BHP Petroleum, Woodside domestic gas volumes were equivalent to 23.1% of LNG export volumes over the period.

Pluto Domgas Arrangements (2006)

Woodside and the State agreed to the Pluto Domgas Arrangements (PDA) in 2006, and the associated commitments took effect from May 2017, five years after the commencement of LNG production. Under the PDA, Woodside agreed to market and make available for sale domestic gas quantities linked to LNG production from the Pluto site subject to commercial viability.

These arrangements recognised the specific circumstances and challenging business case for the Pluto LNG Project at the time of final investment decision in 2007 and its significance to the state at that time. Pluto faced particular challenges as a single-train LNG project targeting only 4.3mtpa of LNG production, at the start of a period of significant cost escalation for the industry and the region.

Further, the composition of gas from the Pluto fields impacts the potential for large scale, commercial production of domestic gas at the site. Gas from these fields typically has a nitrogen content in excess of 8% along with a carbon dioxide content typically about 2%, which exceeds the maximum inert components allowed by the relevant regulations for the Western Australian pipeline gas network.

Woodside and its JV partners have to date implemented two domestic gas production facilities to make gas available domestically at the Pluto site:

- A pipeline gas export facility based on utilising an on-specification fuel gas stream, which has been operational since 2018 and is supplying up to 25 TJ/d of gas into the pipeline network for a range of customers³; and
- A trucked LNG export facility with an initial capacity of 0.1mtpa (approximately 15 TJ/d), which has been operational since 2021 and is supplying gas to remote mining facilities in the north west of WA.

In addition, since the initial project investment, Woodside has spent more than A\$2 billion to progress the expansion potential of the Pluto LNG facilities, including exploration and appraisal drilling, front-end engineering design and other studies, and site preparation works, and has now commenced the construction of the Pluto Train 2 facilities which include the installation of additional domestic gas capacity.

These significant investments reflect Woodside's ongoing commitment to market domestic gas under the PDA and that Woodside continues to meet its domestic gas commitments under the arrangements.

From 2017 through 2022, Woodside has supplied 23 PJ of gas to the domestic market from the Pluto LNG Project. Woodside continues to assess opportunities for further commercially viable supply of domestic gas from the Pluto site.

Pluto Acceleration Domestic Gas Agreement (2021)

As part of the arrangements for the processing of gas from the Pluto fields through the NWS infrastructure, delivered by the Pluto-KGP Interconnector, Woodside has agreed to produce 15% of these volumes as domestic gas.

Under this arrangement, additional supply typically in the order of 20TJ/d has been made available to the WA market during 2022 and 2023, with a total current commitment of 20.5PJ over the term of this agreement. This equates to 18.2 percent of LNG export volumes supplied through the Pluto-KGP Interconnector during this period.

Additional Domgas Commitment Agreement (2021)

Woodside has agreed to market and make available an incremental 45.6 PJ to the domestic gas market using its share of NWS gas reserves and infrastructure. This agreement also includes any remaining committed volumes from the Pluto Acceleration Domestic Gas Agreement.

This arrangement is expected to supply around 25TJ/d of additional supply to the WA market from 2025. The State considers Woodside's Additional commitment as a contribution towards the 2006 Pluto Domgas Arrangements.

³ Woodside is able to utilise a gas stream within Pluto's fuel gas system which allows for the production of up to 25 TJ/d of gas within the gas quality specifications of the Western Australian pipeline gas network.

Wheatstone – Ashburton North State Development Agreement (Wheatstone Project) and Julimar-Brunello Domestic Gas Producer Agreement (2011)

The Wheatstone Project's State Development Agreement requires domestic gas supply infrastructure to be in place and users of the LNG facilities to agree domestic gas commitments. Each Wheatstone JV participant has signed a Domgas Producer Agreement with the State. Woodside, as a participant in the Julimar Brunello and Wheatstone JVs, and the State entered into such a Domgas Producer Agreement in 2011.

The 200 TJ/d Wheatstone domestic gas facility was constructed and the first deliveries of gas commenced in March 2019. Initial capacity of the plant was 200 TJ/d but was later increased to 205 TJ/d. Wheatstone JV companies market gas on an individual basis. Through to 2022, Woodside has supplied 27 PJ from the Wheatstone domestic gas facility. Woodside is supporting the project Operator to further increase production capacity of the facility.

In April 2023, Woodside made a final investment decision on Julimar-Brunello Phase 3. The project, which involves the drilling of up to four development wells in the Julimar field and the installation of subsea infrastructure, demonstrates Woodside's ongoing investments in new supply. The Julimar-Brunello Domestic Gas Producer Agreement will continue to apply to these additional volumes.

Scarborough Domestic Gas Commitment Agreement (2021)

In November 2021, Woodside, as a participant in the Scarborough joint venture, entered into the Scarborough Domestic Gas Commitment Agreement and Scarborough Development Deed with the State.

Scarborough will add up to 225 TJ/d of new domestic capacity into WA, with first gas expected in 2026.

In April 2023, a 20-year gas sale and purchase agreement with Perdaman Fertilisers Pty Ltd (**Perdaman**) became unconditional following a positive final investment on its urea plant near Karratha, demonstrating Woodside's ongoing commitment to delivering domestic gas to support local jobs and investment in WA. Gas will be supplied from Woodside's portfolio and sourced primarily from Scarborough.

Macedon Domestic Gas Project

In addition to these domestic gas agreements, Woodside also makes a significant contribution to WA domestic gas supply through the Macedon Project.

Located near Onslow, the Macedon offshore field and onshore gas treatment plant produces gas exclusively for the WA market with current deliverability of 170 TJ/day. From project start up through to 2022, 444 PJ of gas has been supplied from Macedon.

The Macedon Low Pressure Operations project has commenced to improve offshore deliverability and extend the life of the Macedon domestic gas plant to the mid-2030s

Woodside Marketing Activities

Woodside primarily markets and makes available domestic gas from its portfolio rather than from specific facilities, providing us with flexibility to move volumes to where they are needed most. Woodside responds to market participants' requests for gas supply with consideration to the gas available within the portfolio.

In the quarter ending 30 June 2023, Woodside executed several natural gas sales agreements for the combined supply of approximately 80 petajoules of pipeline gas to WA domestic customers including retailers, commercial and industrial users. Delivery is expected to take place from Q4 2023 to the end of 2025.

In July 2023, Woodside issued a market wide expression of interest for supply to the WA domestic market over 2024 and 2025, providing transparency to market participants on Woodside's available domestic gas.

Woodside publishes realised prices in its quarterly shareholder reports. During the second quarter of the 2023 calendar year, the average realised price was A\$6.10 per gigajoule (**GJ**) in WA, compared to A\$12.60 / GJ in east coast Australia.⁴

⁴ [Second Quarter 2023 Report - woodside.com](#)

WA Domestic Gas Market Overview

The WA gas market, with different infrastructure constraints, demand profiles and regulatory frameworks, has not experienced the same supply and pricing issues as those recently experienced in the east coast market. Development of the industry in WA has demonstrated that delivery of domestic gas and LNG exports can co-exist in a way that delivers significant benefits for the state.

Demand

Geographically isolated from other Australian gas markets, WA has a comparatively small number of buyers and sellers with demand driven by large industrial users (84%) rather than retail customers (7%)⁵.

The gas generation demand profile has changed significantly with the WA Government's decision to retire State-owned coal-fired power generators by 2030. The Australian Energy Market Operator (**AEMO**) forecasts that renewable power generation will only partially compensate for the loss of coal-fired baseload power, with gas-fired baseload and firming capacity needed to support system stability and reliability. Separately, planned reductions in mining sector demand as a result of decarbonisation efforts are offset by higher expected demand for mineral processing and refining.

As a result, over the next decade electricity generation is expected to be the largest growing sector for gas demand and a key driver for the forecast supply shortfall from 2030. In its *2022 Gas Statement of Opportunities (GSOO)*, AEMO forecasts gas demand to grow at an average annual rate of 7.7% for the 10-year period to 2032.

Subsequent to publication of the 2022 GSOO, Perdaman made a positive final investment decision on its urea plant near Karratha. Demand associated with the Perdaman urea plant was not included in the 2022 GSOO forecast of demand.

Supply

Since the introduction of the WA Domestic Gas Policy, LNG exports have underpinned domestic gas supply.

Development of new gas projects in WA have created a more diverse and competitive market, however it remains relatively illiquid and concentrated compared to the more developed Australian east coast market and other mature jurisdictions (e.g. Europe and the US). While the Policy sustains low domestic gas prices for WA, helping to support industry and jobs, it challenges the investment attractiveness of domestic gas only projects.

The large mature reserves of the NWS and other projects that have underpinned supply to WA for the last several decades are in production decline. There is an abundance of offshore natural gas reserves located in proximity to the WA market in the Northern Carnarvon, Browse and Bonaparte Basins. However, these future offshore reserves are inherently more technically challenging and costly to commercialise due to their distance from shore and additional regulatory costs, such as those associated with emissions reduction.

As a result, WA's domestic gas market is forecast to be facing a tight supply-demand balance through to the end of the decade. Timely development of Woodside's Scarborough and Pluto Train 2 projects, which includes domestic gas infrastructure with total capacity of 225 TJ/d, will be critical to achieving a short-term rebalancing of the WA gas market from 2027.

Domestic gas from Woodside's proposed Browse to NWS development will be critical to resolving WA's longer-term gas supply shortage. Browse has the potential to deliver domestic gas to WA of more than 200 TJ/d, which is roughly equivalent to the shortfall that is forecast from the start of the 2030s in the 2022 WA GSOO.

The proposed Perth Basin projects could also be a significant source of new supply to the market, however government policy needs to be set appropriately to allow these proposed projects to come to market, as continues to be the case for all new gas developments.

Upstream production is only one part of the gas value chain, with supply also constrained by processing and transmission infrastructure. The WA market is characterised by a small number of pipelines and

⁵ AEMO, 2022 WA Gas Statement of Opportunities, page 25.

interconnectors, with limited pipeline capacity. Since the 2012 update to the Policy to include an infrastructure requirement, significant new domestic gas processing facilities have been developed with a current total nameplate capacity to 2040 TJ/d, exceeding average market demand of 1100 - 1500 TJ/d.⁶

However, the market is not immune from supply challenges, as evidenced by outages and supply disruptions experienced at three producing facilities between November 2022 and January 2023. In response to these events, energy producers and consumers adopted a shared responsibility approach for contributing to supply security. Woodside, in its capacity as NWS Project Operator, worked closely with the DBNGP operator by supplying an additional 200 TJ to support linepack.⁷ In addition, Woodside equity volumes were offered to the domestic market, with priority given to power generators and customers with no alternative supply options.

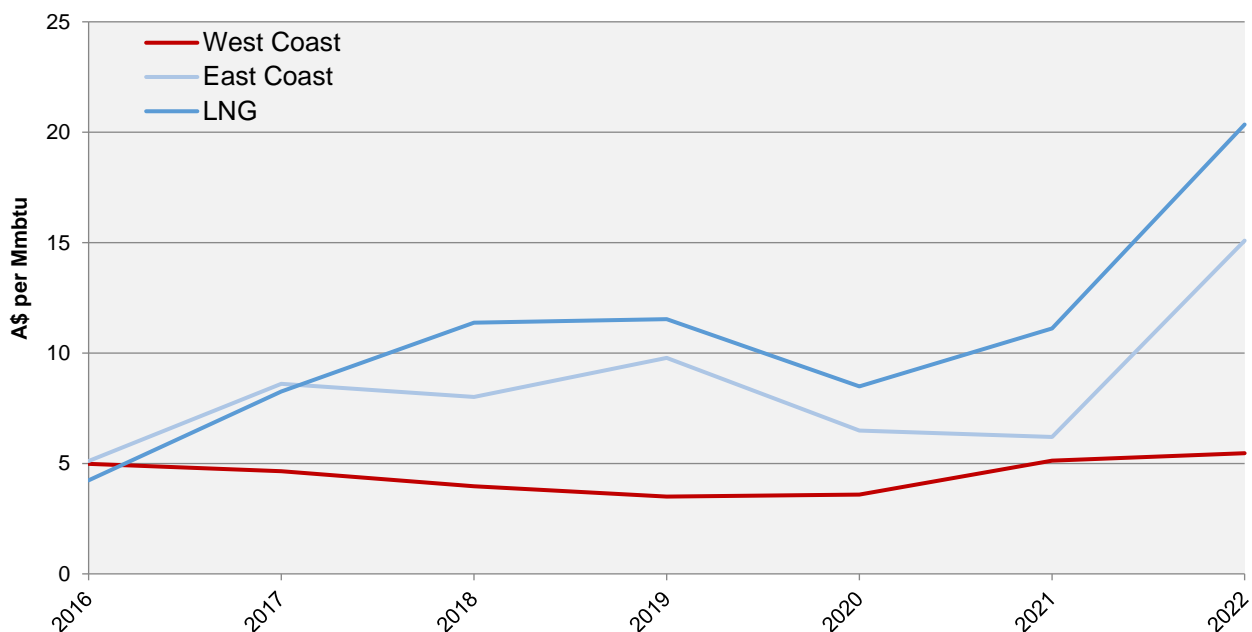
Price

WA domestic gas prices have increased since 2020 due to a decline in reserves from existing fields and an increase in gas-fired power generation demand. Despite this increase, WA prices remain below national and international benchmarks.

Figure 1 below presents average LNG prices for several key international gas markets and for the Australian west and east coast gas markets. This illustrates that:

- Gas prices in Australia (both east and west coast) have been significantly lower than international prices over an extended period;
- Prices in WA have typically been lower than prices in the east coast markets; and
- WA gas prices do not correlate with export markets.

