

# ASX Announcement

Wednesday, 11 November 2020

ASX: WPL  
OTC: WOPEY

Woodside Petroleum Ltd.

ACN 004 898 962

Mia Yellagonga  
11 Mount Street  
Perth WA 6000  
Australia

T +61 8 9348 4000

[www.woodside.com.au](http://www.woodside.com.au)

## INVESTOR BRIEFING DAY 2020

Woodside has risen to the challenges of 2020, delivering exceptional operating performance and demonstrating prudent financial decision-making to protect value for shareholders, CEO Peter Coleman said at the company's annual Investor Briefing Day.

"Despite the constraints imposed by the pandemic, throughout this year our teams have met the highest standards of safety, reliability and production, allowing us to narrow our full-year output guidance to 99 to 101 million barrels of oil equivalent.

"We've made excellent progress at Sangomar Field Development Phase 1 offshore Senegal and expect to complete our acquisition of Cairn's interest in the joint venture before year-end. Sangomar is an attractive, de-risked asset and, as previously flagged, we are looking to sell down our equity to the right partner at the right price over the course of 2021.

"The deferral in March this year of final investment decisions on Scarborough and Pluto Train 2 allowed the project teams to seize the day, extracting additional value by potentially increasing the offshore capacity and optimising the development schedule.

"Scarborough is a globally competitive development which has the potential to be a game-changer for Woodside, producing net cash flow of around \$35 billion over its field life.

"We estimate the targeted 20% increase in Scarborough's upstream capacity can be achieved at a very modest capex, with virtually no cost impact on the downstream.

"In terms of both contractor availability and the external LNG market, we expect the timing to be right for final investment decisions on Scarborough and Pluto Train 2 in the second half of 2021. The Scarborough Joint Venture is aligned on this schedule, which would put us on track for first LNG in 2026.

"We also remain aligned with our joint venture partners on the development of Browse as backfill to the North West Shelf. Work is continuing to move Browse towards the front-end engineering design phase, with a final investment decision targeted from 2023.

"This year we are also setting new targets for direct carbon emission reductions in support of our goal to be net zero by 2050. We are now aiming for reductions of 15% by 2025 and 30% by 2030 in our net equity Scope 1 and 2 emissions compared with the 2016-2020 period.

"We plan to achieve these targets using a range of levers: designing out emissions in new and existing facilities, potentially including carbon capture and storage; limiting emissions through efficient operations; and using high-quality offsets.

"Woodside is a resilient hydrocarbon business and our investments in technology and offsets, along with our early-mover activities in hydrogen, build on our existing capabilities in LNG and position us to provide value through the energy transition.

"We continue to provide enhanced transparency into our business, and have recently published a review of the policy positions of industry associations we belong to for alignment with our climate change policy positions," he said.

For personal use only

To access the live webcast of the Investor Briefing Day, please follow the link at [www.woodside.com.au](http://www.woodside.com.au). The webcast will commence at 0930 AWST/1230 AEDT.

A copy of Woodside's Investor Briefing Day 2020 slide pack is attached.

---

**Contacts:**

**INVESTORS**

**Damien Gare**  
W: +61 8 9348 4421  
M: +61 417 111 697  
E: [investor@woodside.com.au](mailto:investor@woodside.com.au)

**MEDIA**

**Christine Forster**  
M: +61 484 112 469  
E: [christine.forster@woodside.com.au](mailto:christine.forster@woodside.com.au)

*This ASX announcement was approved and authorised for release by Woodside's Disclosure Committee.*

ersonal use only



# INVESTOR BRIEFING DAY 2020

---

11 November 2020

[www.woodside.com.au](http://www.woodside.com.au)

[investor@woodside.com.au](mailto:investor@woodside.com.au)



**Overview**

**Peter Coleman**, CEO and Managing Director

**Climate**

**Dr Tom Ridsdill-Smith**, Senior Vice President Climate

**Developments**

**Meg O'Neill**, Executive Vice President Development and Marketing

**Operations**

**Fiona Hick**, Senior Vice President Operations

**New energy**

**Shaun Gregory**, Executive Vice President Sustainability

**Capital management**

**Sherry Duhe**, CFO and Executive Vice President

**Summary and Q&A**

**Peter Coleman**, CEO and Managing Director

## INTRODUCTION

# Disclaimer, risk and assumptions



### Disclaimer and risks

- Our investors and potential investors have requested that Woodside continues to provide further detail and information in respect of Woodside's overall strategic approach and its potential implications for the company. This presentation is a response to those requests. It is in summary form and does not purport to be complete. It should be read in conjunction with Woodside's periodic reporting and other announcements made to the Australian Securities Exchange.
- Given that this presentation is focused on Woodside's strategy, it is necessarily oriented towards future events. Neither the strategy, nor this presentation more generally, is a statement that future events will or are likely to occur.
- The discussion of Woodside's strategy provides some level of insight into how Woodside currently intends to direct the management of its assets and to deploy its capital, in order to achieve certain strategic outcomes. The matters disclosed in this presentation are a 'point in time' disclosure of Woodside's strategic focus. Woodside operates in a dynamic market and external environment. Many of the strategies discussed in this presentation involve assets held by and operated through joint ventures, and decisions in relation to these assets will require joint venture approval. Joint venture participants may have different strategic objectives and may not agree with or support Woodside's views in relation to these assets. As such, strategies can and must adapt in response to dynamic market conditions, joint venture decisions, new opportunities that might arise or other changing circumstances. Investors should not assume that the strategy and targets discussed in this presentation are locked in.
- In addition, a number of Woodside's proposed developments are complex and may be delayed, more costly than anticipated or unsuccessful for many reasons. This includes the fact that commercial agreements will need to be agreed with third parties, including other joint ventures. Some examples of such commercial agreements may include gas processing or infrastructure use agreements. A number of the required agreements may be complicated, have limited precedent and may require significant time and resources to negotiate and finalise. Joint venture decisions, or the conduct of third parties in relation to contractual negotiations, can have a material impact on a range of factors relevant to Woodside's strategies and targets set out in this presentation, including whether or not particular strategic initiatives can be implemented at all, or in the manner preferred by Woodside, and/or the timetable or costs involved in implementing these initiatives. Further, Woodside's developments and operations are subject to extensive governmental regulation and approvals and there can be no guarantee that Woodside will obtain all applicable government and regulatory approvals necessary to proceed with the proposed developments described in this presentation within any particular timeframe, or at all.
- The information and statements in this presentation about Woodside's future strategy are not guidance (except for the 2020 production guidance on slide 57, 'Full-year 2020 guidance'), forecasts, guarantees or predictions of future events or performance, but are in the nature of aspirational targets that Woodside has set for itself and its management of the business. Actual performance against these targets (including all timelines that are described as a 'Woodside target', and more particularly defined in the Glossary) may be affected by various risks associated with the Woodside business. Further detail on each of these risks can be found in the "Key Risks" section of the presentation associated with the Woodside entitlement offer which was released to the Australian Securities Exchange on 14 February 2018 (available online at <https://www.woodside.com.au/news-and-media/announcements>), and in Woodside's most recent Annual Report which was released to the Australian Securities Exchange on 13 February 2020 (available online at <https://www.woodside.com.au/investors/reports-publications>). Investors and prospective investors should review and have regard to these Key Risks when considering the information contained in this presentation. The reader is cautioned not to place undue reliance on any forward looking statements contained in this presentation.
- Without limiting the Key Risks referenced above, the implementation of Woodside's strategies and the outcomes from the implementation of these strategies are subject to risk factors associated with oil and gas businesses. It is believed that the targets reflected in these statements are reasonable but they may be affected by a range of variables and changes in underlying assumptions which could cause actual results or trends to differ materially, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling and production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative and legal risks, fiscal and regulatory developments, changes in accounting standards, economic and financial market conditions in various countries and regions, political risks, project delay or advancement, approvals and cost estimates. The targets and opportunities described in this presentation might also change materially if Woodside changes its strategy.
- Woodside does not undertake to provide ongoing market updates on, or otherwise report against, performance in relation to the information in this presentation, or in relation to any change in the company's strategy, except to the extent it has a legal obligation to do so.

### Assumptions

- Unless otherwise indicated, the targets set out in this presentation have been estimated on the basis of a variety of economic assumptions including: (1) a US\$65/bbl Brent oil price (2020 real terms, inflated at 2.0%); (2) currently sanctioned projects being delivered in accordance with their current project schedules; and (3) applicable growth opportunities being sanctioned and delivered in accordance with the target schedules provided in this presentation. These growth opportunities are subject to relevant joint venture participant approvals being obtained. Woodside expresses no view as to whether its joint venture participants will agree with and support Woodside's current position in relation to these opportunities. Additional assumptions relevant to particular targets or other statements in this presentation may be set out in the relevant slides. Any such additional assumptions are in addition to the assumptions and qualifications applicable to the presentation as a whole.

### Other important information

- All references to dollars, cents or \$ in this presentation are to US currency, unless otherwise stated.
- References to "Woodside" may be references to Woodside Petroleum Ltd or its applicable subsidiaries.
- All references are to Woodside equity share, unless otherwise stated.

# OVERVIEW

---

**Peter Coleman**  
CEO and Managing Director

personal use only

# Delivering value through unprecedented times



ersonal use only



# Robust hydrocarbon business to drive value



ersonal use only

**LNG is required in a decarbonising world**

---

**Cost-competitive LNG producer**

---

**Operating and developing world-class assets**

---

**Prudent capital management**

---

**Pursuing value accretive inorganic growth**

**Targeting  
FID  
H2 2021**

**Scarborough and Pluto Train 2**

All dates are Woodside targets (unless otherwise indicated). Developments and dates are subject to joint venture approvals, regulatory approvals, appropriate market conditions and relevant commercial arrangements.



# Providing value through the energy transition



ersonal use only



OVERVIEW

A value-creating culture



ersonal use only

Refreshed leadership team

Sector leading diversity and inclusivity

Engaged workforce





# CLIMATE

---

**Dr Tom Ridsdill-Smith**  
Senior Vice President Climate

ersonal use only

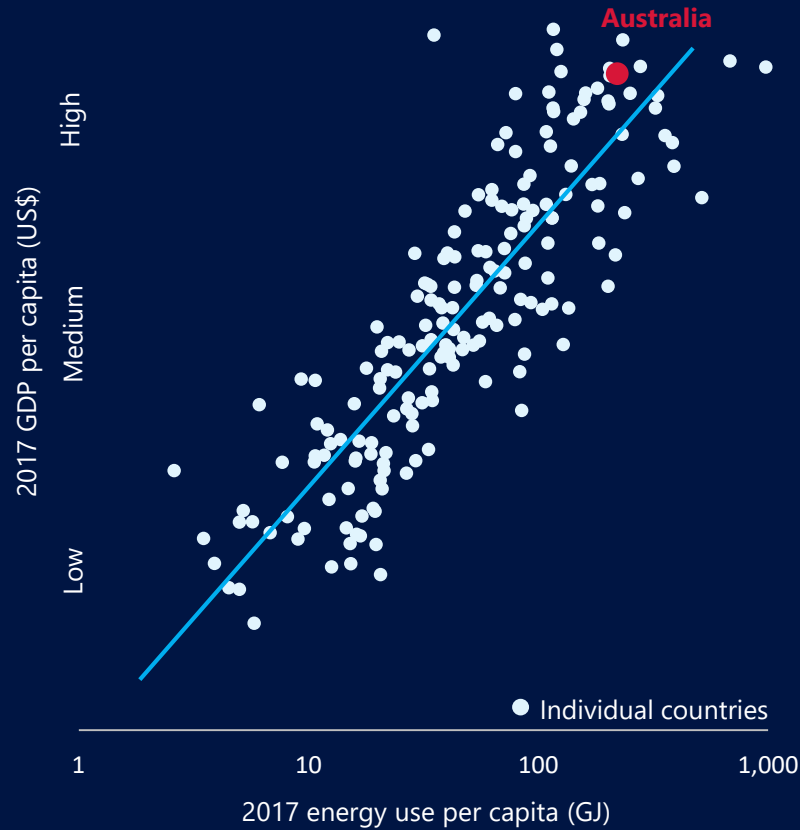
# The world needs affordable and clean energy