Figure 1: Historic Annual LNG and Domgas Prices



Source: ABS, DMIRS, AER

These different gas price dynamics reflect the underlying differences in market structure, regulation, consumer profiles, fuel competition and supply opportunities in each market.

Data from the WA Department of Mines and Petroleum indicates that the average WA pipeline gas price in 2022 was approximately A\$5.46 / GJ ex-plant. The corresponding average WA LNG price for 2022 was A\$19.66 / GJ. As noted earlier in this submission, the realised price for gas supplied from Woodside's portfolio the WA market in Q2 2023 was less than half that of gas supplied to the east coast market.

⁶ AEMO WA 2022 GSOO, page 35

⁷ Linepack refers to the volume of gas effectively stored in a gas transmission pipeline to ensure customer demand can be met.

A majority of WA pipeline gas is supplied under bilateral, confidential contracts with fixed pricing typically linked to local inflation. In WA there is no transparent price for gas supplies and gas prices are determined between parties at the time a contract is negotiated. This is consistent with the Policy, which specifies that gas prices will be determined by negotiations between gas producers and consumers.

Recent increases to WA domestic gas prices are a response to a supply-demand imbalance, not an indication of market failure. Fundamental market economics dictate that available supplies of gas will be allocated according to willingness to pay. Further, WA's experience shows that price signals sent as a result of increased demand have stimulated development by making new supply projects commercially viable.

Inquiry Terms of Reference

Woodside welcomes the Terms of Reference for this Inquiry as a timely opportunity to review existing market mechanisms and government policies regarding WA's gas market. Ongoing supply of reliable and affordable gas will be a key component of energy security and a stable energy transition for WA.

1. The adequacy of mechanisms to ensure:

a. Timely delivery of gas into the domestic market

Since the WA Domestic Gas Policy's formalisation in 2006, the timely delivery of gas into the WA domestic market has been maintained as evidenced by the WA domestic gas market's historically low pricing.

The three pillars of the Policy have been especially effective in maintaining sufficient domestic gas production capacity and making volumes available to the market as and when required by buyers, including during times of supply disruption, as occurred from late 2022 when three domestic gas production facilities had unscheduled outages.

As noted earlier, LNG export projects have underpinned domestic gas supply in WA. This has in turn supported the growth of local gas-intensive industries and the overall WA economy. Without the ability to access international markets through LNG exports, it would not have been economically viable to develop WA's large offshore gas resources as the domestic market is not large enough to justify pure pipeline-based developments.

However, with a number of the state's large offshore gas fields now in production decline, ensuring the timely delivery of gas into the future should prompt reconsideration of the current Policy's restrictions on development of onshore resources. Emerging capacity at the NWS Project's KGP is available for utilisation by onshore gas proponents pre-2030, enabling these projects to provide competitively priced domestic gas to the market.

The commencement of third-party gas processing at KGP in March 2022 was an important development for the future of WA domestic gas supply, enabling volumes from new projects to be processed at the established KGP facility and supplied to local customers. In December 2022, Western Gas' Equus Project became the third project proposing to supply domestic gas through KGP through a non-binding agreement with the NWS Project participants.⁸

Browse is the most credible large backfill opportunity to fill long-term KGP ullage because of the quantity and compatibility of the composition of the gas resource to the facilities, and if developed will be critical to resolving WA's forecast post-2030 gas supply shortage. The Browse to NWS development also has the potential to deliver a range of broader economic benefits for the people of WA by:

- generating substantial royalties and other government revenues;
- providing significant employment, training and business opportunities;
- supporting ongoing employment and community benefits in the Pilbara; and by
- supporting associated Pilbara industrial decarbonisation opportunities including carbon capture and storage.

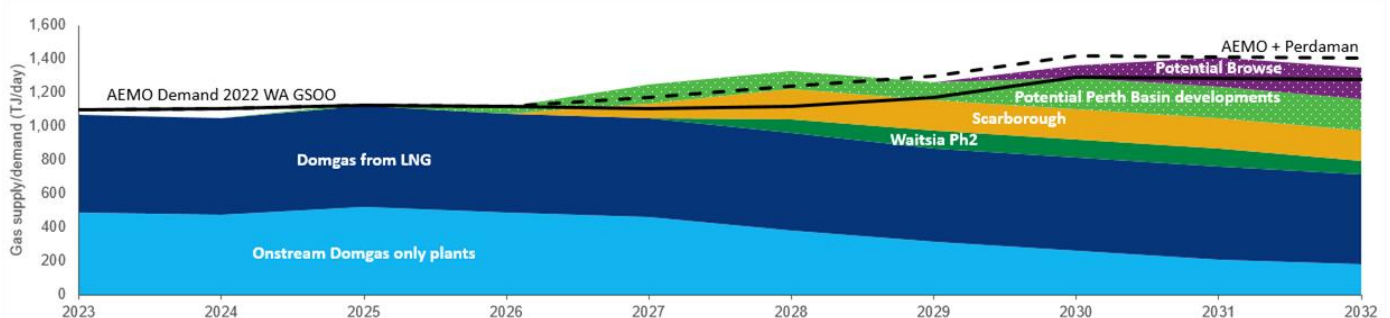
⁸ Following the Woodside-operated Pluto LNG and Mitsui E&P-operated Waitsia Project.

The current domestic gas processing infrastructure at KGP was put in place at a time when the NWS was the sole supplier of domestic gas in Western Australia.⁹ The NWS JV are demonstrating a commitment to optimising and refurbishing domestic gas infrastructure at KGP to underpin this long-term domestic gas supply from Browse and other third-party projects. However, with NWS reserves in decline, and without additional third party gas supply, it will no longer be economic to continue operating all domestic gas and LNG processing infrastructure at KGP.

The NWS JV continues to evaluate opportunities to optimise its domestic gas infrastructure so it remains available for the requirements of the JV participants, and can be operated in an efficient, cost-effective and lower-carbon manner. As ullage increases, the NWS JV will need to assess taking an LNG train offline in 2024. In the absence of new third party gas, staged infrastructure retirements would follow, with only 2 of 5 LNG trains at KGP to remain operational by 2030.

Without the ability to utilise existing infrastructure at KGP, Browse becomes commercially challenged and no longer presents as a long-term potential domestic supply opportunity for WA.

Figure 2: Forecast WA gas market balance 2023 - 2032



Sources: Wood Mackenzie and AEMO WA 2022 GSOO

Notes:

1. AEMO Demand 2022 WA GSOO, does not include Perdamman volumes
2. New Perth Basin developments are supply estimates for discovered fields: Lockyer Deep, West Erregulla, South Erregulla
3. Data was sourced from Woodmac's "Western Australia's domestic gas outlook: supply demand balance 2023" Insight Report and "Browse LNG – Upstream" Asset Report

b. Transparency of supply and prices of gas available to the domestic market

Woodside reports annually to the Minister for State and Industry Development, Jobs and Trade on its performance in relation to the three pillars of the policy as set out in respective domestic gas agreements. DJTSI aggregates inputs from annual reporting submissions on a project basis for publication on its website.

In relation to the market more broadly, there is limited information about contract pricing, available supply or potential buyers. Contracts are typically confidential to the parties involved. Gas is largely sold through bilateral medium and long-term contracts, with a small amount of volumes sold on a spot / short term (less than one year) basis. Liquidity and depth of the spot market in WA is relatively limited, with AEMO estimating that only approximately 3–5% of total gas consumption in WA is traded on a short-term basis.

Recommendation 14 of the 2011 Inquiry into Domestic Gas Prices (**2011 Inquiry**) to introduce a Short Term Trading Market in Western Australia has not been implemented. Woodside is supportive of such a market being introduced. Currently there are two local short-term trading platforms in WA which have increased transparency and liquidity in the short-term market. However volumes traded remain relatively limited, as a majority of WA domestic gas customers are large baseload users that require security of supply and pricing to underpin investment in projects.

In addition to these platforms, many suppliers and customers transact spot / short-term volumes on a bilateral basis under master sales agreements. As a result, liquidity and depth of the spot market in WA is relatively limited.

⁹ Two Domestic Gas processing trains, each capable of processing 500 TJ per day, operating with 100% redundancy.

As envisaged by Recommendation 15 of the 2011 Inquiry, the Parliament of WA enacted the *Gas Services Information Act 2012* to provide for the establishment and operation of a gas bulletin board and the preparation and publication of a gas statement of opportunities.

Woodside considers the WA Gas Bulletin Board (**GBB**) a useful tool for gas producers and consumers, albeit with opportunities for improvement as outlined in Term of Reference 2 below. It provides information regarding the short-term status of the WA domestic gas market, including information on current domestic gas supply, demand and transmission and storage capacity. Combined with the GSOO, an annual statement of the medium to long-term status of the domestic gas market in WA, market participants (both buyers and sellers) are better placed to assess the market, and more efficiently transact.

2. The state government's role in ensuring adequate availability of domestic gas into the future, particularly over the short to medium term.

The key role for government in the WA gas market is to implement policies that support an open and transparent market, in which prices incentivise investment in new supply. The most significant benefit to WA gas consumers will likely come from policy measures that encourage investment in new gas projects and support the long-term growth of a competitive, transparent energy market.

While Woodside notes the forecast tightness in the WA market in the short to medium term, the clear challenge for WA's gas market – and the state's energy security more broadly – lies beyond 2030 as coal-fired power generation exits the system. For WA to execute a stable energy transition that meets net zero commitments while not undermining the prosperity of the state and living standard of its people, gas must continue to play an important role. It is incumbent upon the State Government to support this through policies that encourage new long-term investments in WA's offshore and onshore gas reserves.

Improving Transparency

An important role for government is ensuring transparency in the market for both buyers and sellers of domestic gas and providing the certainty required for long-term infrastructure investment. Woodside sees the following items as providing an additional level of transparency to those already provided by current policy settings:

Gas Bulletin Board

- At present there is a two-day delay in publishing data on events impacting the market. Improving timeliness of information provided on the GBB would better inform decision making by market participants.
- Therefore, publishing actual available domestic gas processing capacity that can be accessed by project proponents, rather than nameplate capacity as the GBB currently displays, would improve the ability of participants to respond to such events.

Domestic Gas Agreements

- Versions of the domestic gas agreements between the State and project proponents are already made public.
- Noting this, for exporting projects subject to a Domestic Gas Agreement, each owner or joint venture participant's domestic gas supplied under the agreement could be made public on an annual basis.

Market Transparency

- All individual producers could be required to publish historical domestic gas production on an annual basis and publish a non-binding, indicative forecast of what they expect to supply to the market over the next time horizon (a more accurate forecast than the GSOO forecast capacity).
- However, it is critical to apply consistent reporting requirements across all market participants, not just domestic gas commitment holders, to avoid creating an asymmetry of information and the potential for competitive disadvantage for some participants.

Policy and regulatory enablers

Woodside intends to continue making long-term energy investments in WA and supply energy to local homes and industry that is reliable, affordable and lower carbon. This will support WA continuing its role the engine room of the Australian economy as it transitions to a lower-carbon future.

With forecast demand for gas in WA far exceeding available supply by the end of the decade, active support to bring new gas projects on-line is critical. For example, to meet a start-up window at the beginning of the 2030s for a development such as Browse, commercial decisions and regulatory approvals need to occur now, requiring State Government focus and commitment beyond the current electoral cycle.

Confidence to make long-term investments in new gas supply relies on stable and predictable policy and regulatory settings that support timely project development. In line with this, Woodside recommends the State Government:

- Ensures adequate resourcing for project facilitation and assessment of primary and secondary approvals for major gas and other energy projects, including associated decarbonisation activities;
- Provides greater timeline certainty around the completion of assessments for key approvals, noting that protracted approvals processes delay the responsiveness of supply to increased demand, resulting in higher prices for consumers;
- Advocates as appropriate for the Commonwealth to streamline relevant approvals processes and similarly progress time-critical approvals to develop new gas supply and support decarbonisation initiatives in a manner consistent with legislative and regulatory requirements;
- Leads an informed public discussion on the legitimate and necessary role of gas in WA's energy transition.

Such stable and supportive policy settings that encourage new investment in WA gas supplies will become increasingly important to avoid the market disruptions and resulting policy interventions recently experienced in eastern Australia.

Woodside continues to advocate that the Australian Government's Mandatory Code of Conduct including reasonable price provision should not apply to the WA gas market, recognising it is physically separate and not subject to the same supply and pricing issues. While these differences have been recognised in consultation, WA has not been expressly excluded from the implementation scope.

Woodside notes the revised Australian Domestic Gas Security Mechanism provisions now apply to WA. This increases the imperative for industry and the State Government to work cooperatively to ensure the domestic market continues to be well supplied in future years, avoiding interventions that risk undermining investor and customer confidence.

In addition, it is vital the State Government maintains its flexible approach to applying the Policy to account for the unique circumstances facing each project. A prescriptive approach risks rendering projects commercially unviable and limiting potential supply, not only for the domestic market, but also for key international partners who rely upon LNG from WA to power homes and industries and decarbonise their economies.

Woodside also supports flexibility to enable the Policy to evolve in line with the State's changing energy requirements. This includes updating the Policy to allow onshore gas developments to export a limited portion of production, thus incentivising new gas resources to be developed and alleviating the significant forecast supply shortfall in the WA gas market following the retirement of coal-fired power generation.

Alongside Woodside's oil and gas business we are working hard to expand new energy products and lower-carbon services that Woodside can offer to new and existing customers. We are doing this in line with our climate targets to reduce our net equity Scope 1 and 2 greenhouse gas emissions by 15% by 2025 and 30% by 2030, towards our aspiration to achieve net zero by 2050 or sooner.

Woodside has also set a target to invest US\$5 billion in new energy products and lower-carbon services by 2030.¹⁰

To support investments in lower-carbon projects that will assist WA's energy transition and create new energy export industries for WA, Woodside also recommends the WA Government work with industry to define an offsets regime that credits gas producers for assisting customers to transition to lower-carbon energy sources, and clarify how the Policy will interact with the production of new energy fuels including hydrogen and ammonia.

Given the imperative to progressively reduce operational emissions, Woodside also encourages the WA Government to facilitate necessary enablers to support industry to decarbonise gas supply including:

- Making available 'shovel-ready' land for lower-carbon projects, concentrated in strategic areas;
- Coordinating the planning and development of new common-user infrastructure, particularly electricity transmission and pipelines;
- Initiatives to support WA-based lower-carbon project proponents access markets and supply chain opportunities; and
- Initiatives to encourage skills and local workforce development in lower-carbon industries.

3. *The findings and recommendations of the 2011 Inquiry into Domestic Gas Prices, prepared by the previous Economics and Standing Committee (2008-2013), to the extent that they are relevant to the current Inquiry's terms of reference 1 and 2.*

Woodside notes the commentary on the findings and recommendations of the 2011 Inquiry in the Australian Petroleum Production & Exploration Association's submission, of which Woodside is broadly supportive. We also agree with the view expressed in the Chamber of Minerals and Energy of WA's submission that this Inquiry should be forward looking in its recommendations, noting the substantial structural changes in natural gas and LNG markets domestically, nationally and internationally over the past decade.

We have commented on recommendations 14 and 15 of the Inquiry in our feedback on Term of Reference 1 above. For the purpose of this submission, we also would like to draw the Committee's particular attention to the following 2011 Inquiry recommendations:

Recommendation 3: The flexibility within the state's domestic gas reservation policy should be maintained unless an independent cost-benefit analysis demonstrates that a strict reservation of 15 per cent of the gas from each LNG project for the domestic market represents a more valuable and efficient use of the resource.

Woodside notes that such cost-benefit analysis has not been conducted. However, analysis from a number of sources has found that diversion of gas to lower-value uses can result in an opportunity cost for the local economy, and net economic cost from lost export revenues.¹¹

The 2011 Inquiry also recognised that "great care needs to be exercised when determining appropriate volumes to be held for the domestic market", noting that "a rigid application of a 15 per cent reservation obligation risks flooding the local market with more gas than it genuinely needs, thus driving prices down to a level where development again becomes uneconomic for current and prospective producers".

Woodside endorses this finding and believes that ongoing flexible implementation of the Policy is essential to account for the unique aspects of each project, and to allow the policy to evolve in line with the state's needs

¹⁰ Target is for net equity Scope 1 and 2 greenhouse gas emissions, relative to a starting base representative of the gross annual average equity Scope 1 and 2 greenhouse gas emissions over 2016-2020 and may be adjusted (up or down) for potential equity changes in producing or sanctioned assets with a final investment decision prior to 2021. Further information on definitions and basis of calculation are provided in our [Climate Report 2022](#). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment.

¹¹ Detailed analysis on the policy includes

- ACIL Allen 2014, *Domgas Reservation Policy: Review of Literature and Policy Recommendations*.
- Deloitte Access Economics, 2013 *The Economic Impacts of a Domestic Gas Reservation*,
- Economic Regulation Authority 2014, *Inquiry into Microeconomic Reform in Western Australia: Final Report*. 30 June 2014.
- Neill, K 2015. *Western Australia's Domestic Gas Reservation Policy: The elemental economics*, University of Western Australia Business School Discussion Paper.

through the energy transition. Woodside's own track record has demonstrated a willingness to be flexible above mandated requirements and to help the government stabilise and balance the market when required.

Recommendation 5: The Department of State Development commence discussions with the North West Shelf Joint Venture to obtain a commitment from the joint venturers that production capacity at the Karratha Domestic Gas Plant will continue at current levels, as per the terms of the existing State Agreement, until at least 2025. Scope should remain open within the agreement to allow third party gas processing at the Karratha Gas Plant should North West Shelf reserves prevent full production capacity from being maintained after 2020.

Woodside notes that subsequent to the 2011 Inquiry, the NWS JV assumed a new domestic gas commitment agreement in 2015, in exchange for an 86 Mt LNG export approval. The NWS JV began supplying domestic gas against the commitment in 2016 and market gas on an individual basis. While daily volumes of domestic gas delivered from KGP have declined due to a more diverse market and expiry of legacy joint marketing contracts, domestic gas infrastructure of 630 TJ/d capacity remains in place and available.

As foreshadowed by the 2011 Inquiry, processing of third party gas through the KGP domestic gas infrastructure commenced in 2022, under the Pluto Acceleration Domestic Gas Commitment Agreement. The Waitsia Joint Venture Domestic Gas Commitment Agreement was also approved in 2020 to enable Waitsia domestic gas to be processed at KGP. Updates to the Policy in 2020, preventing exports of any portion of onshore gas reserves other than in exceptional circumstances, significantly restricts the ability of future third party gas to be processed at KGP.

As part of Woodside's proposed Browse to NWS development, domestic gas volumes of more than 200TJ/d could be processed through KGP infrastructure, demonstrating the long-term value of this facility to the WA energy market. Without timely development of Browse, the current domestic gas infrastructure of 630 TJ/d cannot be maintained long term.

Conclusion

Each of Woodside's LNG projects are different in terms of domestic gas commitment arrangements and supply outcomes, with the State Government's flexible application of the WA Domestic Gas Policy supporting these projects to come online. As a result Woodside has been, and continues to be, a significant supplier of domestic gas to WA under Policy arrangements that to date have ensured the market has been well supplied.

However, the large reserves that have provided an abundance of gas to WA are in production decline. Given its direct link to LNG production, for the Policy to continue to be successful in underpinning domestic energy security, governments at a state and national level will need to ensure predictable policy settings and regulatory processes that enable the timely development of new LNG projects.

Woodside believes the near-term supply challenges identified in AEMO's forecasting can be effectively addressed by government and producers working together on practical solutions to meet any shortfall that may emerge. An exclusive focus on WA's near-term energy security, while important, ignores the more significant challenge of energy security from the end of this decade.

The 2030s may appear distant from today. However, the delivery of major gas developments takes years. There is a risk of an energy crisis emerging in WA from the end of this decade if decisions are not made now to enable Browse and other large gas resources to progress. This requires government, industry and the community working together to recognise the role of gas in a stable energy transition and ongoing prosperity for WA.

l) an announcement by Woodside about some preliminary agreements to process third party gas at the NWS Facility

This is currently available at <https://www.woodside.com/docs/default-source/media-releases/north-west-shelf-venture-signs-preliminary-agreements-to-process-third-party-gas.pdf> but is subject to change by the Proponent. A copy of the webpage is on the following pages.



Media Release

Wednesday, 7 November 2018

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NORTH WEST SHELF VENTURE SIGNS PRELIMINARY AGREEMENTS TO PROCESS THIRD-PARTY GAS

The North West Shelf Joint Venture has signed non-binding preliminary agreements with the Browse Joint Venture and Chevron, the leaseholder of the Clio-Acme fields, for the processing of their respective offshore gas resources through the North West Shelf (NWS) facilities on Western Australia's Burrup Peninsula.

Woodside CEO Peter Coleman said the preliminary agreements were a key step toward the realisation of the Burrup Hub concept, which will extend the operating life of the NWS Project's Karratha Gas Plant for decades beyond 2025.

"Central to our vision for the Burrup Hub is the transition of the Karratha Gas Plant into a third-party tolling facility as the NWS Joint Venture fields reach the end of their lives.

"The Browse Joint Venture will be the anchor tenant underpinning that transition and this preliminary agreement enables the participants to progress toward an earlier final investment decision to develop the gas resource, targeted for 2020.

"Gas from Clio-Acme is planned to be brought to the Burrup Hub through the Woodside-operated Pluto offshore infrastructure and then transported via the proposed Pluto-NWS Interconnector pipeline to be processed at the Karratha Gas Plant.

"The Burrup Hub will unlock the future value of the NWS and Pluto infrastructure by ensuring these world-class assets continue providing returns to the nation, state and local communities, and the participants' shareholders, for many years to come," he said.

The preliminary agreements were executed at a ceremony in Perth on Tuesday, 6 November 2018. The signatories will now continue negotiations to reach binding, fully termed agreements.

Woodside is the operator of the North West Shelf Project, Browse Joint Venture and Pluto LNG.

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m) information from Woodside and the Department of Climate Change, Energy, the Environment and Water publicly released via a Freedom of Information request

FOI LEX-75951 is available at

<https://www.dcceew.gov.au/sites/default/files/documents/75951.pdf> and FOI LEX-75512 is available at <https://www.dcceew.gov.au/sites/default/files/documents/75512.pdf>.

n) the approved Greenhouse Gas Assessment Permits for G-10-AP and G-8-AP

The approved Greenhouse Gas Assessment Permit for G-10-AP is available at

<https://public.neats.nopta.gov.au/Open/Title?titleNumber=G-10-AP&action=downloadMemorialDocument&applicationId=8e03d985-7f6c-4a72-8559-2414a7c6d10e> and the approved Greenhouse Gas Assessment Permit for G-8-AP is available at <https://public.neats.nopta.gov.au/Open/Title?titleNumber=G-8-AP&action=downloadMemorialDocument&applicationId=3420780d-ab1d-4ffe-a90e-49aed55ce2a1>.

o) Woodside's Annual Reports for 2019, 2020, 2021 and 2022

The following Woodside Annual Reports are available at the following links:

- 2019 Annual Report – [https://www.woodside.com/docs/default-source/investor-documents/major-reports-\(static-pdfs\)/full-year-2019-results/annual-report-2019.pdf](https://www.woodside.com/docs/default-source/investor-documents/major-reports-(static-pdfs)/full-year-2019-results/annual-report-2019.pdf)
- 2020 Annual Report – [https://www.woodside.com/docs/default-source/investor-documents/major-reports-\(static-pdfs\)/2020-full-year-results-and-annual-report/2020-woodside-annual-report.pdf](https://www.woodside.com/docs/default-source/investor-documents/major-reports-(static-pdfs)/2020-full-year-results-and-annual-report/2020-woodside-annual-report.pdf)
- 2021 Annual Report – [https://www.woodside.com/docs/default-source/investor-documents/major-reports-\(static-pdfs\)/2021-full-year-results/annual-report-2021.pdf](https://www.woodside.com/docs/default-source/investor-documents/major-reports-(static-pdfs)/2021-full-year-results/annual-report-2021.pdf)
- 2022 Annual Report – [https://www.woodside.com/docs/default-source/investor-documents/major-reports-\(static-pdfs\)/2022-annual-report/annual-report-2022.pdf](https://www.woodside.com/docs/default-source/investor-documents/major-reports-(static-pdfs)/2022-annual-report/annual-report-2022.pdf)

p) a newspaper article from WA Today dated 25 August 2024 containing information about negotiations between the NWS Joint Venture and the Browse Joint Venture

This is an article written by Peter Milne and published by WA Today on 25 August 2024 titled “Carbon storage sets approval for Woodside’s Browse gas project back to square one”. The article is available at <https://www.watoday.com.au/national/western-australia/carbon-storage-sets-approval-for-woodside-s-browse-gas-project-back-to-square-one-20240820-p5k3xm.html>.

q) a newspaper article from the Sydney Morning Herald dated 3 April 2023 containing information about negotiations between the NWS Joint Venture and the Browse Joint Venture

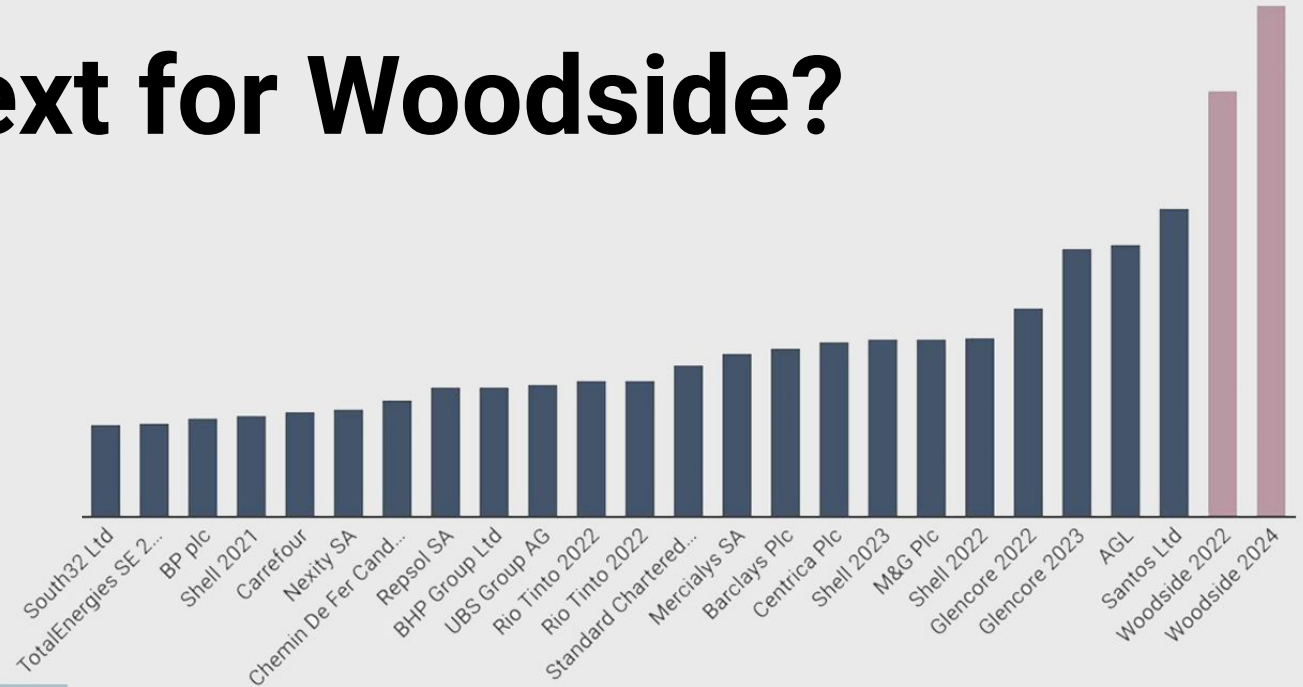
This is an article written by Peter Milne and published by the Sydney Morning Herald on 3 April 2023 titled “BP to grab biggest slice of Woodside’s \$30b Browse gas project”. The article is available at <https://www.smh.com.au/business/companies/bp-to-grab-biggest-slice-of-woodside-s-30b-browse-gas-project-20230328-p5cvzg.html>.

r) results of independent analysis by the Australasian Centre for Corporate Responsibility about the economic cost of the Browse to NWS Project

This presentation is currently available at https://www.accr.org.au/downloads/whats-next-for-woodside_01082024.pdf. A copy of the presentation is on the following pages.