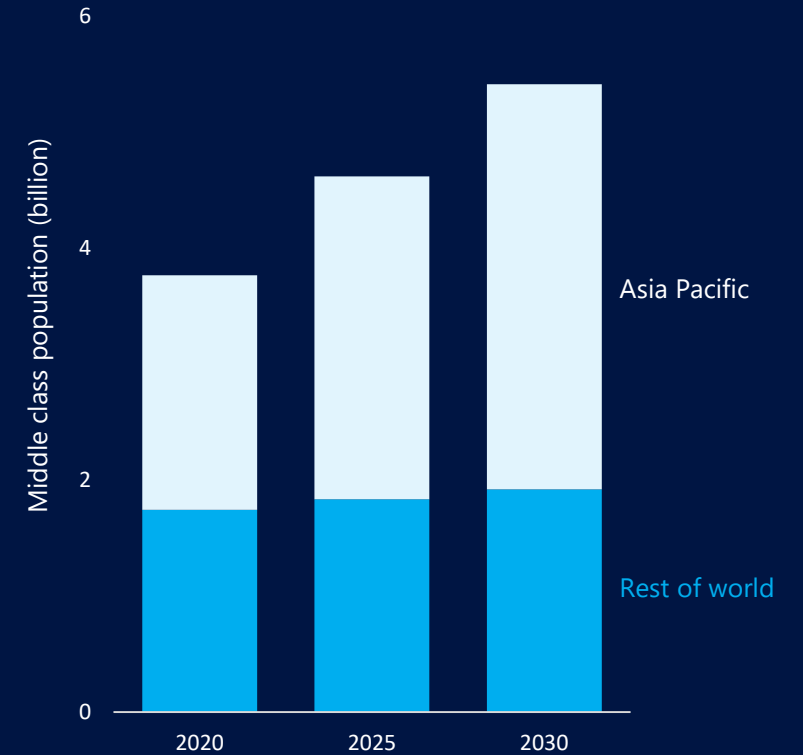
ersonal use only

- Human and economic development requires clean and affordable energy
- Increased energy is required as living standards improve
- 770 million people still lack access to electricity
- The Asia Pacific (APAC) middle class to increase by 1.5 billion (75%) by 2030

Energy and global economic development<sup>1</sup>



APAC middle class growth<sup>2</sup>



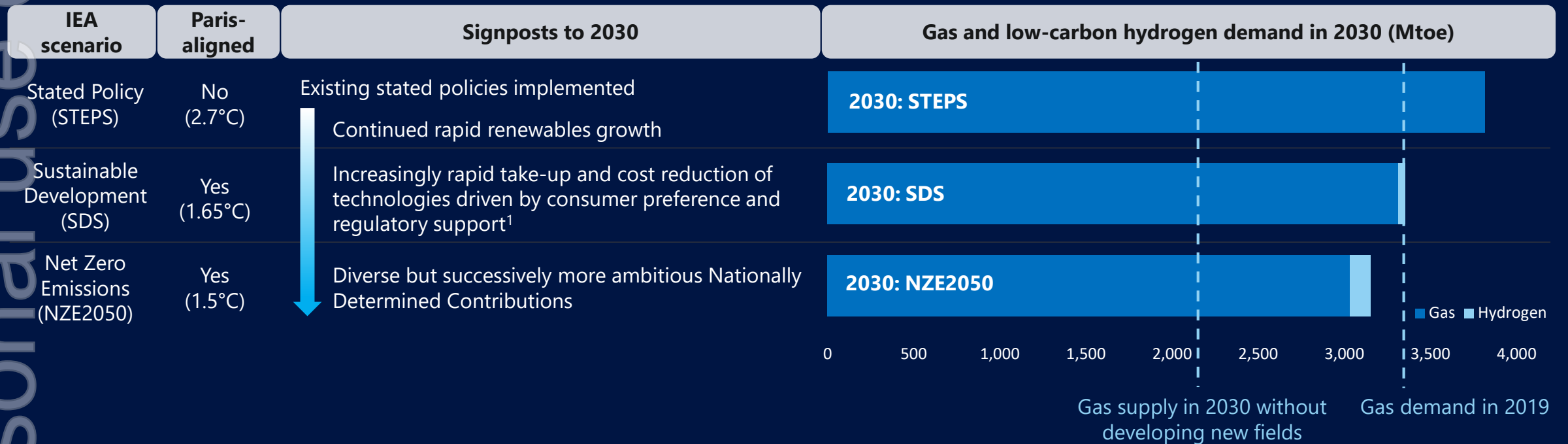
1. 2017 GDP per capita at constant 2015 prices, US dollars. United Nations Department of Economic and Social Affairs.

2. Homi Khara, Brookings Institute, 2017.

# Affordable energy and Paris Agreement goals



- The Paris Agreement requires contributing countries to aim for net zero emissions in the second half of the century
- The policies to achieve this goal are nominated through Nationally Determined Contributions
- Woodside considers a range of credible policy scenarios in our planning, such as those published by the IEA



Source: International Energy Agency (IEA) World Energy Outlook 2020.

1. Technologies including hydrogen, CCUS, battery storage and both battery and fuel cell electric vehicles.

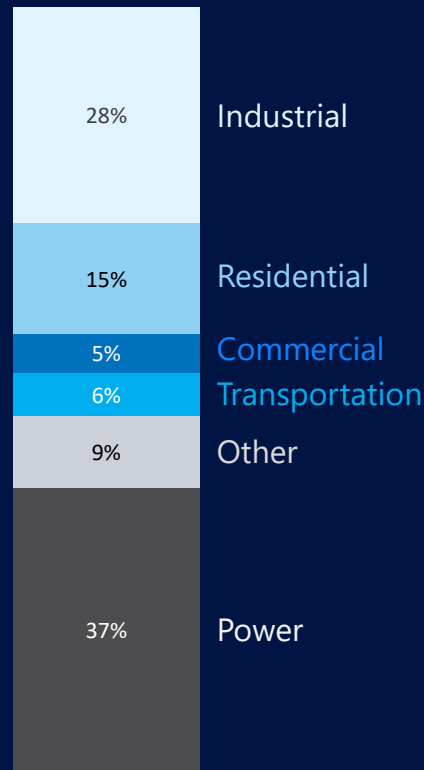
# Gas will remain a key part of the global energy mix



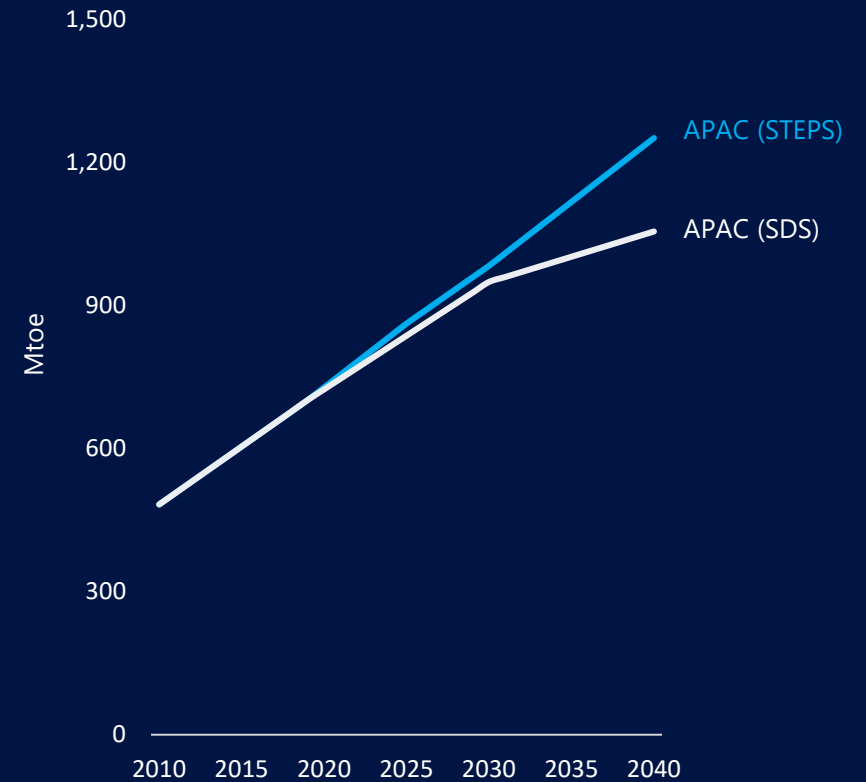
ersonal use only

- Natural gas is used in a wide range of sectors, including many hard-to-abate sectors
- Natural gas demand is projected to expand in Asia Pacific driven by the need for clean industrial expansion

### 2019 APAC natural gas demand



### Strong APAC natural gas demand in SDS and STEPS

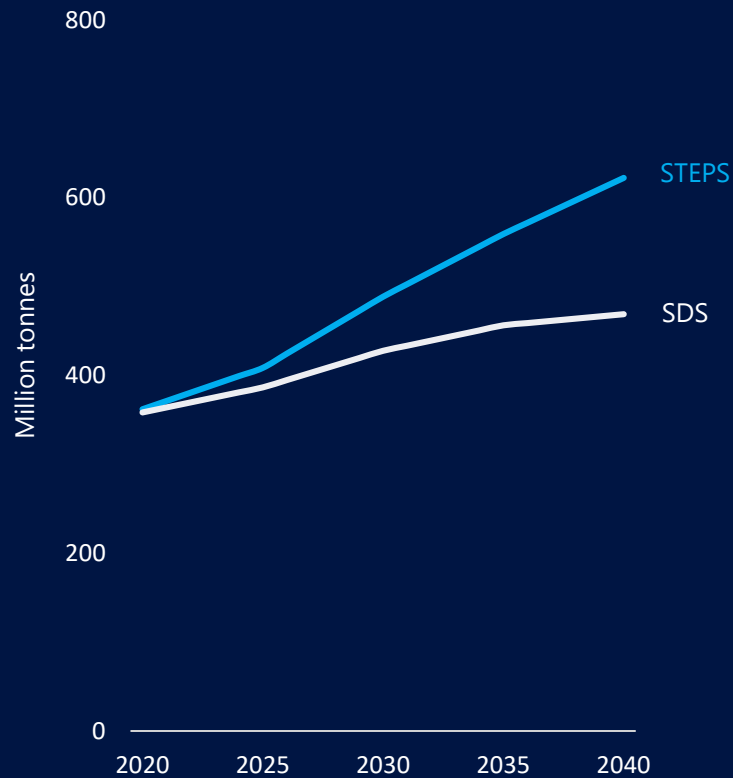


Source: IHS Markit, IEA World Energy Outlook 2020.

# LNG demand grows in a Paris-compliant world



### Global LNG demand



### LNG advantages

Relatively low carbon with CCS potential to lower further	Secure
Sustained demand under Paris-compliant scenarios	Delivers improved air quality
Destination flexible	Enables stability in renewable dominated power generation

**Enables customers to deliver affordable energy and climate action**

Source: IEA World Energy Outlook 2020.

ersonal use only

# LNG is aligned with customer decarbonisation



"Combine renewable energies with clean natural gas to achieve a stable and inexpensive supply of energy"



"Strengthen the resilience of the natural gas infrastructure towards 2030..."