What's next for Woodside?

August 2024



Executive Summary

At Woodside's 2024 AGM, a majority (58%) of shareholders voted against the company's Climate Transition Action Plan (CTAP). This is the largest vote ever against a company climate plan, superseding the previous record of 49%, which was set by Woodside last time it put its climate plan to shareholders.

This research considers how Woodside can deliver a credible strategy for managing climate risk and securing shareholder value.

It finds that ceasing development of its high-cost, high-emissions, pre-FID greenfields gas projects offers Woodside a significant opportunity to enhance shareholder value and reduce exposure to climate risk. A capital allocation framework that returns free cash flow to investors currently offers more value and less risk than fossil fuel production growth.

The recent acquisition of Driftwood LNG adds another long-duration, high-cost, high-emissions project to Woodside's pre-FID portfolio - underscoring the urgent need for a reassessment of its current company strategy.

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Key findings

An alternative capital allocation strategy appears to be more attractive.

Key findings

- Woodside's pre-FID greenfields gas projects are not Paris-aligned or low-cost.
 - Browse is more expensive than 70% of the world's unapproved gas projects; Sunrise and Calypso are even more expensive.
 - Share buybacks would deliver 140% more NPV upside than executing Browse and Sunrise.¹
 - Not developing Browse, Sunrise and Calypso would move Woodside towards Paris alignment by avoiding 80% of the emissions from its pre-FID upstream portfolio.
- Like Trion, the recent Driftwood announcement is another example of Woodside pursuing a long-duration, high-capex and uncompetitive project. Driftwood is more expensive than 76% of other pre-FID US LNG projects.
- Woodside's track record on exploration is poor. It hasn't made a major discovery since 2005 and this has led to Woodside paying more to find oil and gas resources than it costs to buy developed reserves.
- Oil and gas has underperformed the broader market for more than a decade, and Woodside has underperformed its peers.
- Ceasing fossil fuel exploration and development could create >\$4 billion more NPV upside than if Woodside executed its current pre-FID upstream oil and gas portfolio.

** The analysis uses independent data from Bloomberg, the IEA and Rystad Energy. Rystad Energy has verified that the data and methodologies have been used appropriately, but is not responsible for our assumptions or conclusions.*

1. Even though Woodside is actively progressing Calypso, it is excluded since it has a negative NPV based on Rystad data and assumptions.

Woodside's pre-FID greenfields gas projects are not Paris-aligned or low cost

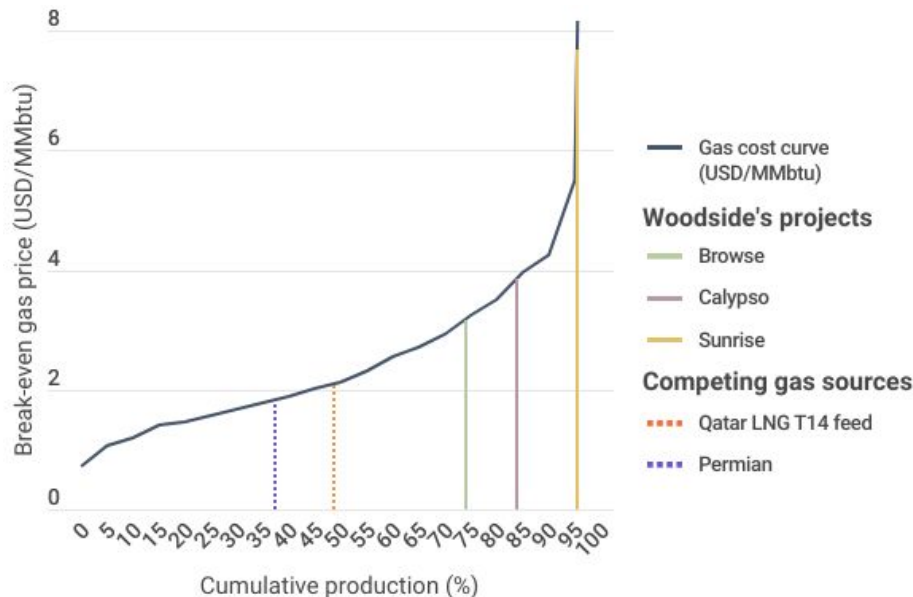
Browse:

- is more expensive than 70% of the world's unapproved gas projects
- over 50% more expensive than sanctioned Qatar and unconventional Permian projects
- makes up half of Woodside's upstream pre-FID portfolio by capex, production and emissions
- has not been developed, despite having being discovered in the 1970s, had multiple FEED studies completed and suffered one negative FID
- is not Paris-aligned.

Sunrise and Calypso:

- are even more expensive than Browse
- are being progressed by Woodside despite being classified by Rystad as 'uncommercial' or commercial 'uncertain'.

Woodside's pre-FID gas projects are high cost



Recommendations

Investors have voiced discontent with Woodside's climate plan for several years, but Woodside has not responded with material changes.

1. We think it is now appropriate for investors to become more specific and to challenge Woodside's executives and board on allocating capital to:
 - pre-FID, long-duration, high-cost, high-emission, low-value projects, specifically Browse, Sunrise, Calypso and Driftwood
 - oil and gas exploration, especially considering Woodside's poor track record.

Unless these points are addressed, it is not possible for Woodside to produce a credible climate transition plan. However implementing these changes is likely to enhance shareholder value.

2. In addition, investors should assess whether the board has the right mix of high-calibre and appropriately skilled directors, with the requisite judgement to serve shareholder interests during the energy transition.

Is oil and gas production growth a value-accretive strategy?

The oil and gas sector has underperformed the broader market for more than a decade, and Woodside has underperformed its peers.

Temporary periods of sector outperformance against the broader market have correlated with an increasing oil price, not production growth.

In the context of a forecast peak in oil and gas demand, and with Woodside using more bullish investment assumptions than its peers, production growth is a high-risk strategy.

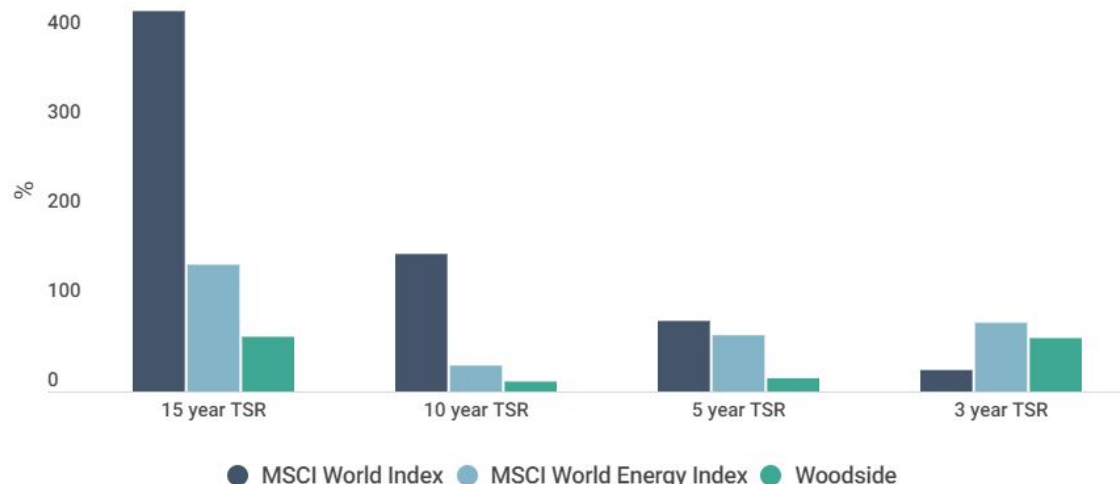
Oil and gas has underperformed the broader market and Woodside has underperformed the sector for more than a decade

Despite delivering significant cash flow, the oil and gas sector has underperformed the market for a sustained period (see chart).

The exception is the last three years, during which the oil and gas sector has been boosted by supply disruptions resulting from the Ukraine war.

Woodside has consistently underperformed the sector.

Oil and gas has underperformed the broader market, except when supported by increasing oil prices¹



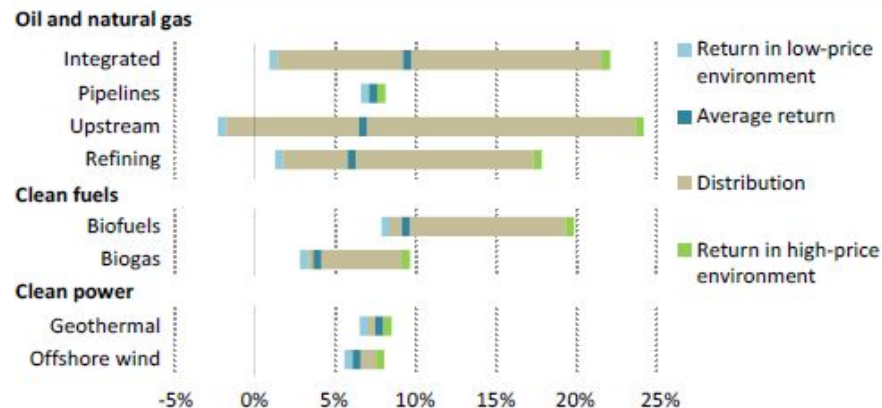
1. Periods refer to calendar years finishing on 30 June 2024. Calculated on a USD basis.

The oil and gas sector is highly cyclical with poor returns on capital

The IEA calculated that Return on Capital Employed (ROCE) from 2010 to 2022 for the oil and gas sector has been 6-9% p.a. depending on the subsector.

These returns, except for pipelines, are also highly volatile.

Through the cycle ROCE <10% for the oil and gas sector¹



IEA, CC BY 4.0

Investment opportunities in clean energy can yield average returns that are similar to those of the oil and gas industry and, for clean power, are much less volatile.

IEA, The Oil and Gas Industry in Net Zero Transition, p88

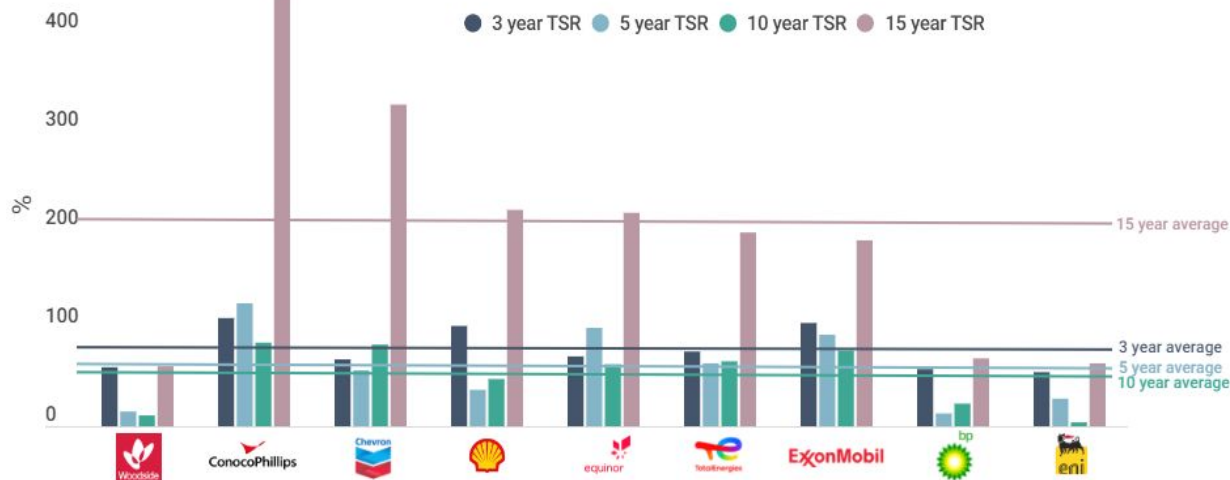
1. IEA Notes: High-price environment is 2022 (oil price >\$95/bbl, imported natural gas price >\$15/MMBtu); low-price environment is 2016 (oil price <\$50/bbl, imported natural gas ~\$6/MMBtu). For clean power technologies, high-price environment is 2014 and low-price environment is 2020. Source: IEA analysis of a sample of 800 companies from 2010 to 2022 based on data from S&P global (2023).

Woodside has delivered lower returns than peers

Relative to a group of international peers Woodside has:

- delivered the lowest TSR over three years
- underperformed the peer group average over 5, 10 and 15 years (all periods).