"Maintain and improve the thermal efficiency of thermal power plants and further increase natural gas use"



"Phase-out of inefficient coal-fired power plants; strengthen domestic power source portfolio through LNG thermal power generation"

## Active in industry

Working with our customers to meet their lower-carbon goals

Partnering with JERA to supply low-carbon ammonia

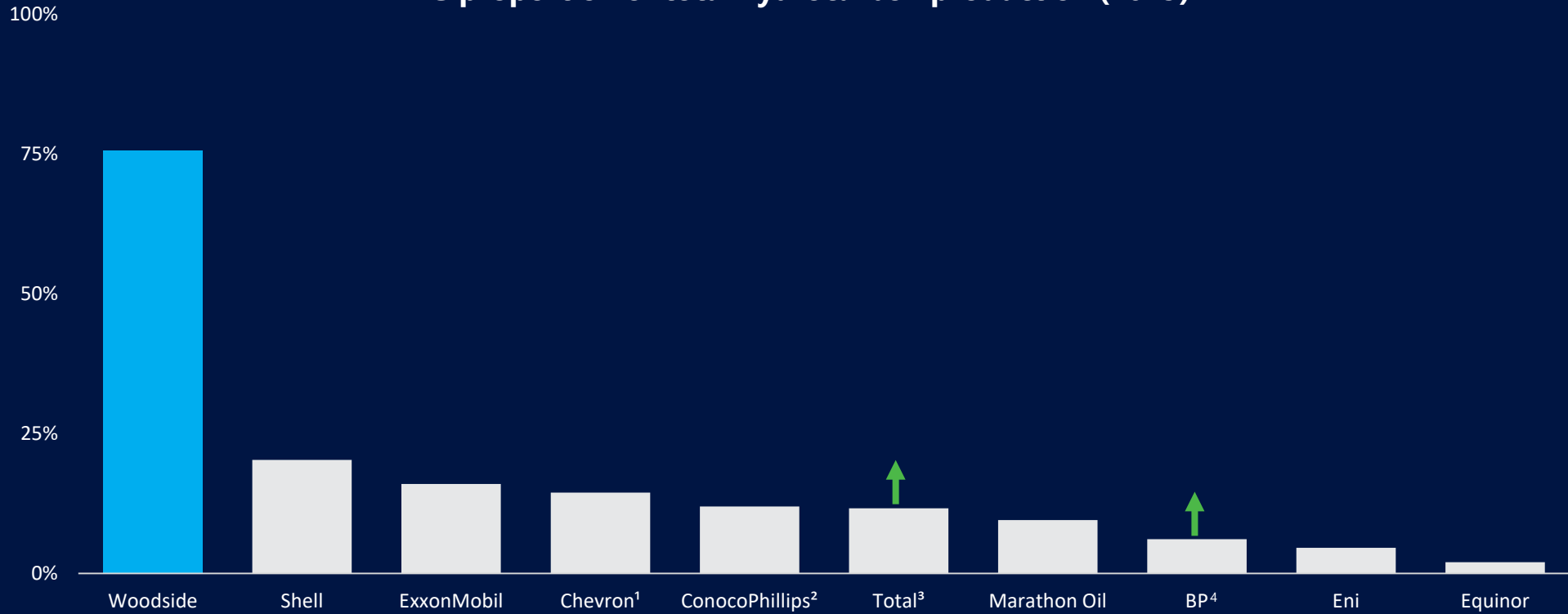
Signatory to the Methane Guiding Principles



# Leading LNG portfolio mix



### LNG proportion of total hydrocarbon production (2019)



Source: IHS Markit

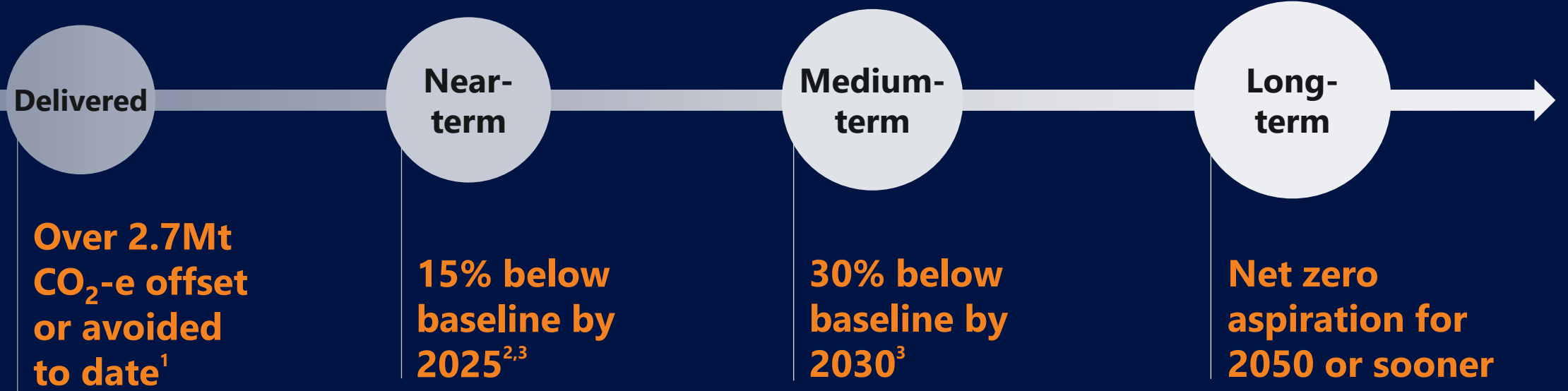
- 1. Does not include Noble acquisition.
- 2. Prior to Concho acquisition.
- 3. Proposing to increase LNG sales to 50 Mtpa by 2025.
- 4. Including Rosneft. Proposing to increase LNG portfolio to 30 Mtpa by 2030.

ersonal use only

# Clear targets for decarbonising our production



ersonal use only



Decarbonising production

Avoid in design • Reduce through efficient operations • Offset

1. Woodside operated. Avoided through energy efficiencies, voluntary offsets acquired and surrendered and ACCUs generated and retained/surrendered.  
2. Equivalent to previously disclosed equity reservoir offset target.  
3. Baseline is set as the average equity Scope 1 and 2 emissions over 2016-2020 and may be adjusted (up or down) for potential equity changes in producing or sanctioned assets, with an FID prior to 2021.

# Decarbonisation strategy is working



## Avoid emissions

**Case study:** Goodwyn-A battery saves over 3,000 tonnes of fuel gas and 7,000 tonnes of CO<sub>2</sub>-e emissions each year



Over 2.7Mt CO<sub>2</sub>-e offset or avoided to date<sup>1</sup>



## Offset emissions

**Case study:** 44 million trees planted since 2008, sequestering approximately 700,000 tonnes of CO<sub>2</sub>-e to date

## Reduce emissions

**Case study:** Increased efficiency through Pluto LNG automated process control reduces emissions by 10,000 tonnes of CO<sub>2</sub>-e each year



1. Woodside operated.

ersonal use only

ersonal use only



# INVESTOR BRIEFING DAY 2020

---

11 November 2020

[www.woodside.com.au](http://www.woodside.com.au)

[investor@woodside.com.au](mailto:investor@woodside.com.au)



# DEVELOPMENTS

**Meg O'Neill**

Executive Vice President  
Development and Marketing

# SCARBOROUGH AND PLUTO TRAIN 2

## Unlocking significant value



### Large, world-class resource

- 11.1 Tcf of dry gas<sup>1</sup>
- Well appraised reservoir

### Capital efficient concept

- Leveraging existing infrastructure
- Increasing capacity
- Low unit development and operating costs

### Advantaged timing

- Contractor market
- LNG demand increasing

### FID on track for H2 2021

- Joint venture aligned
- First cargo 2026



Conceptual image, not to scale. All dates are Woodside targets (unless otherwise indicated). Developments and dates are subject to joint venture approvals, regulatory approvals, appropriate market conditions and relevant commercial arrangements.

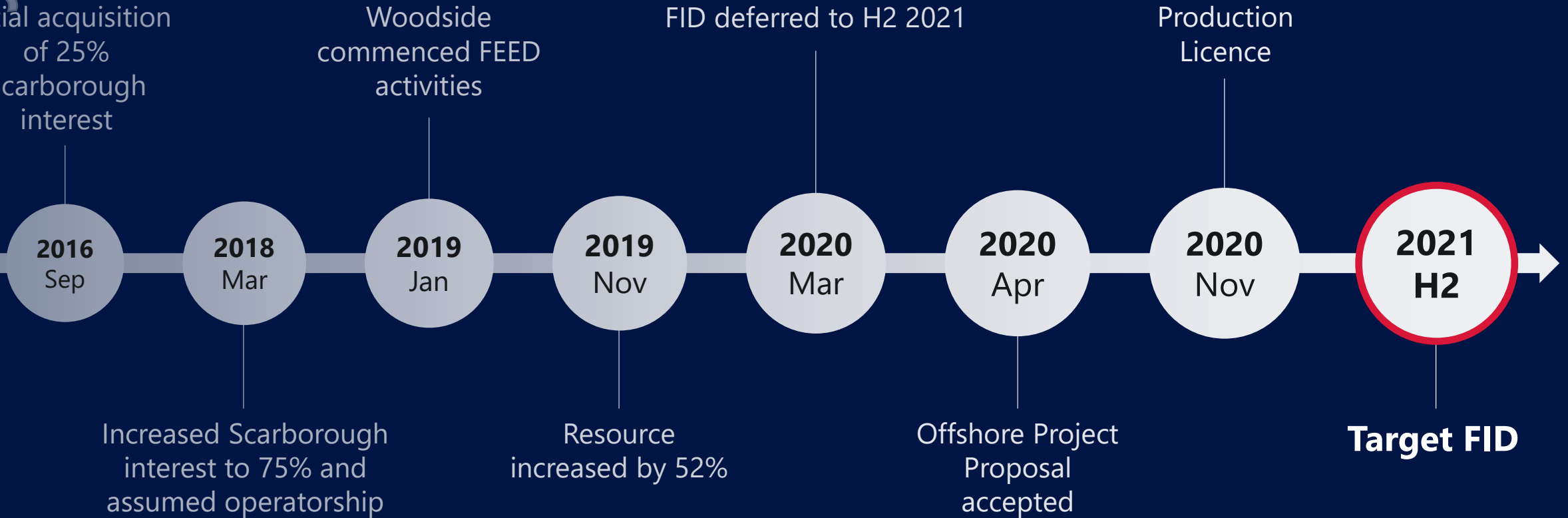
<sup>1</sup>. Scarborough field, 2C, 100%.

# SCARBOROUGH AND PLUTO TRAIN 2

## Journey to FID



ersonal use only



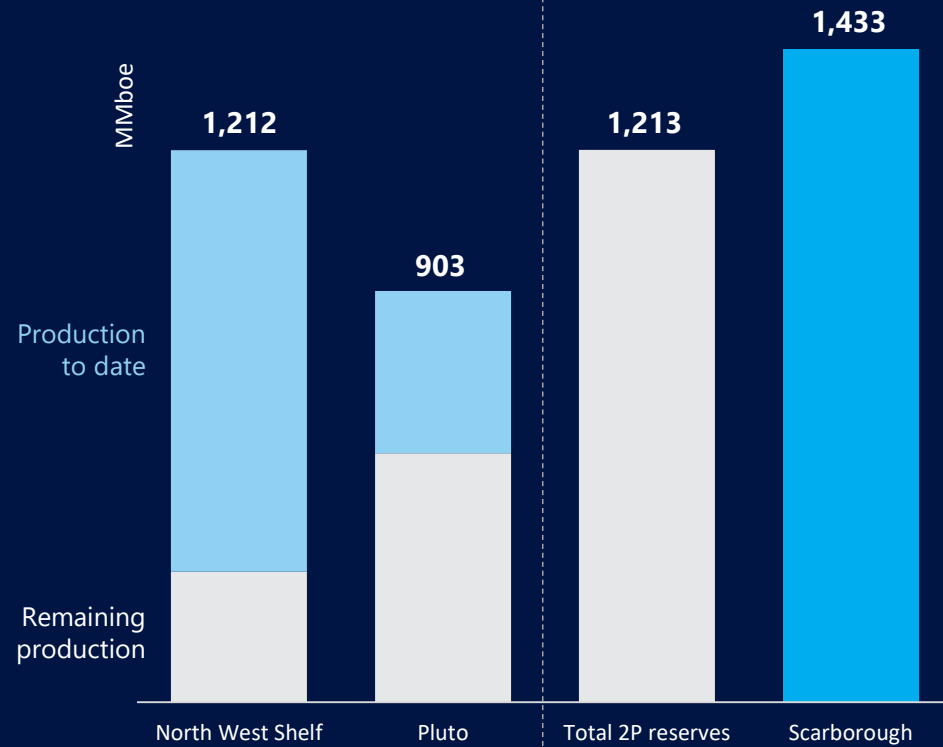
FID date is a Woodside target. Developments and dates are subject to joint venture approvals, regulatory approvals, appropriate market conditions and relevant commercial arrangements.

# SCARBOROUGH AND PLUTO TRAIN 2

## Transformative impact



Reserves and resources<sup>1</sup>



~\$**35** billion  
expected net cash flow<sup>2</sup>

>**12%** internal rate of return<sup>3</sup>

1. Woodside equity. Includes Pluto, Xena and Pyxis, excludes WA-404-P. "Remaining production" (includes 2P reserves and 2C resources), "Production to date" and "Total 2P reserves" are as of 31 December 2019. "Scarborough" comprises 2C resources for the Scarborough field.

2. Cumulative, post-tax, undiscounted net cash flow. Woodside share at current participating interest.

3. Integrated Scarborough and Pluto.

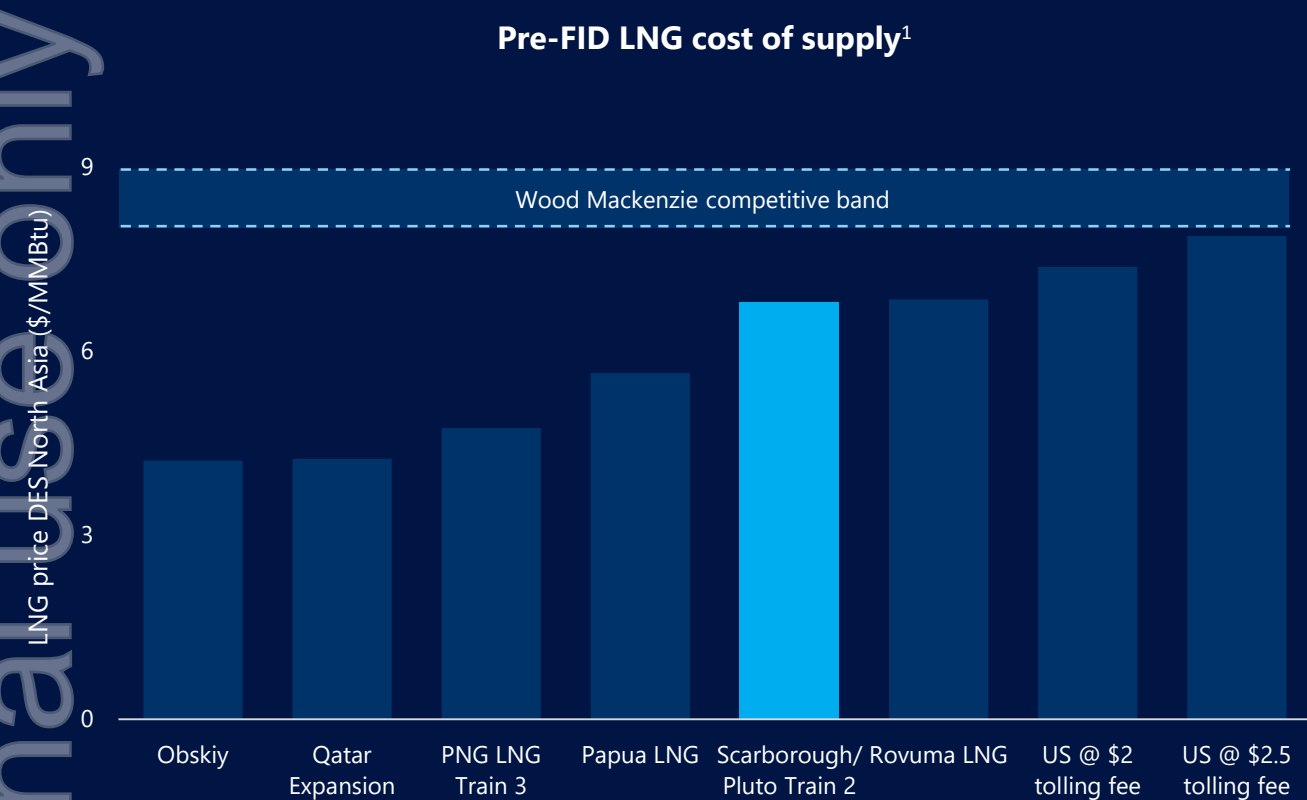


# SCARBOROUGH AND PLUTO TRAIN 2

## Competitive and value accretive



Pre-FID LNG cost of supply<sup>1</sup>



~ \$6.7 per boe unit development cost<sup>2</sup>

< \$6.8 per MMBtu cost of supply<sup>3</sup>

Analysis based on 6.5 Mtpa upstream capacity development concept.

1. Source: Wood Mackenzie. Woodside estimates for Scarborough/Pluto Train 2. At 10% discount rate.

2. The sum of all estimated capital expenditure over the life of the development (excluding abandonment) in 2020 real terms, divided by the estimated ultimate recovery. Integrated Scarborough and Pluto.

3. Integrated LNG DES North Asia. At 10% discount rate.

ersonal use only

# Scarborough LNG supports decarbonisation



ersonal use only

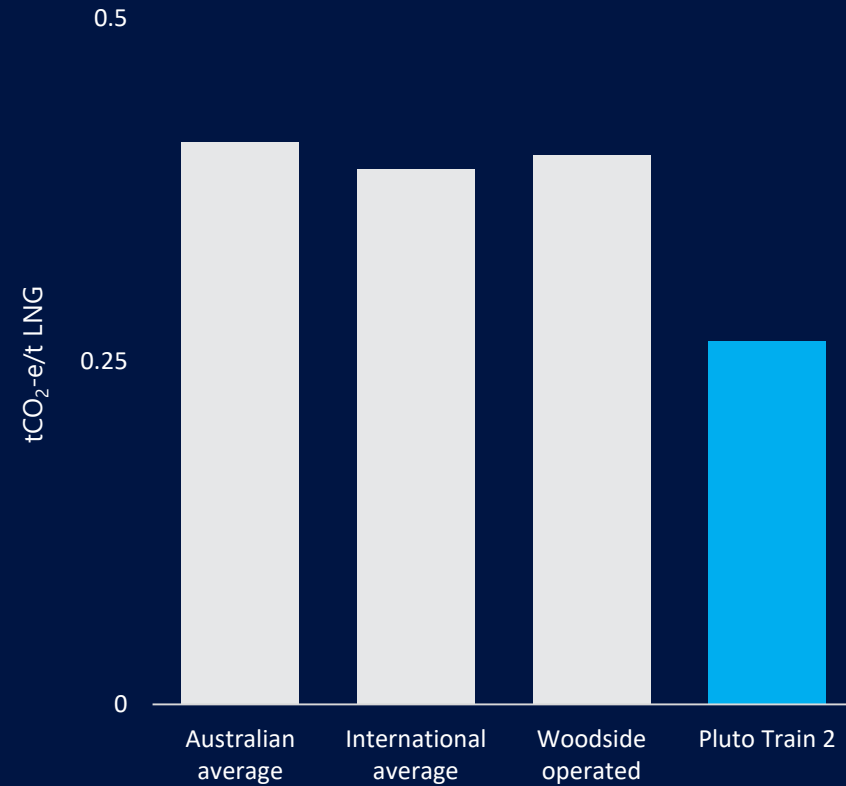
**Negligible CO<sub>2</sub> in reservoir**

**Adopting best available proven technology**

**Low emissions intensity from Pluto Train 2**

**Aligned with decarbonisation strategy**

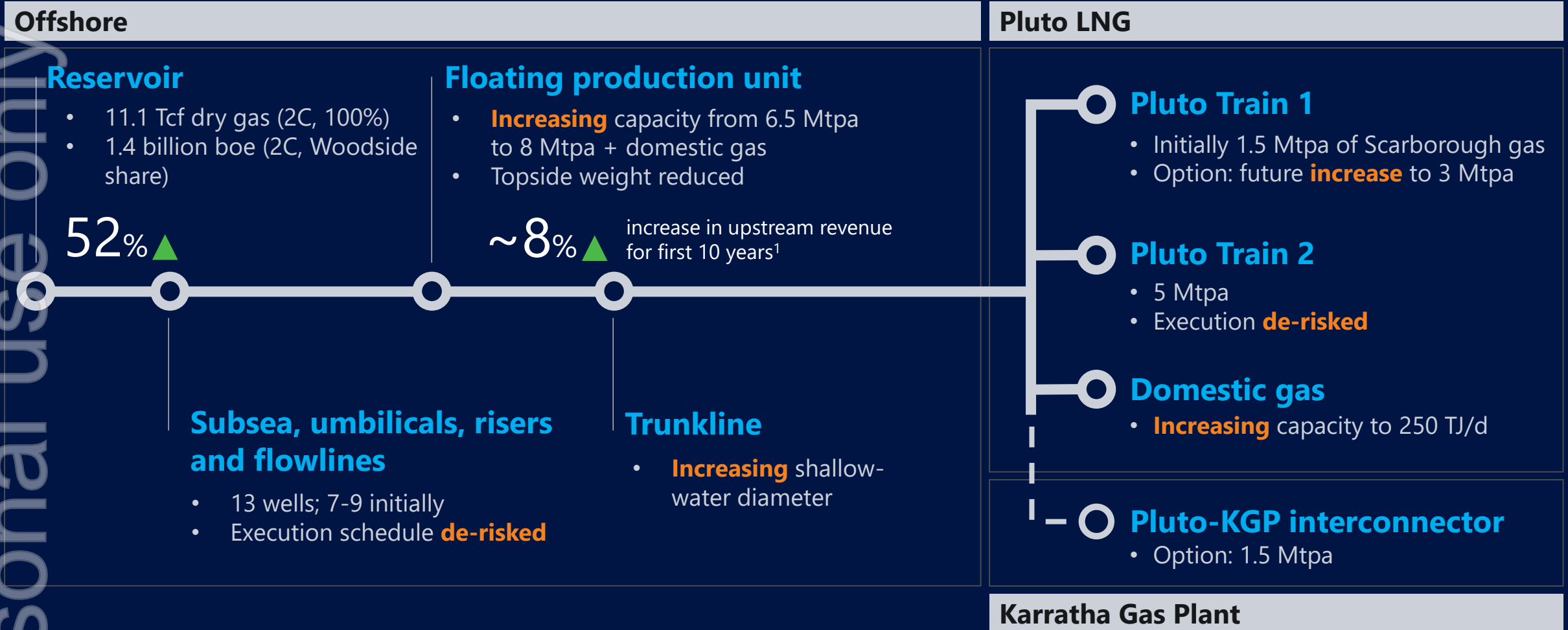
Pluto Train 2 greenhouse gas intensity<sup>1</sup>



1. GHG intensity normalised to name-plate LNG production, including reservoir CO<sub>2</sub>. Based on publicly available information.

# SCARBOROUGH AND PLUTO TRAIN 2

## Maximising value



Capacity increases subject to joint venture approval.  
 1. Woodside share at current equity interest in Scarborough.