Woodside has underperformed its peers' total shareholder returns¹



Bloomberg Finance LP, Used with permission of Bloomberg Finance LP

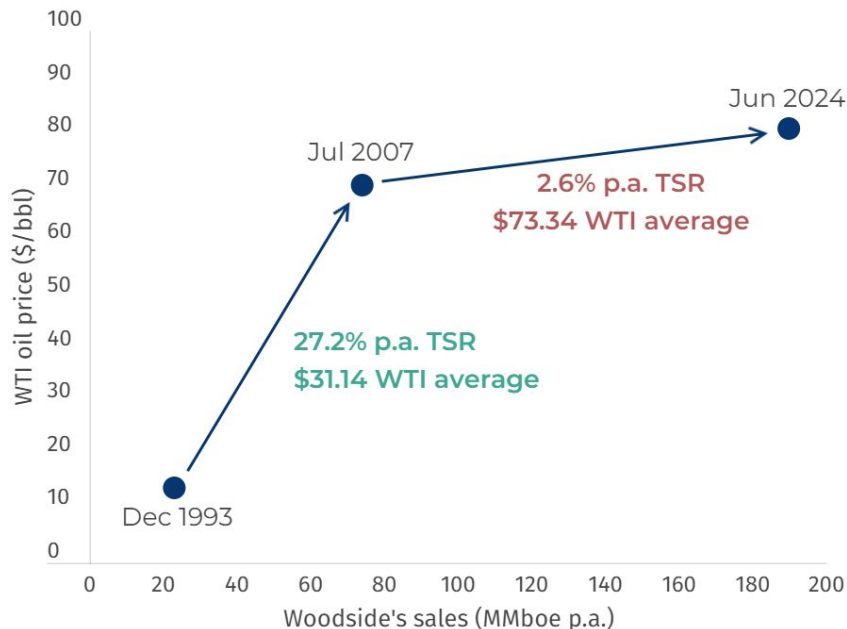
1. Periods refer to financial years finishing on 30 June 2024. Calculated on a USD basis.

Over the long-term, Woodside has underperformed except when supported by oil price growth

Woodside has generated strong TSR when the oil price has risen rapidly.

However, when the oil price has grown more slowly, TSR has been sluggish. Woodside has generated 2.6% p.a. TSR since making FID on Pluto in July 2007. This is despite production tripling.

Production growth on its own, does not seem to deliver strong returns



Company disclosures, Bloomberg Finance LP, Used with permission of Bloomberg Finance LP

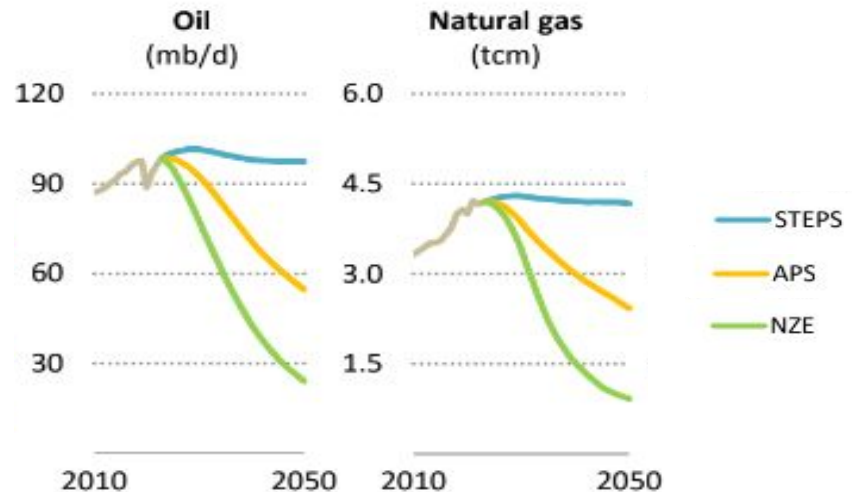
Woodside's major pre-FID projects would start production in a declining market

The IEA projects a peak in oil and gas consumption by 2030 in every one of its published scenarios.

This marks a pivot away from the consistent growth of previous decades.

Woodside's major pre-FID projects are all due to start up from 2029, meaning they would be coming online in a period of structural demand decline.

Oil and gas demand is due to peak this decade under all IEA scenarios



IEA WEO 2023, slide library, p21

Case study:

Driftwood – rescue raft, or sinking ship?

Driftwood is another example of Woodside pursuing a project with:

- weak economics
- high emissions
- significant downside risk.

Woodside's decision to acquire Tellurian suggests it remains committed to a high-capex, high-emissions business model.

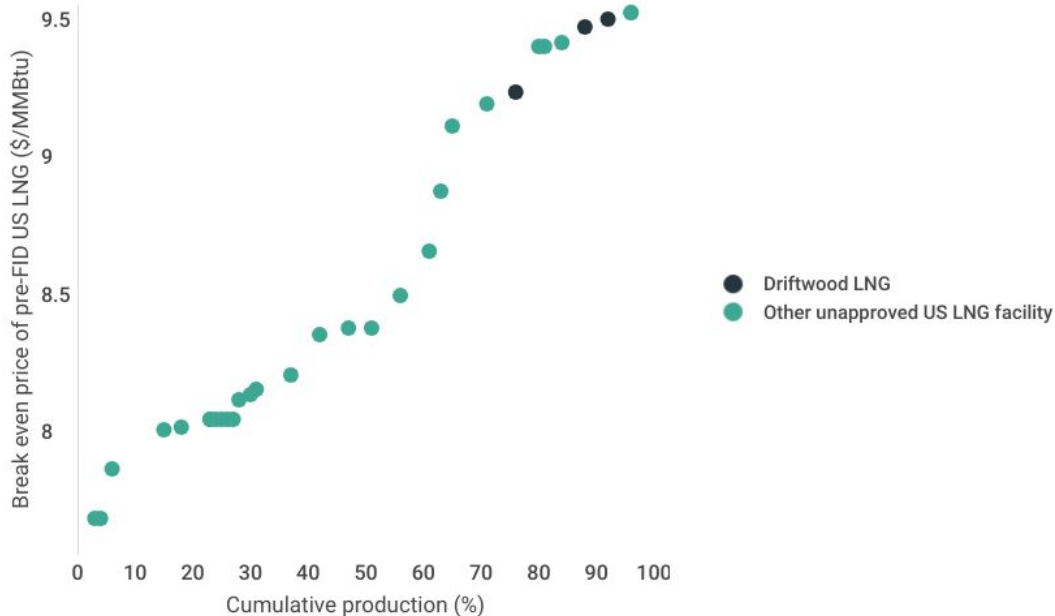
Woodside's pending acquisition of Tellurian increases its exposure to high-cost pre-FID assets

Woodside recently announced the acquisition of Tellurian, which owns the Driftwood LNG project.

Woodside is targeting FID for the 11Mtpa first phase in early 2025.

Rystad data¹ shows that Driftwood is more expensive than 76% of unapproved US LNG facilities.

Driftwood is an expensive US LNG project



1. The graph includes trains from Driftwood Phases 2 and 3. Phase 1 is excluded since Rystad considers it to be non-commercial.

Risks of the Driftwood deal

- Just like Trion, Woodside is planning to invest significant capex in a long-duration project that benchmarks poorly.
 - With a capex forecast of \$16bn¹, phases 1 and 2 equate to 40% of Woodside's current market capitalisation. This is material, even if Woodside manages to sell down 50% of the project.
 - Woodside's Scarborough and Sangomar projects show that it regularly misses capex guidance on greenfields developments.
- Driftwood is targeting a 2029 start-up, when the IEA projects an LNG glut. Trading opportunities may dwindle as potential LNG demand growth shifts increasingly to price-sensitive customers in Asian emerging markets.
- Woodside's proposed model of lower gearing and vertical integration is novel in the US LNG market. If Woodside can generate value by trading US LNG, it can avoid capital risk by using offtake agreements.
- If all four phases are executed and operate at capacity, Driftwood will cause 68 MtCO₂e p.a. of scope 3 emissions, more than 90% of Woodside's 2023 scope 3 emissions. This would exacerbate Woodside's already high exposure to climate risk.
- Driftwood's non-FTA export authorisations from the US Department of Energy will need to be extended post May 2026 - underscoring ongoing regulatory risks.

1. Midpoint of Woodside's guidance, rounded up to account for pipeline costs.

“It takes a brave company to dive headfirst into a wave of overcapacity ...”

“ ”

Between 2025 and 2027, 175mn tonnes per annum (Mtpa) of new LNG are set to hit the market, according to broker Bernstein. On top of that, developers are looking to take final investment decisions on projects that could deliver a further 230 Mtpa. That will lead to oversupply in the early part of the 2030s. Many of the earlier-stage projects will probably fall by the wayside.

This abundance of sellers will compress returns. By way of example, the cost of selling US LNG to Asia might be \$8.15 per million British thermal units, thinks Christopher Wheaton at Stifel. Long-term gas prices in the region might be around \$8.50 per million British thermal units. Multiply that sliver of profit by the capacity of the Driftwood project and Woodside could expect operating cash flow of \$300mn. That looks paltry in the context of a \$16bn capital spend.

Source: FT Lex, [Woodside's US LNG deal could founder in a capacity bust](#), 23 July 2024

Case study:

The trouble with Trion

Trion did not have a strong case to support a positive FID, due to:

- weak economics
- high emissions
- significant downside risk.

Woodside's decision to proceed with Trion in June 2023 should be a red flag for investors.

FID on Trion illustrates the impact of Woodside's aggressive growth strategy

Trion¹ is a 479 MMboe (100% share) greenfields oil project in the Gulf of Mexico that reached FID in June 2023.

Woodside (60%) is operator, partnering with Pemex (40%).

ACCR analysis suggests Trion only met Woodside's hurdle rate due to the company's elevated oil price assumption.

| Capex (USD billion) | IRR (% pa) | NPV (USD million) | Peak emissions (MtCO ₂ e pa) |
|-------------------------------|----------------------------|---------------------------------|--|
| \$4.6 | 13.6% | \$310 - 466 | 10 |
| >10% market capitalisation | Doesn't meet 15% hurdle | <2% of market capitalisation | 13% of current portfolio |

1. Trion Data in this section is from ACCR, [Can Woodside try harder than Trion?](#), 2023, except for the cost of supply data which is from Rystad. Our Trion report's conclusions are broadly consistent with Woodside's FID briefing pack, when adjusted for market-based oil prices.

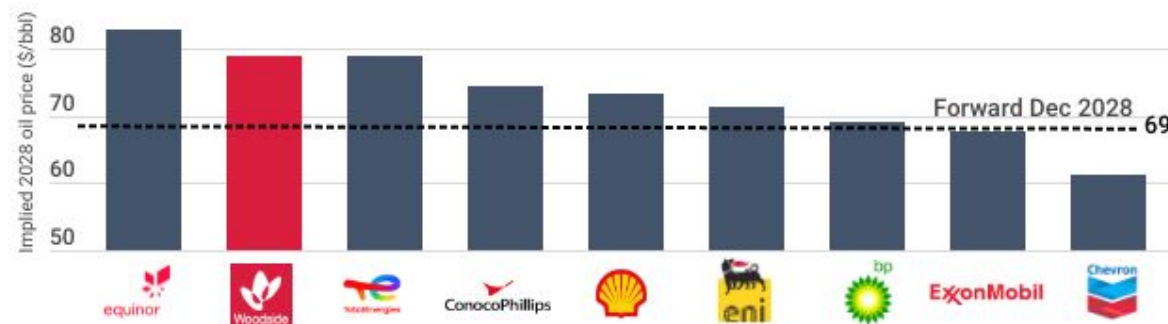
Woodside's investment assumptions are more aggressive than peers'

Woodside has a higher oil price assumption and/or a lower hurdle rate than every one of a selection of global peers.

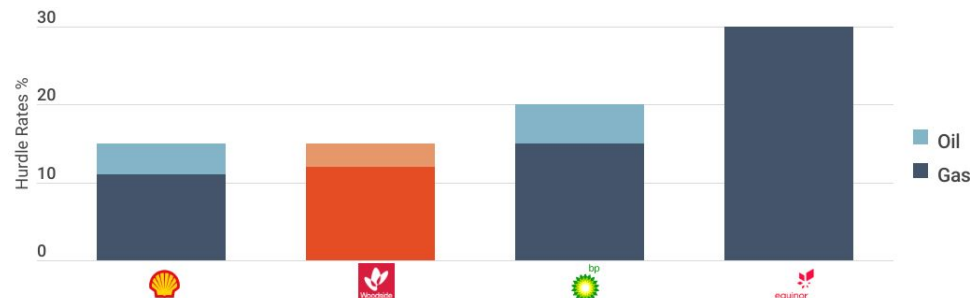
This has real-world impacts for shareholders.

Based on their internal investment criteria, we found it unlikely any of these peers (possibly aside from Shell) would have invested in Trion.