# SCARBOROUGH AND PLUTO TRAIN 2

## Robust contracting strategy

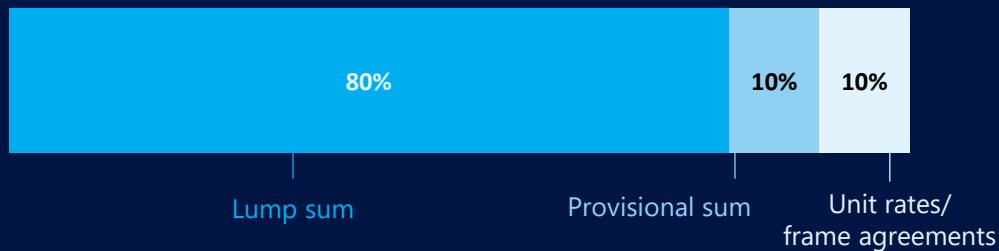


**Strong contractor relationships**

**High confidence contracting model**

**De-risking cost and schedule**

Total project contractor scope targeted breakdown<sup>1</sup>



Subsea, umbilicals, risers and flowlines	
Floating production unit	
Export trunkline installation	
Pluto Train 2	

1. Excludes drilling costs. Provisional sums will be converted to lump sum within 12 months of contract execution.

ersonal use only

## Pluto Train 2 increases value



**Pluto Train 2 has lower overall cost**

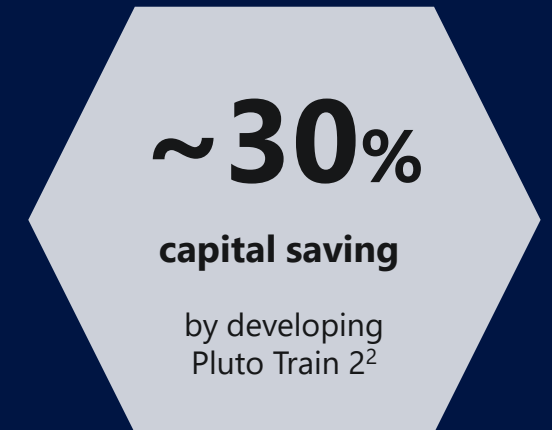
- NWS is not designed for large volumes of Scarborough gas
- A new train is more cost efficient than modifications to NWS
- Extends economic life of Pluto LNG at minimal cost

**Shortest development time**

- Scarborough to NWS commercial negotiations would delay FID
- Delays would risk current contracts, HOAs and SPAs
- Scarborough JV aligned on FID target in H2 2021

**Maximised value capture**

- 90% of toll from Train 1 and common user facilities, approximately 50% of toll from Train 2<sup>1</sup>
- Only 16.67% share of toll from NWS
- Higher Woodside equity interest in Pluto de-risks onshore execution



1. Woodside share of toll revenue. Assuming successful sell-down of Pluto Train 2 to approximately 50%.  
2. Comparison of total capital expenditure over field life for Pluto versus NWS, real terms 2020.

# SCARBOROUGH AND PLUTO TRAIN 2

## Readying for FID



**Stronger approvals position**

**Advantageous contractor market**

**Unchanged LNG market fundamentals**

**Aligned joint venture**

**Increased value proposition**

**Targeting  
FID  
H2 2021**

**Targeting  
first cargo  
2026**

All dates are Woodside targets (unless otherwise indicated). Developments and dates are subject to joint venture approvals, regulatory approvals, appropriate market conditions and relevant commercial arrangements.

ersonal use only

# Sangomar schedule on track; COVID-19 impacts mitigated



## Execution progressing

- VLCC tanker delivered
- Tank cleaning nearing completion
- Tanker due to arrive at shipyard in November
- Detailed design of the FPSO well advanced
- Subsea fabrication on schedule
- Preparing for 2021 drilling campaign

**Targeting first oil 2023**

## Contractors

- Experienced contractor team
- Resilient global supply chain management
- Developing operational footprint in Senegal

Robust economics  
**>15% IRR<sup>1</sup>**

FPSO

Subsea, umbilicals, risers and flowlines

Drilling rigs

All dates are Woodside targets (unless otherwise indicated).

1. Excludes Cairn Energy PLC purchase price.

ersonal use only

# Significantly increased seismic quality

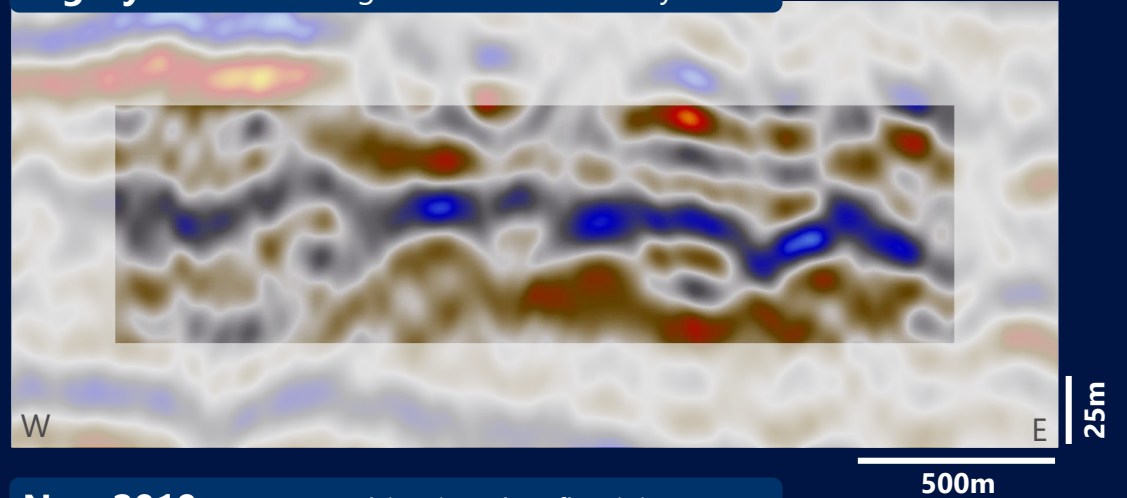


ersonal use only

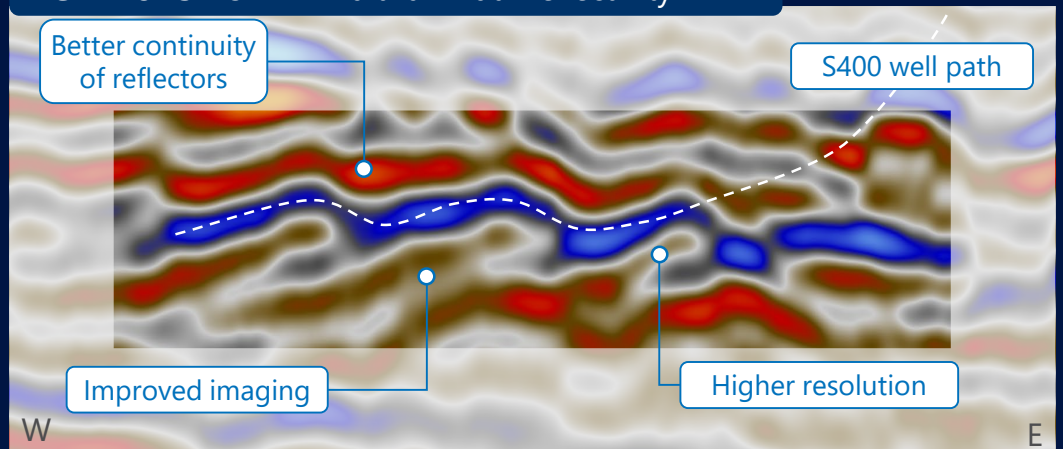
## Value added

- Completed processing of high definition seismic data
- Supports simplification and de-risking of Phase 1 drilling program
- Better understanding of the S400 sands
- Greater confidence for Phase 2+ development planning

Legacy 2007 3D single azimuth reflectivity

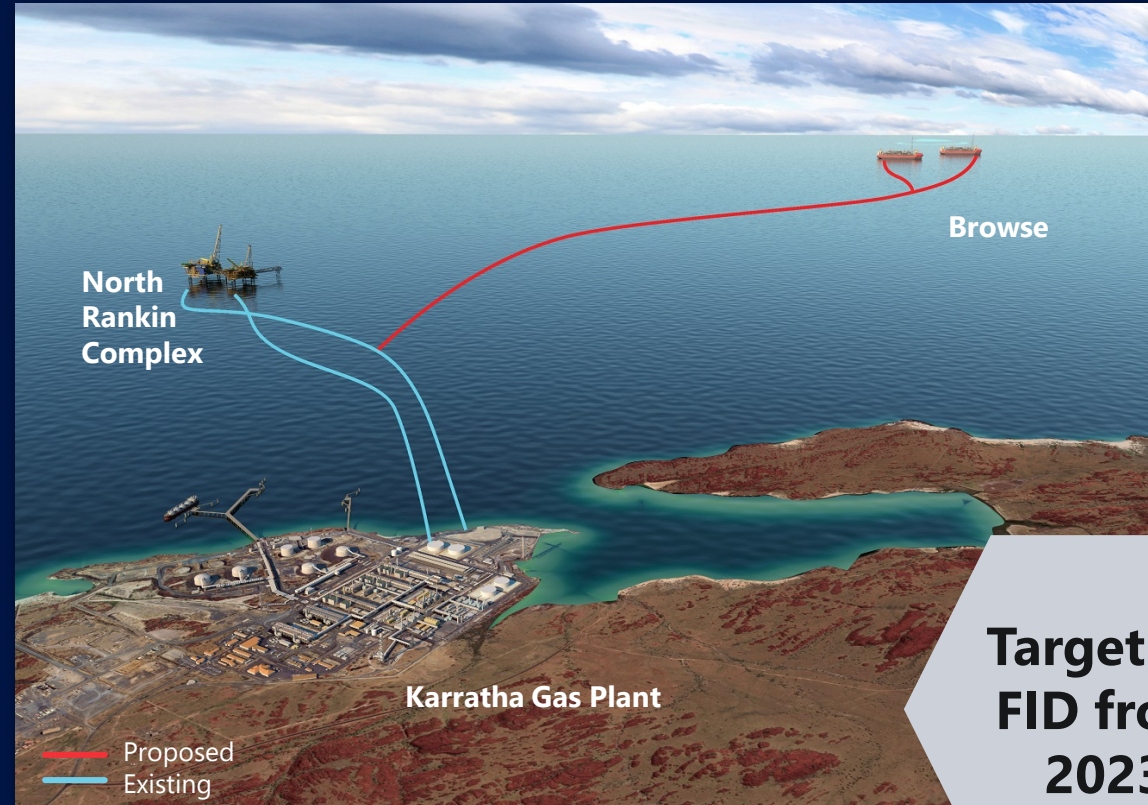


New 2019 3DHD multi-azimuth reflectivity





- Browse Joint Venture aligned on development through the North West Shelf
- Production Licence and Retention Lease applications under assessment by regulators
- Environmental approval processes well advanced
- Assessing feasibility of potential carbon capture and storage (CCS)
- Progressing value optimisation opportunities



**Targeting  
FID from  
2023**

An aerial photograph of a coastal landscape. The foreground shows a sandy beach with sparse green vegetation. A dirt road runs parallel to the shore. The ocean is visible, with waves breaking near the shore. The sky is clear and blue.