Woodside has a higher long-term oil price assumption than most peers



Woodside has a lower hurdle rate than most peers (where disclosed)



Our analysis suggests Trion is neither NZE-aligned nor cost-competitive

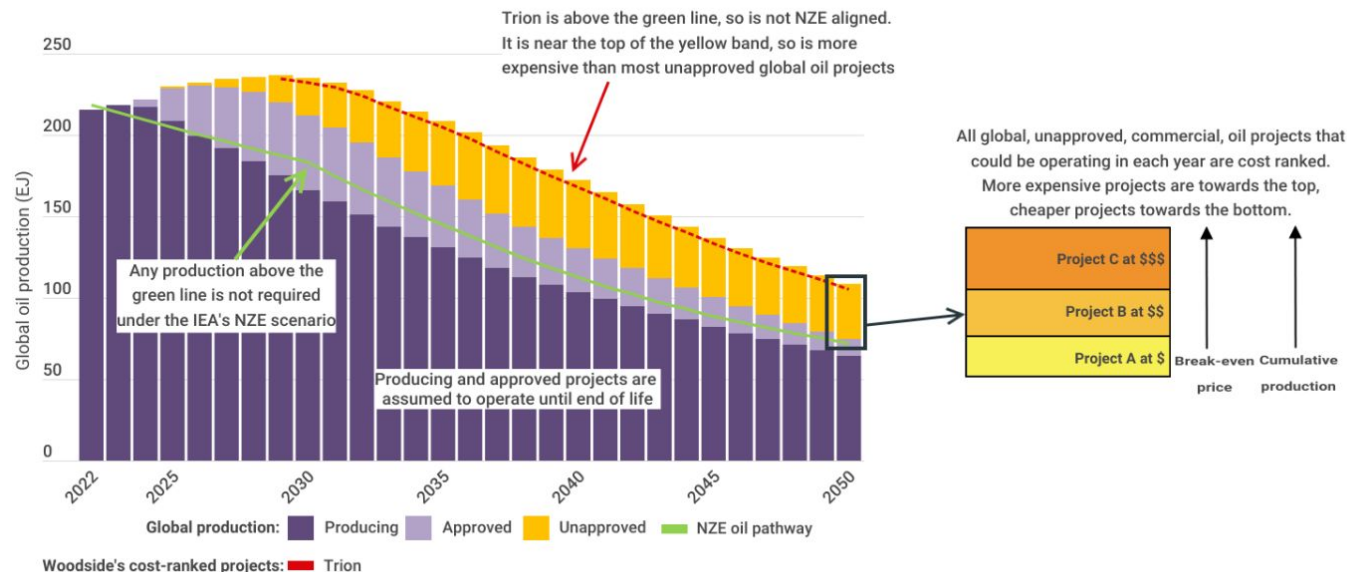
At FID, Trion was:

- not aligned with the IEA's NZE
- more expensive than 90% of global unapproved oil projects.

It is forecast to operate until 2066, adding to the risk of fossil fuel lock-in.

More detail on our methodology is included in Methodology (slide 40).

At FID, Trion was more expensive than 90% of unapproved global oil projects



Trion faces a number of risks beyond NZE misalignment and poor financial returns

Country risk: KPMG¹ included a 2.5% country/project risk that isn't reflected in the target IRR

Partner risk: Pemex faces serious corruption allegations and credit rating risk

Production risk: Hurricanes in the Gulf of Mexico are likely to impact production

Oil price risk: Paris-aligned scenarios have significantly lower oil prices

Political risk: As a state-owned company, Pemex is strongly impacted by political changes

Licence risk: The production licence expires in 2052, but the field produces until 2066

Franking credits: They do not apply to tax paid to the Mexican government

Remuneration: Incentives reward scale, which may not align with shareholder value

1. KPMG, Independent Expert Report and Financial Services Guide, p249.

Assessing Woodside's unsanctioned growth portfolio

On a least-cost basis, we found that none of Woodside's pre-FID oil and gas projects sit in the top quartile of unapproved oil or gas projects globally, and are not Paris-aligned.

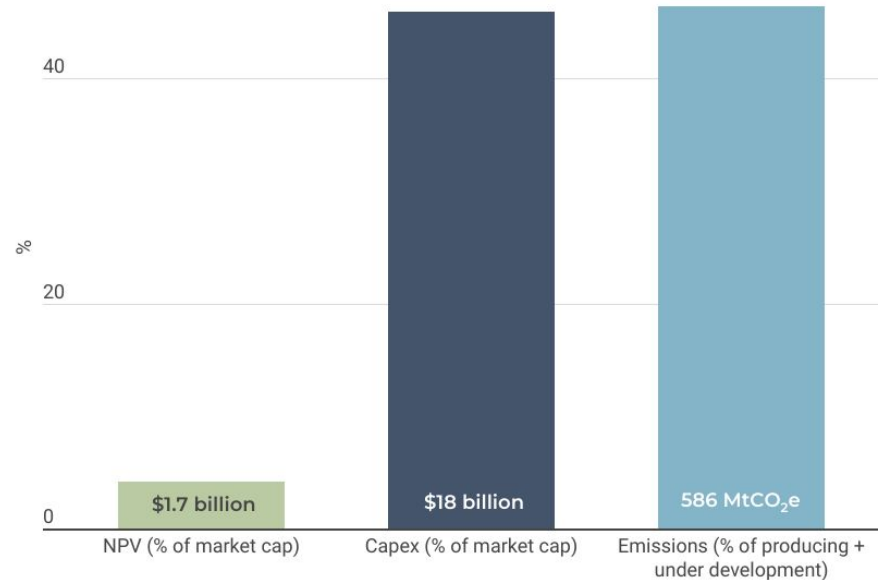
Woodside's pre-FID projects are high-capex, high-emissions and low-value

Woodside's pre-FID project portfolio¹ is:

- high-capex and high-emissions, principally due to:
 - Browse
 - Sunrise
 - the Sangomar expansion
- low-value

The Mad Dog backfill appears to be Woodside's most appealing project, representing about 1% of pre-FID production and emissions, but 12% of pre-FID NPV.

The pre-FID portfolio's NPV is estimated at 4% of Woodside's market capitalisation



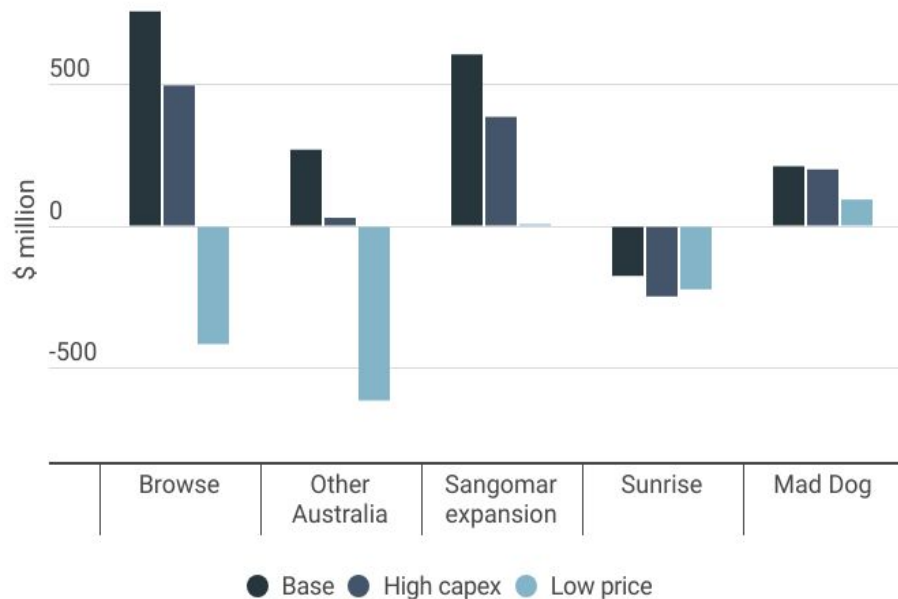
1. Even though Woodside is actively progressing Calypso, it is excluded from this slide since it has a negative NPV based on Rystad data and assumptions. Several immaterial projects have been screened out of the capex and NPV data.

Woodside's pre-FID projects are not resilient to low prices, apart from the Mad Dog backfill

Most pre-FID projects¹ are not resilient because:

- a 20% cost overrun² would erode 50% of the portfolio's value
- under Rystad's low-price case (\$40/bbl), only the Mad Dog backfill remains materially NPV positive.

Mad Dog is the only pre-FID project that is resilient to low oil prices



1. Calypso has been excluded since it has a materially negative NPV based on Rystad's default assumptions. Several minor projects have been screened out.

2. ACCR, [Australia's LNG growth wave: did it wash for shareholders](#), Nov 2023. Previous research by [Merrow](#) found that major oil and gas projects were, on average, 25% over budget.

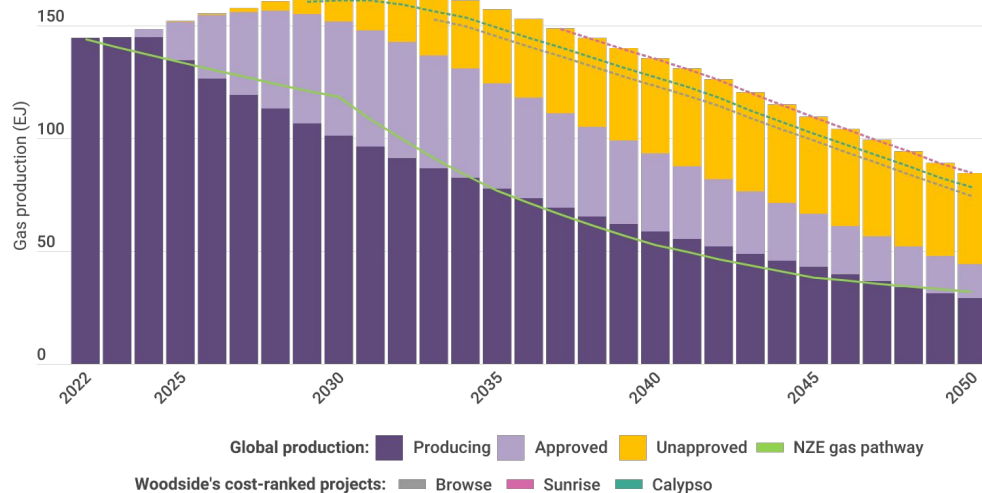
Woodside's pre-FID greenfields gas projects are not Paris-aligned or low-cost

Browse:

- is more expensive than 70% of the world's unapproved gas projects
- is over 50% more expensive than sanctioned Qatari and unconventional Permian projects
- makes up half of Woodside's pre-FID portfolio when measured by capex, production and emissions
- has not been developed, despite being discovered in the 1970s, the completion of multiple FEED studies, and suffering one negative FID.
- is not Paris-aligned.

Sunrise and Calypso:

- are even more expensive than Browse
- are being progressed by Woodside despite Rystad classifying the projects as 'uncommercial'.

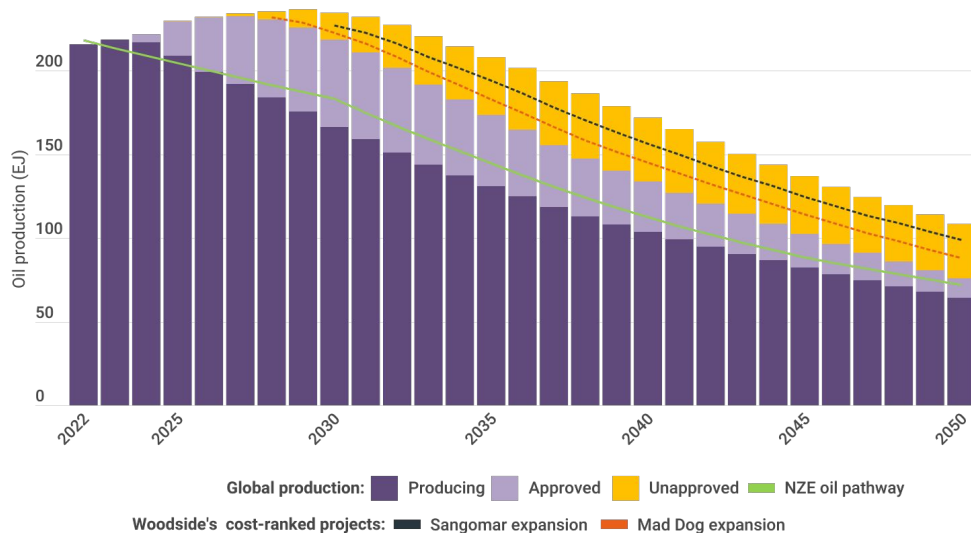


| Project | Start-up year | Final year of production | Total production (100% MMboe) | Production weighted cost percentile |
|------------------------------|---------------|--------------------------|-------------------------------|-------------------------------------|
| Browse, Australia | 2032 | 2100 | 2296 | 71 |
| Sunrise, Timor-Leste | 2036 | 2079 | 723 | 99 |
| Calypso, Trinidad and Tobago | 2028 | 2050 | 619 | 76 |

Woodside's pre-FID oil projects are neither Paris-aligned nor low-cost

The Sangomar expansion and Mad Dog backfill projects:

- are not aligned with the IEA's NZE pathway
- sit outside the top quartile of unapproved projects globally on a cost basis, although the Mad Dog backfill is close
- have production profiles that extend beyond 2050, creating risk of locking in fossil fuel dependence.



| Project | Start-up year | Final year of production | Total production (100% MMbbl) | Production weighted cost percentile |
|----------------------------------|---------------|--------------------------|-------------------------------|-------------------------------------|
| Sangomar expansion, Senegal | 2029 | 2067 | 352 | 59 |
| Mad Dog expansion, United States | 2027 | 2055 | 65 | 26 |

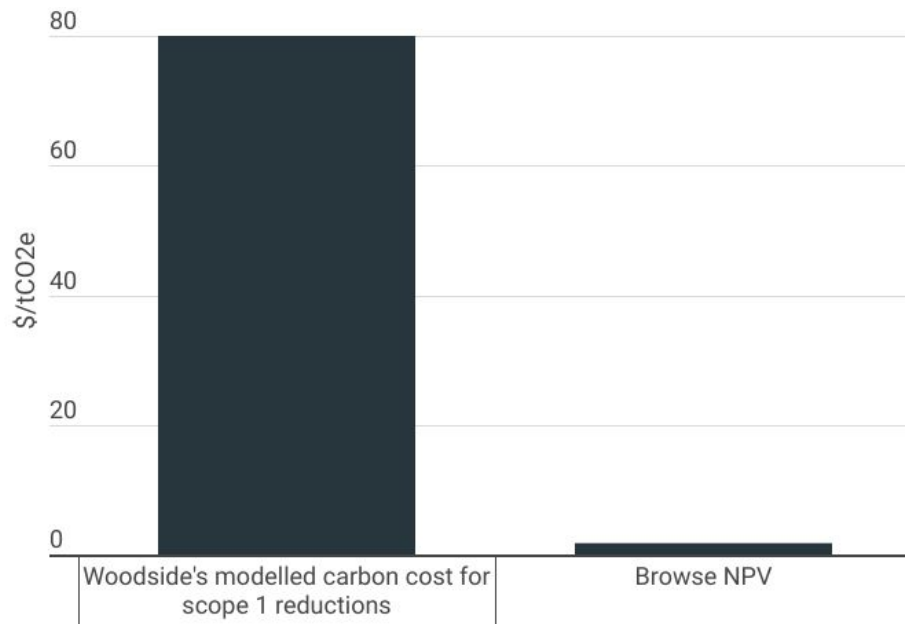
The cheapest way for Woodside to reduce emissions is to shelve projects like Browse

92% of Woodside's emissions are scope 3, so Woodside's climate alignment can only be properly assessed based on its scope 3 reductions.