# OPERATIONS

**Fiona Hick**

Senior Vice President Operations

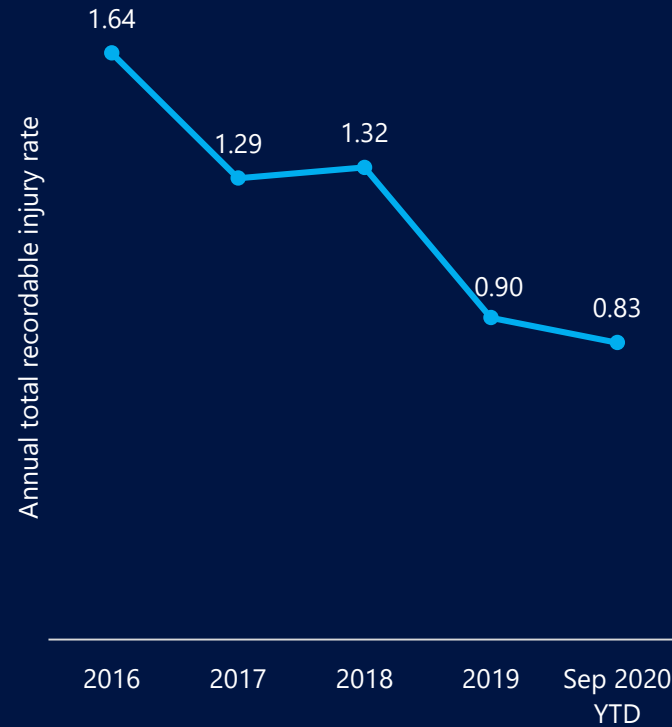
# Outstanding operational performance



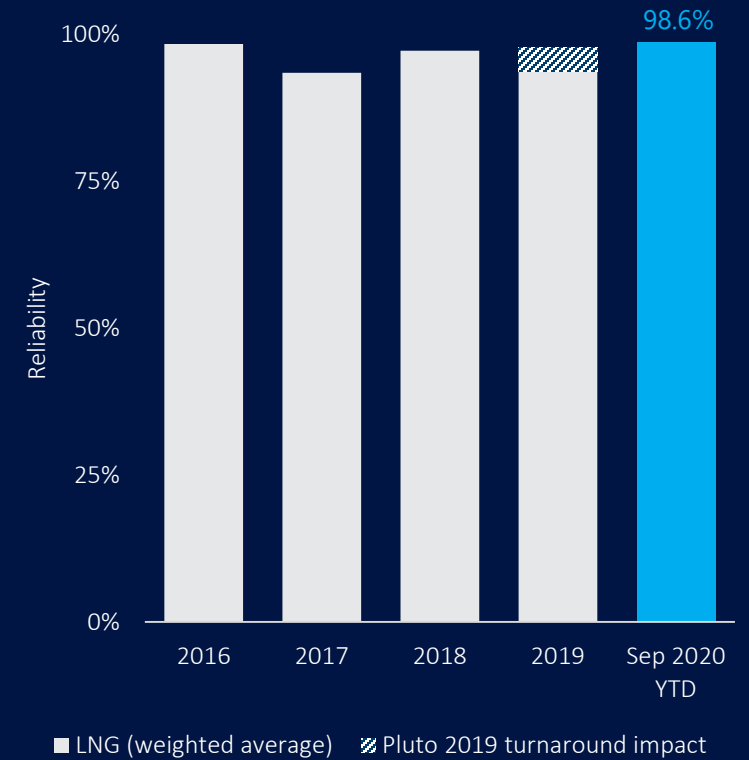
ersonal use only

- 18% increase in year-on-year production year to date<sup>1</sup>
- Uncompromising safety performance
- Immediate and proactive response to COVID-19
- Skilled planning and disciplined execution of major activities
- High operational reliability

## Strong safety performance



## High LNG reliability



1. Q3 2020 year to date compared to Q3 2019 year to date.

### Proactive response

- Immediate workforce reorganisation
  - Temporary rosters in front-line locations
  - Segregation of onsite and offsite staff
- Collaboration with government and regulators
- Restructured delivery of critical maintenance
- Smooth transition back to 100% occupancy for frontline locations

### Embedded actions

- Digital capability enhancement
- Remote subsea and pipeline inspection
- Resilient staffing philosophy for turnarounds
- Temporary and permanent relocation
- Community support

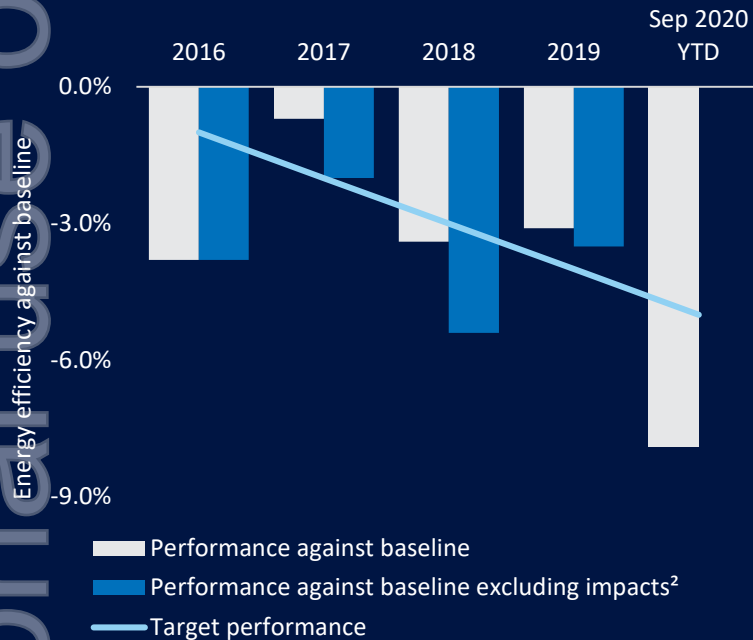
**Health and wellbeing of staff and safe operations maintained**

# Delivering our climate commitments



## Current commitments

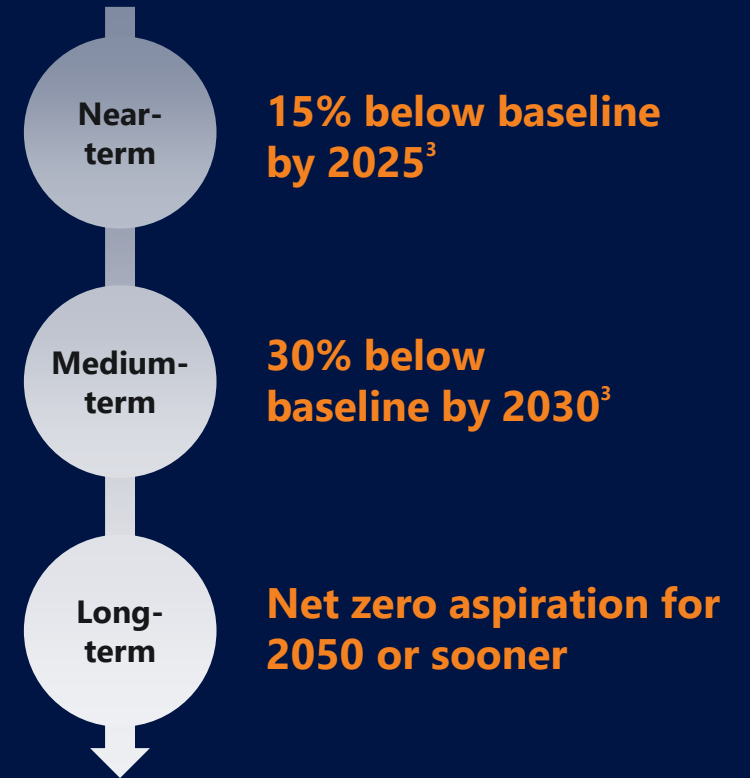
On track to deliver 5% improvement against energy efficiency baseline in 2020<sup>1</sup>



## Enablers

- Increased governance and communication of emissions performance
- Rethinking operational philosophies, such as saving fuel gas through start-up procedures
- Minimising power generation spinning reserve across operational facilities
- Flare reduction activities at Pluto LNG

## Targets



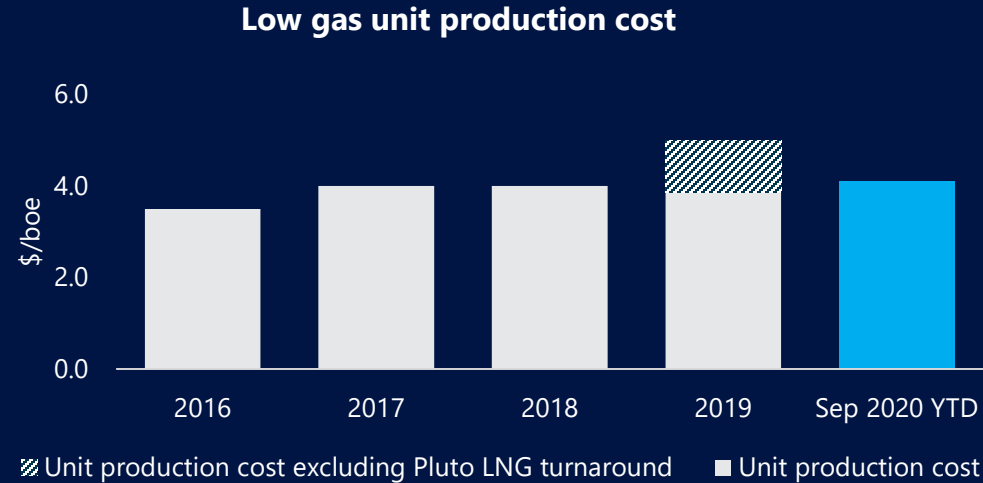
1. The energy efficiency improvement target against baseline performance is measured relative to product energy efficiency prior to 2016.  
 2. Impacts include one-off production interruptions such as maintenance turnarounds.  
 3. Baseline is set as the average equity Scope 1 and 2 emissions over 2016-2020 and may be adjusted (up or down) for potential equity changes in producing or sanctioned assets, with an FID prior to 2021.

## OPERATIONS

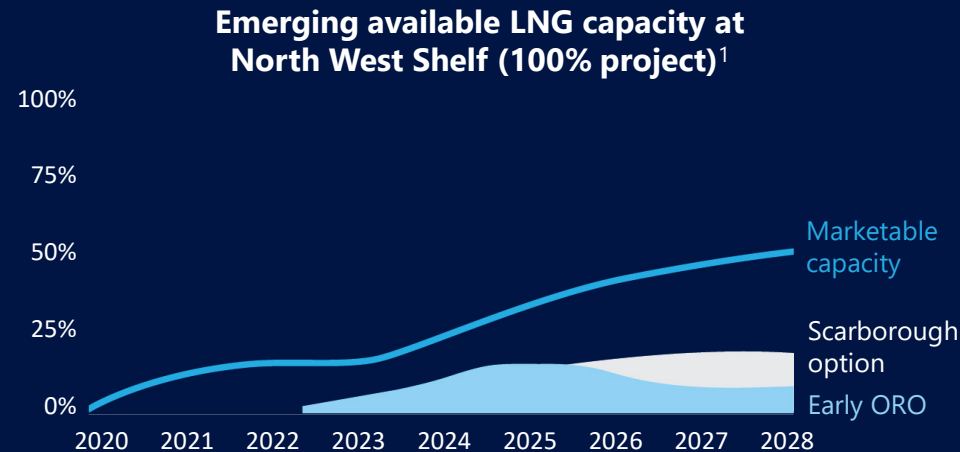
# Continual focus on cost



- Low-cost and high reliability is a key driver of value
- In 2020:
  - Maintenance efficiency
  - Safely modifying turnaround schedule



- NWS is forecast to be offshore constrained in 2021
- Opportunity to process gas from other resource owners (ORO)
- Targeting finalisation in Q4 2020 of early ORO agreements



1. Indicative representation only, not guidance.  
2. Excludes shipping and marketing costs.

## 2021 priorities

Targeting ~15% reduction in NWS cash operating cost<sup>2</sup>

Targeting no increase in Pluto unit production cost

Maintenance and brownfield reprioritisation

Reduced external spend

# Transforming operations to maintain low cost



Targeting 30% efficiency improvement for operated assets over 3 years



## People

- Enabled workforce
- Organisational redesign



## Process

- Automated workflows
- Agile, adaptive and scalable operating model
- Transition from producer to tolling business model



## Technology

- Increasing productivity through technology
- Data driven decision making and artificial intelligence
- Remote operation of assets





# NEW ENERGY

---

**Shaun Gregory**  
Executive Vice President  
Sustainability



# A future business in new energy



ersonal use only



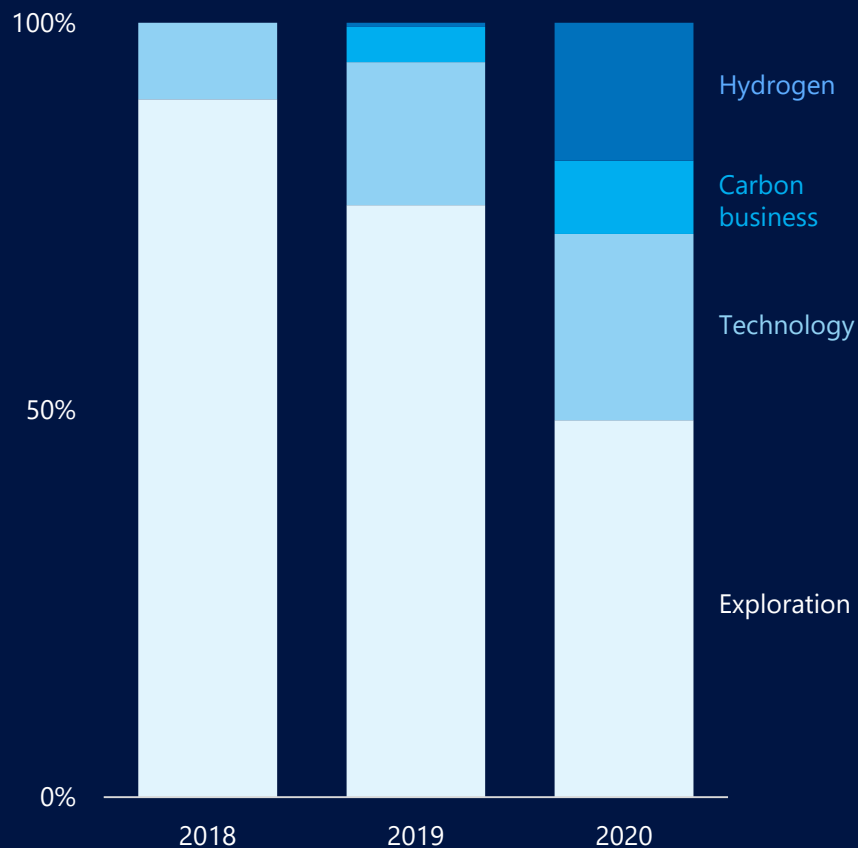
Scalable to match the pace of the energy transition

# Rebalanced expenditure is creating new opportunities



ersonal use only

### Increased investment in new energy



## Hydrogen

- Green H<sub>2</sub> projects shortlisted for ARENA funding
- Partnering with Hyundai and KOGAS to develop refuelling stations in South Korea
- H<sub>2</sub> value chain feasibility with JERA and KOGAS

## Technology

- Capture and utilisation of carbon
- Partnerships with Monash University, UWA, Curtin University and Pusan National University
- Enabling base business and growth

## Carbon business

- Approximately 3.7 million native trees planted on three Woodside properties in 2020
- Building a diverse carbon offset portfolio
- Dedicated carbon capture and storage (CCS) team

# Competitive CCS is a scale play; supports a sustainable future



ersonal use only

## Identify geographical formations

Locating suitable reservoir sinks for carbon removal

## Aggregate for scale

Potential to source carbon from multiple projects

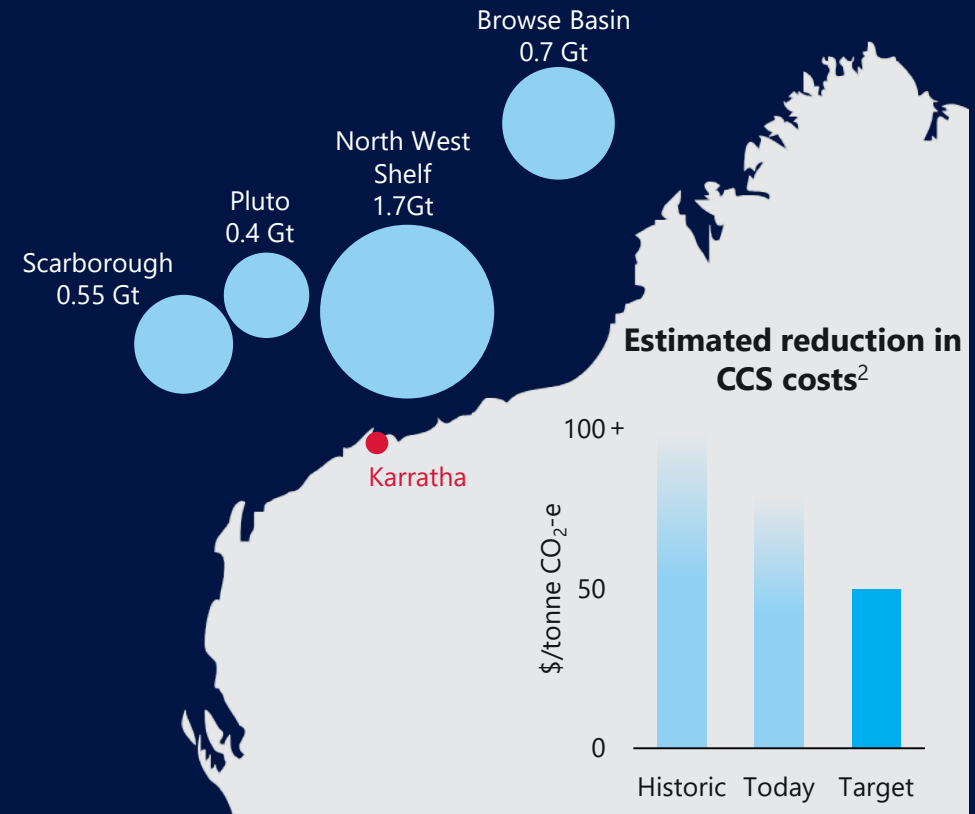
## Create sequestration hub

Reduce cost by combining multiple transport methods

## Unlock potential

~3.4Gt of storage potential across Woodside operated titles<sup>1</sup>

Potential geo-sequestration basins for carbon storage<sup>1</sup>



1. Estimates are 100% project, relate to carbon storage potential and are not resource estimates.

2. Woodside estimates and target.

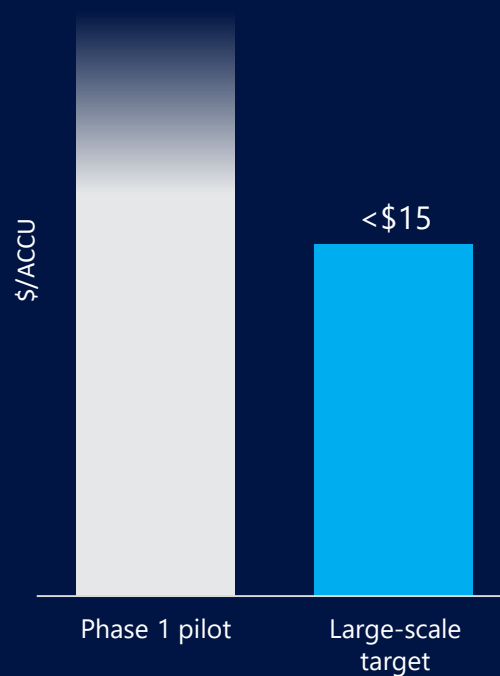
# Building a carbon offsets portfolio



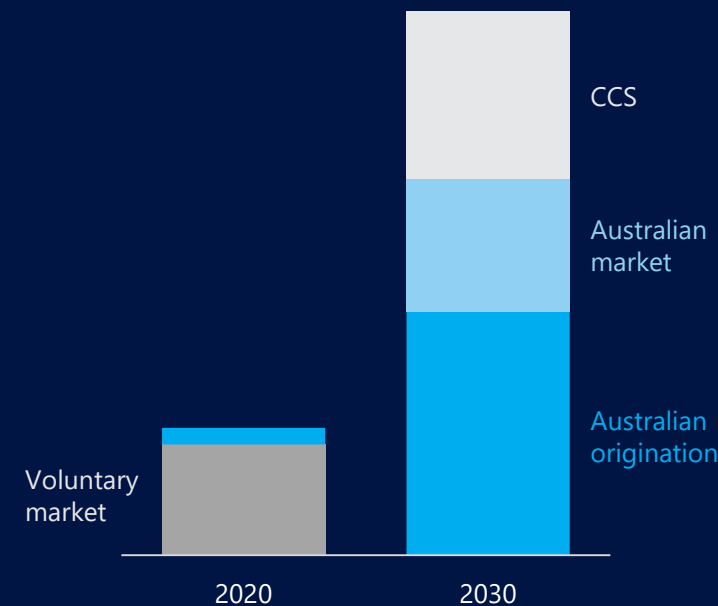
ersonal use only

- Building a diverse, cost competitive portfolio comprising origination projects and market-based offsets
- Established planting program with CO2 Australia
- Building carbon projects with Greening Australia:
  - Delivering quality offsets
  - Competitive cost of supply
- Provides carbon management certainty to sanction major projects

Decreasing portfolio cost<sup>1</sup>



Increasing portfolio diversification<sup>1</sup>



1. Indicative targets only.

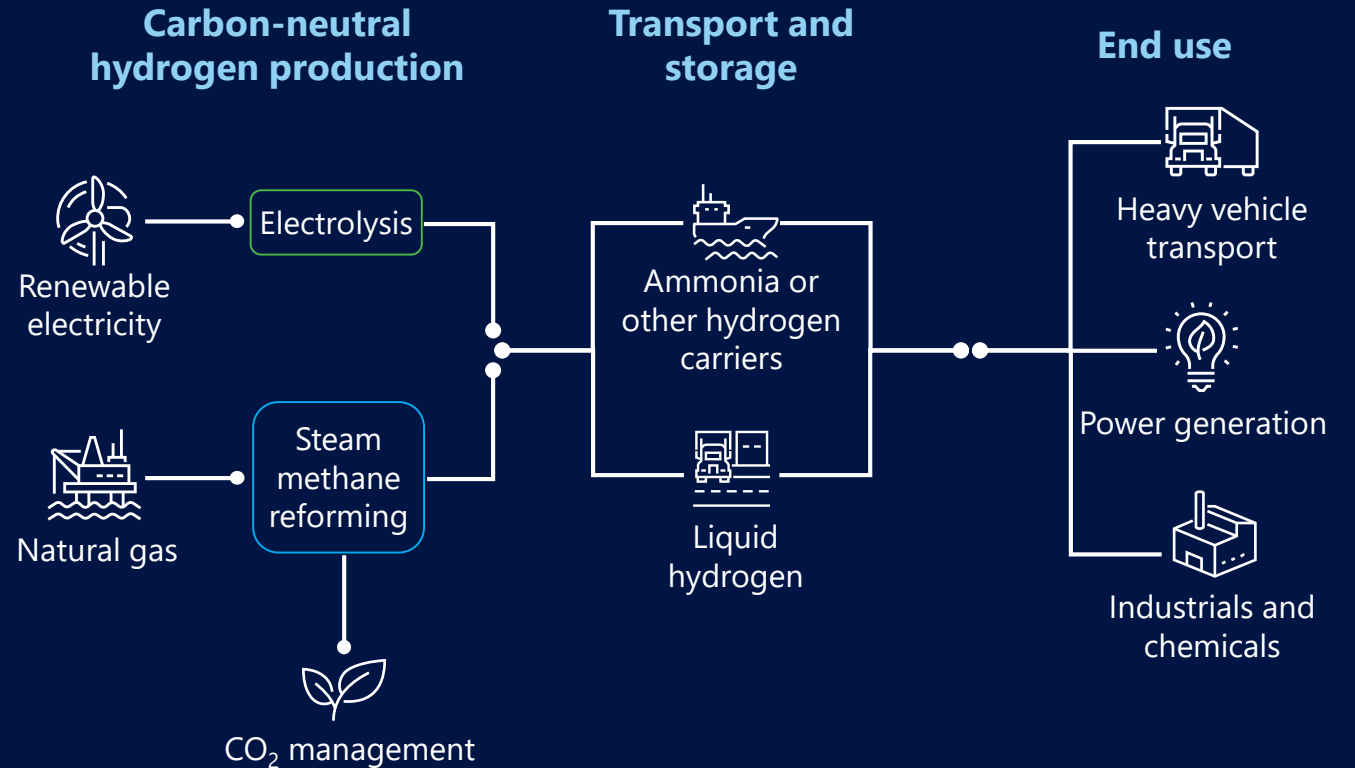


## Woodside advantages

- Ability to leverage existing infrastructure
- Experienced in processing and storage of cryogenic gases
- Established relationships with customers and technology providers
- Access to abundant renewables