It does not make sense for climate-focussed investors to support projects like Browse that generate \$3/tCO₂e (including scope 3), when Woodside is:

- implementing scope 1 emissions reductions that cost up to \$80/tCO₂e
- studying scope 1 emissions reductions that cost up to \$500/tCO₂e.

The cheapest way to reduce emissions is shelving projects like Browse



Capital return vs fossil fuel growth strategy

Our analysis suggests share buybacks would generate 22% more value than executing Woodside's pre-FID project portfolio.

Share buybacks would deliver more value than executing Woodside's pre-FID portfolio at this point in time

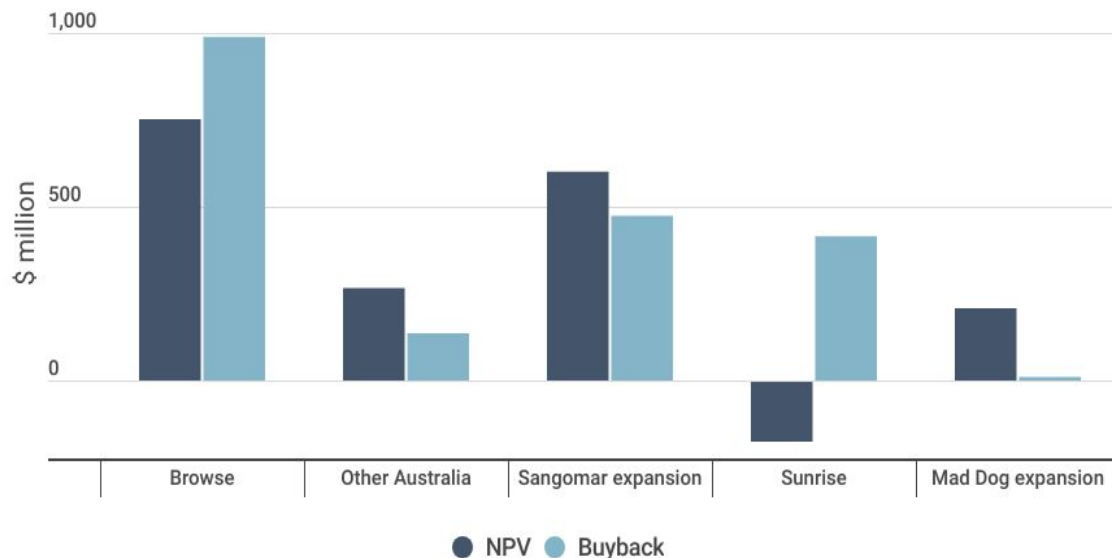
Redirecting capital from Woodside's pre-FID projects to share buybacks would generate \$2.02 billion.

This is 22% more than the \$1.66 billion NPV that would be created by executing its pre-FID portfolio.

With \$1.8 billion of franking credits on the balance sheet, returning capital as dividends would also be attractive.

When considering just Browse and Sunrise, buybacks would deliver 140% more than the projects' NPV.¹

Share buybacks generate an estimated 22% more value than executing Woodside's pre-FID projects¹



1. Calypso has been excluded since it has a materially negative NPV based on Rystad's default assumptions. Several minor projects have been screened out.

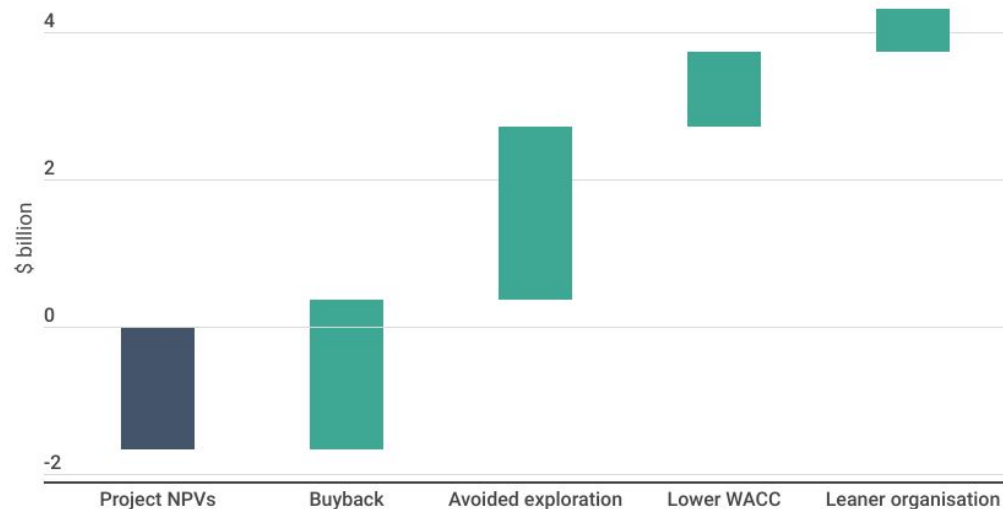
Compared to sanctioning its pre-FID portfolio, pivoting away from new oil and gas development could create >\$4 billion more value

Ceasing fossil fuel expansion has several sources of value, including:

- The redirection of capital from oil and gas projects to buybacks (\$0.3 billion, slide 30)
- avoided unsuccessful exploration costs¹ (\$2.4 billion)
- a lower WACC² (\$1 billion) – ceasing new projects would reduce free cash flow volatility and eliminate categories of risk
- a simpler, leaner organisation³ (\$0.6 billion).

Ceasing exploration and implementing a leaner organisation would increase the dividend yield by 0.9% p.a.⁴

Ceasing fossil fuel development could create >\$4 billion more value than delivering Woodside's current pre-FID portfolio



1. Average cost for exploration that has not resulted in a discovery in the last decade, capitalised using a P/E of 10 and 30% tax rate. Includes legacy BHP costs.

2. NPV upside on operating and post-FID projects of increasing gearing by 5%. This is a conservative assumption; the benefit would double at 10%.

3. Assumes 10% of staff redundancies, average salary \$200k pa, 1 year redundancy payout, capitalised at a P/E of 10, with 30% tax rate.

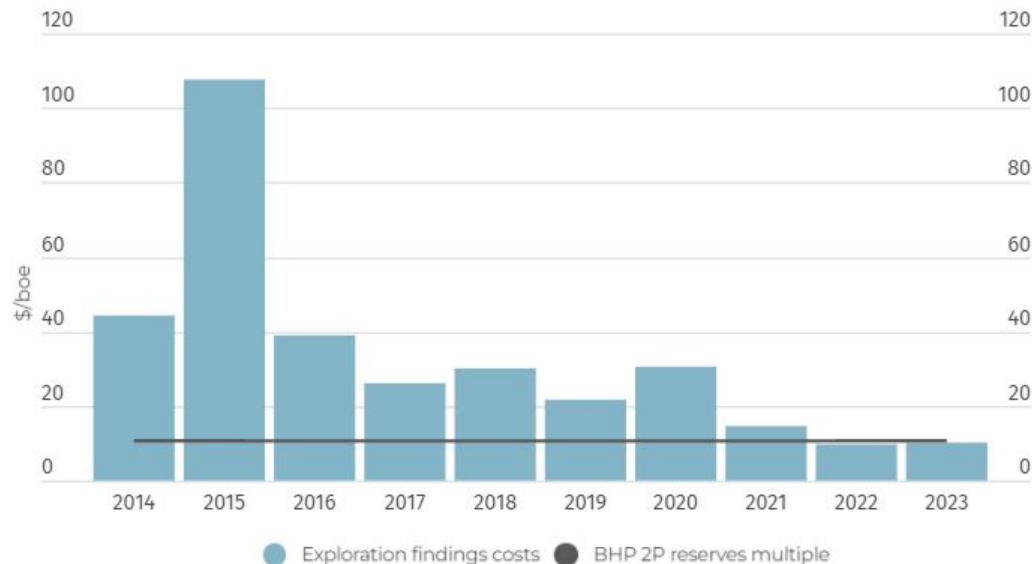
4. Based on avoided costs of all exploration, lower staff costs as per 2, and Woodside's market cap as of 31 Dec 2023.

Woodside's finding costs have exceeded 2P reserves multiple values

Exploration does not appear to be a competitive advantage for Woodside, because:

- exploration has generally led to Woodside paying more to find oil and gas resources than it costs to buy developed reserves
- it has not made a material discovery since Pluto in 2005.

Woodside's exploration finding costs have exceeded the value of acquiring developed reserves through the BHP merger^{1,2}



1. Woodside 2023 Annual Report, p216.

2. 2P reserves multiple, KPMG, Independent Expert Report and Financial Services Guide, p162.

‘New energy’ and other opportunities

The oil and gas sector is not currently playing a material role in the energy transition.

If Woodside is looking to use excess free cash flow it has a number of Paris-aligned alternatives to organic oil and gas growth - including diversification into ‘new energy’ or other sectors.

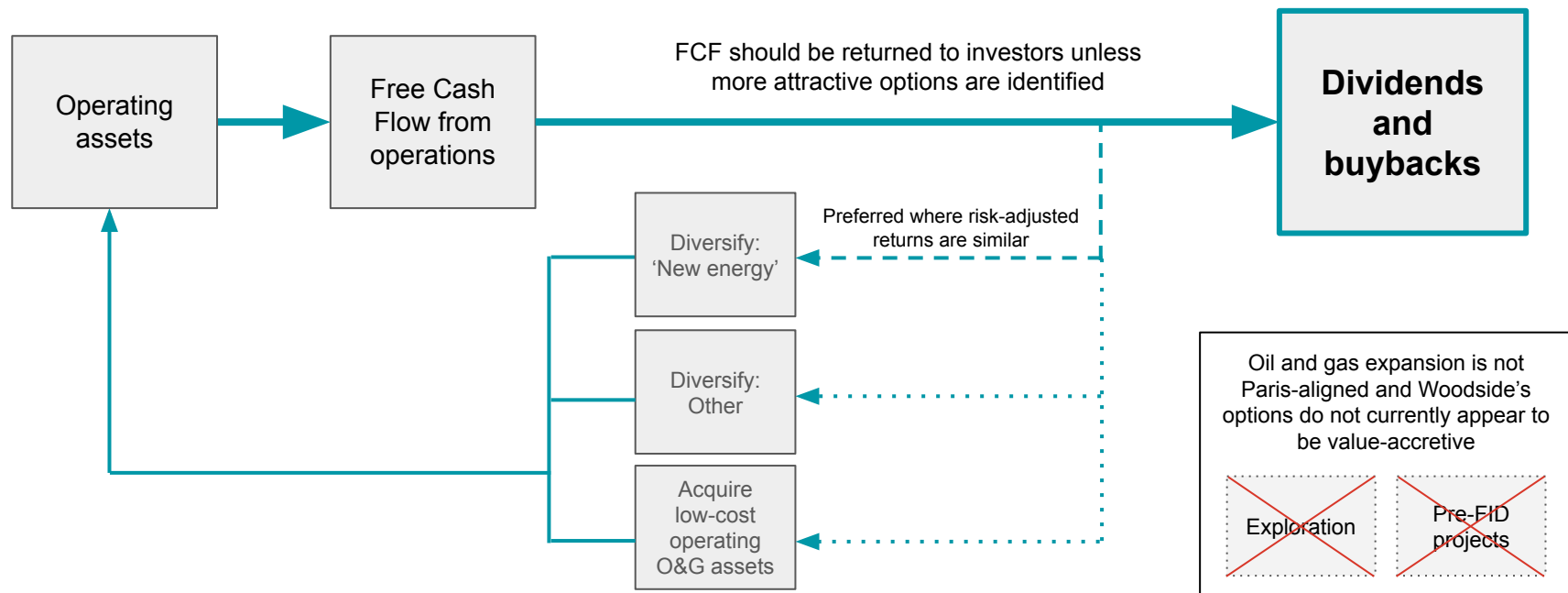
ACCR's view on Woodside's 'new energy' strategy

Woodside's climate alignment should not be assessed against its 'new energy' portfolio, because its 'new energy' portfolio is not designed to reduce Woodside's emissions.

Woodside should:

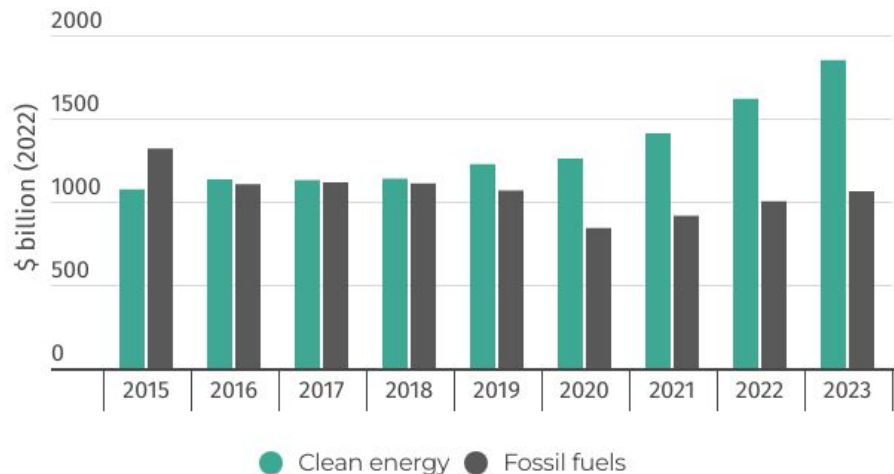
- continue to assess 'new energy' projects, noting its investment framework incentivises 'new energy' via lower hurdles
- acknowledge that while finding attractive 'new energy' projects is proving difficult for the oil and gas sector:
 - this does not justify sanctioning new hydrocarbon projects
 - other options exist, including share buybacks, inorganic growth, and diversification (e.g. Origin's purchase of Octopus Energy)
- ensure its board and management have the ability and willingness to execute - or reject - a broader range of strategic options.

Alternative capital allocation framework through an energy transition

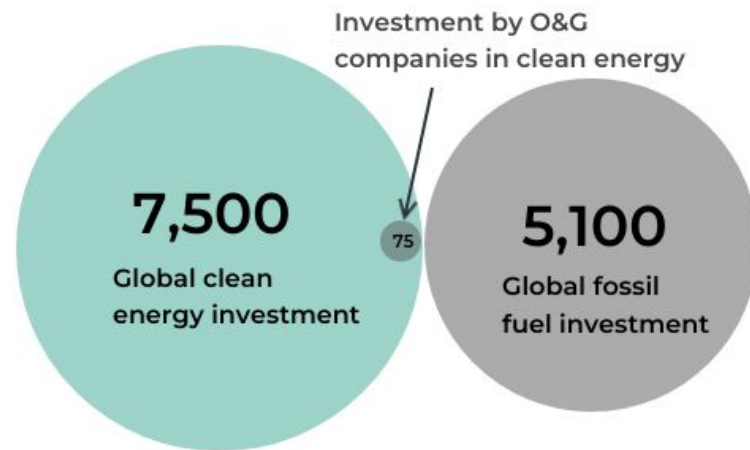


The oil and gas sector is not yet materially contributing to the energy transition

Clean energy investment has outstripped fossil fuel funding since 2016¹



The oil and gas sector provided 1% of global clean energy funding from 2019 to 2023 (\$ billion, to scale)²



By comparison, Woodside invested ~2% of its capex in 'new energy' between 2020 and 2023.

1. IEA, World Energy Investment 2023, p8, with actual 2023 data from the 2024 report.

2. IEA, World Energy Investment 2024, p4 & p98.

ACCR's view is that capital return is the best option for investors - but Woodside has several Paris-aligned alternatives to organic oil and gas growth



Diversify: 'New energy'

Commentary: Oil and gas companies are not yet playing a material role in the energy transition.

ACCR's view: Woodside should continue to explore 'new energy' projects, and invest in projects that provide long-term shareholder value.



Inorganic growth

Commentary: Transferring assets between balance sheets does not increase or decrease real-world emissions (where it doesn't enable additional development), but may be value-accretive.

ACCR's view: Woodside could consider purchasing low-cost operating assets, where value-accretive and Paris-aligned.



Diversify: Other

Commentary: Diversification has worked for some companies, especially industrial companies, but this is a complex and challenging option.

ACCR's view: Although there are currently no obvious opportunities, a sufficiently skilled board should be assessing and executing attractive options, and rejecting unattractive options.

Methodology

Methodology, data sources and key assumptions

Oil and gas asset data is from Rystad Energy, extracted in early May 2024, except for Driftwood data which was extracted in July 2024. Rystad Energy provided the asset-level data and the model used to calculate the sensitivities. It also provided updated data for Woodside's exploration costs in June 2024. Rystad Energy is not responsible for any conclusions drawn from the data, and ACCR retains responsibility for any subsequent analysis, including assumptions used or errors made.

NPVs use a project-specific discount rate, based on the methodology and assumptions used by KPMG in its Independent Expert Report into the BHP Petroleum merger, with the risk-free rate updated as of 1 May, 2024. Oil and gas prices are based on futures prices. Calculations use a 2024 base year and include all free cash flow from 2024.

The value of a share buyback assumes capex from projects is reallocated to share buybacks rather than project development. Capex data is sourced from Rystad and is nominal. Shares are assumed to trade at a 10% discount to underlying value, which compares to 10.7% for the average price estimate from analysts who are recommending a buy (or equivalent) on Woodside as of 1 May, 2024. Analyst views are from Bloomberg (used with permission of Bloomberg LP).

Unless otherwise stated, currencies are in USD, and asset metrics (costs, NPV, emissions, etc) are expressed as Woodside share.

ACCR's NZE alignment methodology for unapproved projects

Objective

To test whether future oil and gas projects are aligned with Paris-aligned scenarios¹ through a global industry lens.

At a high level, our methodology involves:

1. assuming all operating and under-development projects operate until end-of-life, based on Rystad production forecasts
2. ranking all unapproved projects based on Rystad's break-even prices
3. assessing each unapproved project to see if it is 'required' to meet demand levels under the IEA's NZE scenario, after accounting for operating and under-construction facilities.

The benefits of this method include that it:

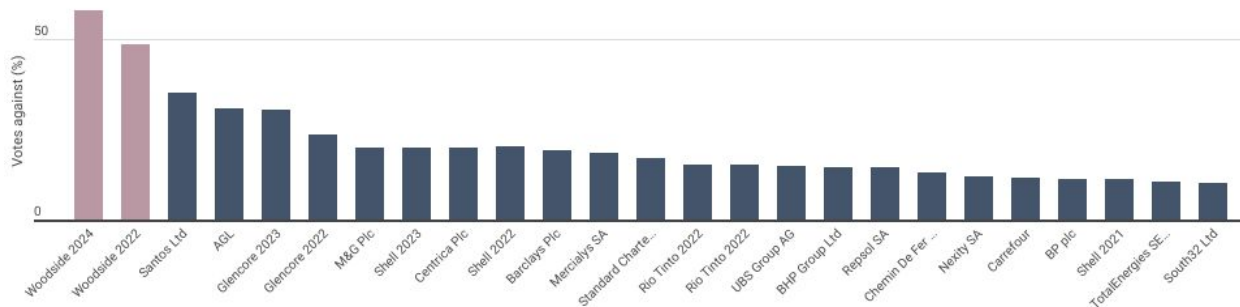
- removes the opportunity for companies to use a range of self-selected voluntary decarbonisation targets to claim Paris-alignment
- provides investors with valuable insight into financial assumptions, and therefore investment decisions, which are not Paris-aligned.

1. ACCR currently views the IEA's NZE pathway as the best tool for Paris alignment assessments. It is based on IPCC temperature outcomes (1.5°C in 2100 with 50% certainty) and encompasses energy security, recent technology and geopolitical events, and equity, with comprehensive sectoral and geographic data. Global progress is lagging behind the NZE goals, leading to increasingly challenging assumptions like ending global deforestation by 2030 and large-scale carbon removal by 2050, highlighting the urgency for actions to align with this pathway.

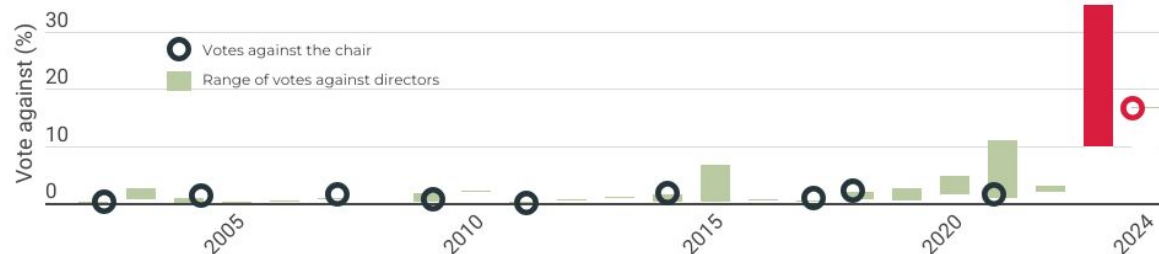
Appendix

Woodside is a stand-out

Woodside received the world's worst 'Say on Climate' vote in 2022 and broke its record in 2024¹



Investors are now escalating against Woodside directors, including the current Chair, Richard Goyder²

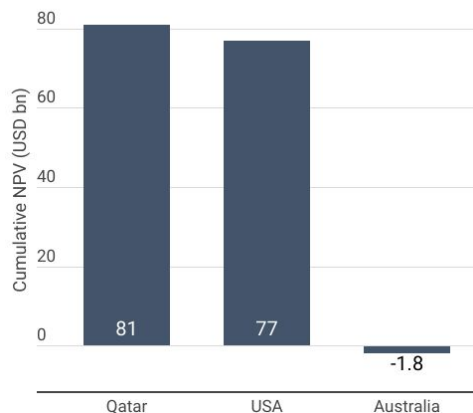


1. [MSCI](#), 2023, with additional votes added by ACCR where known.

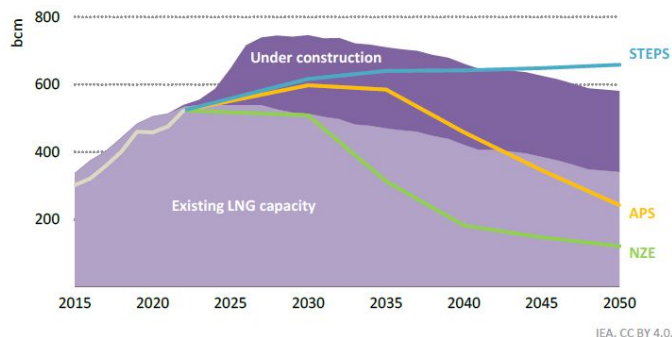
2. ASX.

Australia's LNG sector eroded value through the 'golden age of gas'. How will it do better in an oversupplied market?

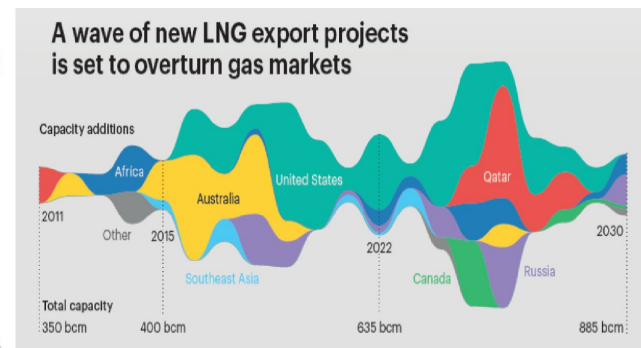
Australia's LNG sector has eroded value¹



LNG supply is expected to exceed demand until at least 2040²



Most new LNG supply is from Qatar and the USA, the two countries generating value³



1. ACCR, Australia's LNG Growth Wave, p13
2. IEA, The Oil and Gas Industry in Net Zero Transitions, 2023, p45
3. IEA, 2023 World Energy Outlook, p24

We have heard a range of concerns, but remain comfortable that companies should be seriously considering a capital returns strategy

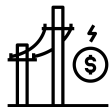


Financial

Typical challenge: Why should Woodside voluntarily sacrifice the high returns from oil and gas?

ACCR's view: We disagree that Woodside has generated high returns.

It has underperformed the market for 15 years, its pre-FID portfolio is underwhelming, and the market is entering structural decline.



Energy security

Typical challenge: Don't we need new gas supplies to balance the energy market through the transition?

ACCR's view: It's a false dichotomy to present decarbonisation as a choice between energy security and emissions.

The IEA's NZE scenario meets climate and energy security goals (and energy poverty and air quality).



The company

Typical challenge: How can we curtail a company's growth or force it to wind down?

ACCR's view: Institutional investors have a fiduciary duty to their members. If a capital returns strategy delivers higher value at a point in time, it should be prioritised over the scale of a portfolio company.

Even with no further investment, Woodside's O&G assets will continue operating beyond 2050.

‘Emotional exit barriers’ from company leadership may hinder a capital returns strategy



While rational investors will seriously consider a capital returns strategy, emotional exit barriers may hinder company leadership implementing strategies that reduce the company's scale or existence.

Managers' emotional attachments and commitments to a business – coupled with pride in their accomplishments and fears about their own futures – create emotional exit barriers. In a single-business company, quitting the business costs managers their jobs and creates personal problems for them such as a blow to their pride, the stigma of having “given up,” severance of an identification that may have been long-standing, and a signal of failure that reduces job mobility...

In some cases, even though unsatisfactory performance is chronic, managerial exit barriers can be so strong that divestments are not made until top management changes.

Harrigan and Porter, End-Game Strategies for Declining Industries, Harvard Business Review, 1983
Cited by IEEFA CEO Amandine Denis-Ryan

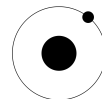
ACCR's current view on Woodside's 'new energy' priorities



Carbon Capture and Storage

Commentary: Whilst CCS plays a role in most 1.5°C scenarios, it is not technically or economically feasible for CCS to manage the emissions from continued fossil fuel use at current levels. Most scenarios show that it plays a minor role decarbonising today's energy system relative to emissions reduction.

ACCR's view: CCS should not be used to justify new fossil fuel developments, or increase production.



Hydrogen

Commentary: Hydrogen is difficult to produce, store and transport. Making hydrogen from fossil fuels may result in higher emissions intensity than direct fossil fuel use, even if coupled with CCS. Hydrogen produced from electricity is thermodynamically inefficient and too expensive for many purposes.

ACCR's view: Hydrogen produced from fossil fuels is not an effective climate mitigation tool. Renewable hydrogen should be prioritised for industrial decarbonisation applications, particularly those that currently rely on fossil hydrogen.

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