## Woodside partnerships

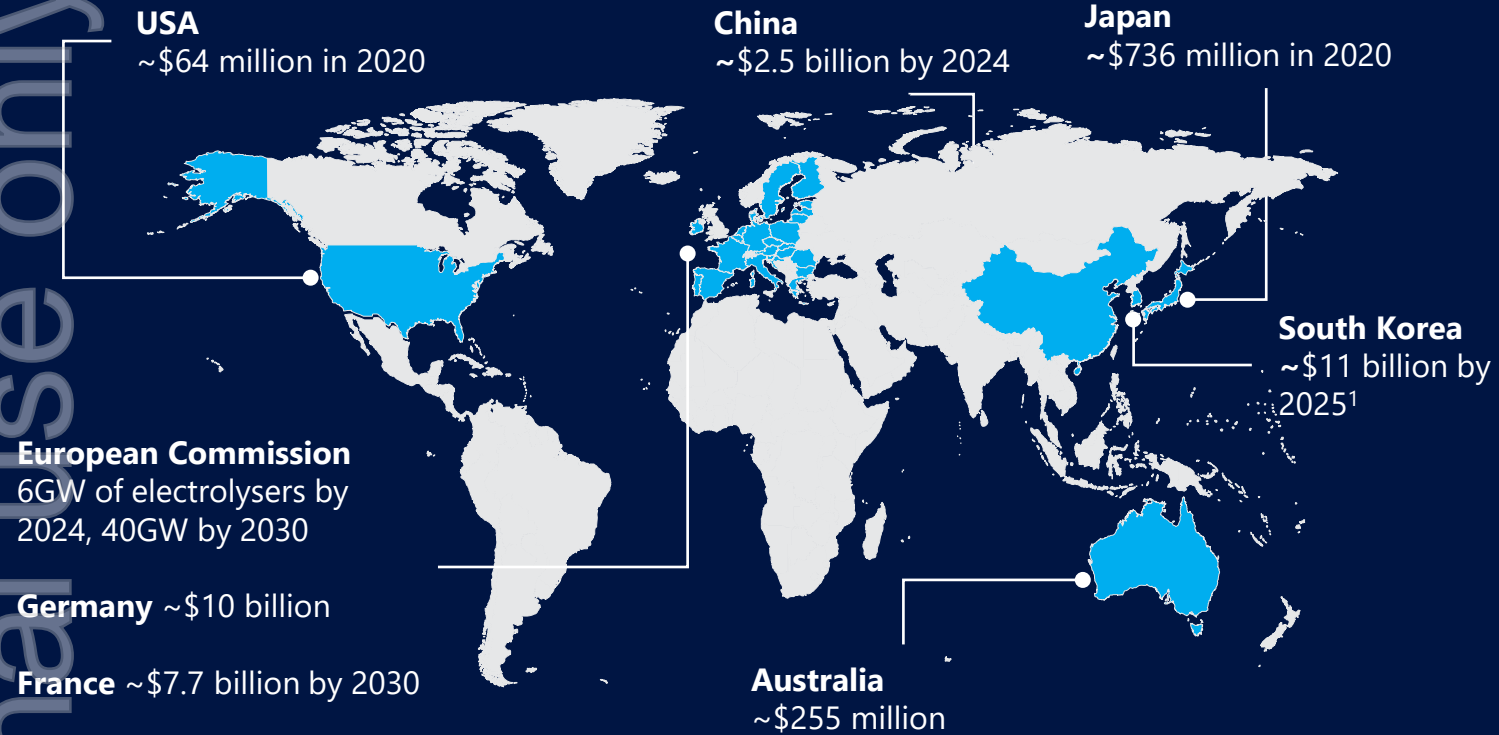
- Japanese consortia trialling use of ammonia in power generation
- Exploring green hydrogen export project with KOGAS



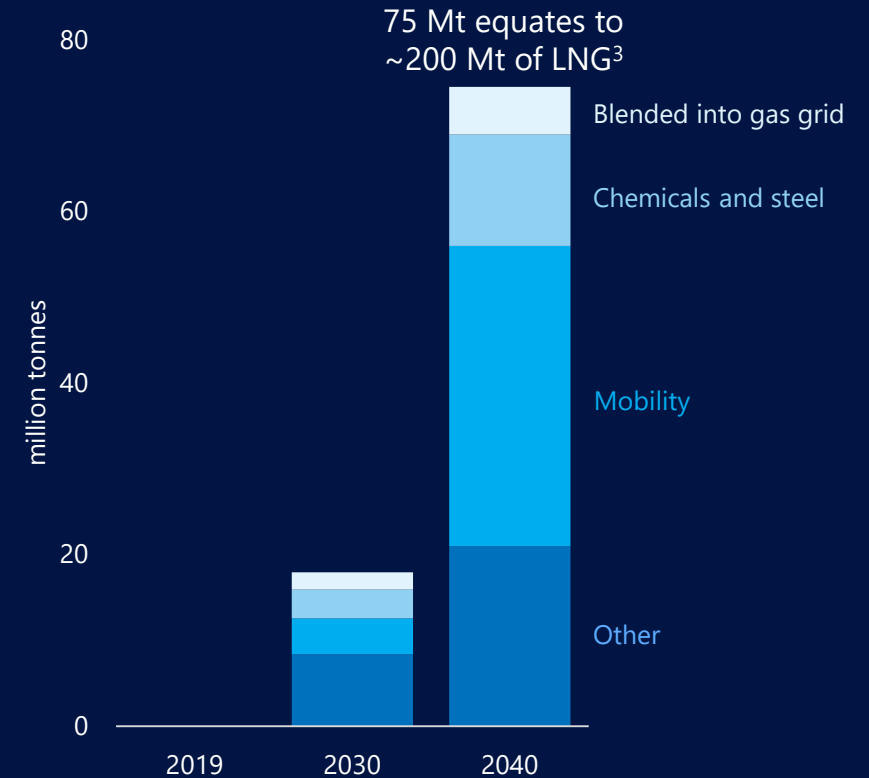
# Governments are stimulating hydrogen in key markets



ersonal use only



Blue and green hydrogen demand<sup>2</sup>



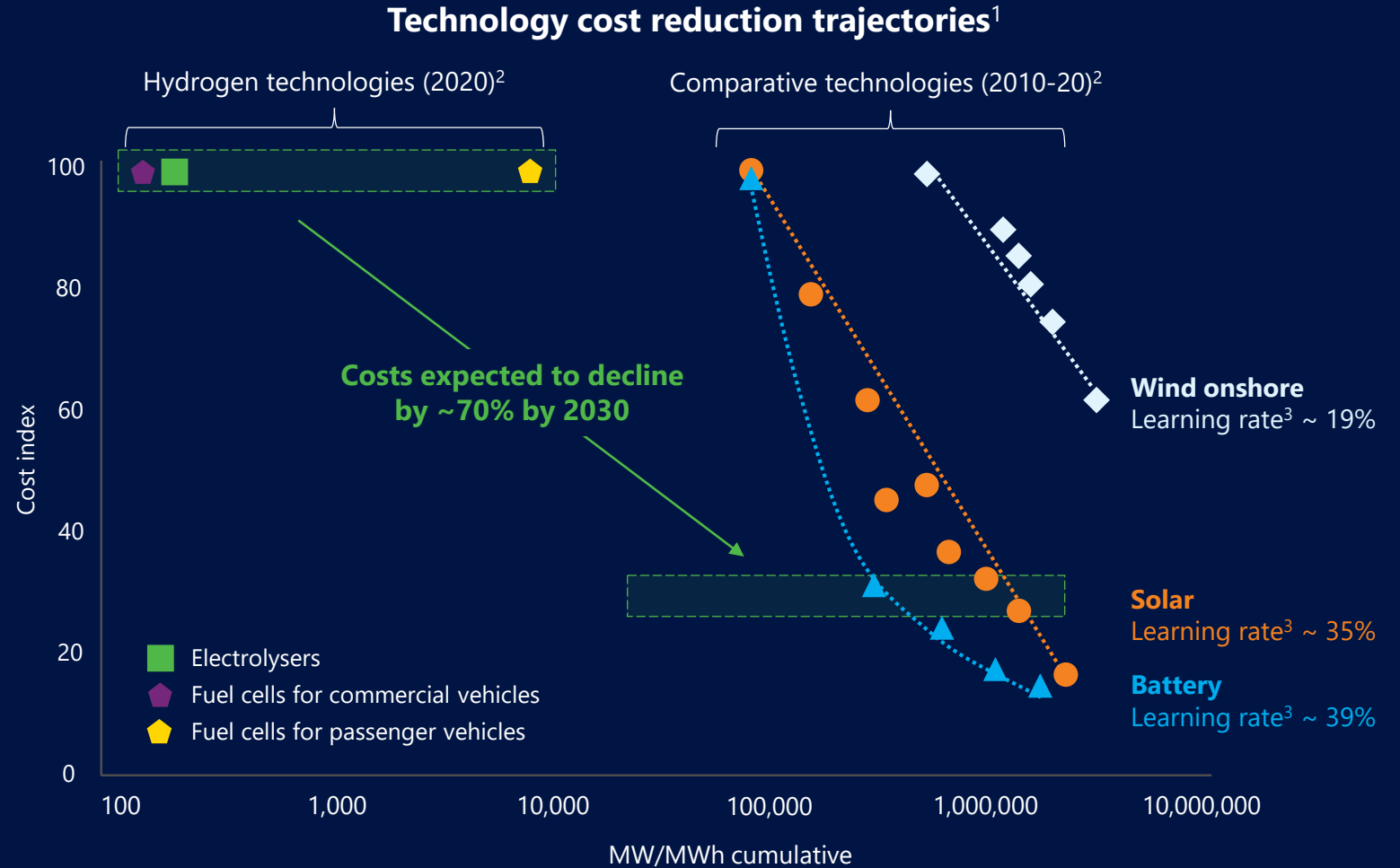
1. Expanding the supply of electric and hydrogen vehicles; by 2025, targeting 200,000 vehicles and 450 refueling stations.  
 2. IEA World Energy Outlook 2020. Demand for hydrogen from electrolysis and fossil fuels with CCUS based on IEA SDS scenario.  
 3. On an energy basis. Converted under the following assumptions: Energy density of hydrogen = 142 MJ/kg, and energy density of LNG = 54 MJ/kg.

# Technology improvements and scale will reduce the cost of hydrogen



ersonal use only

- Renewable power costs have reduced with scale
- Lower renewable power costs reduce hydrogen generation cost
- Hydrogen cost is expected to further decrease with increased scale and market penetration

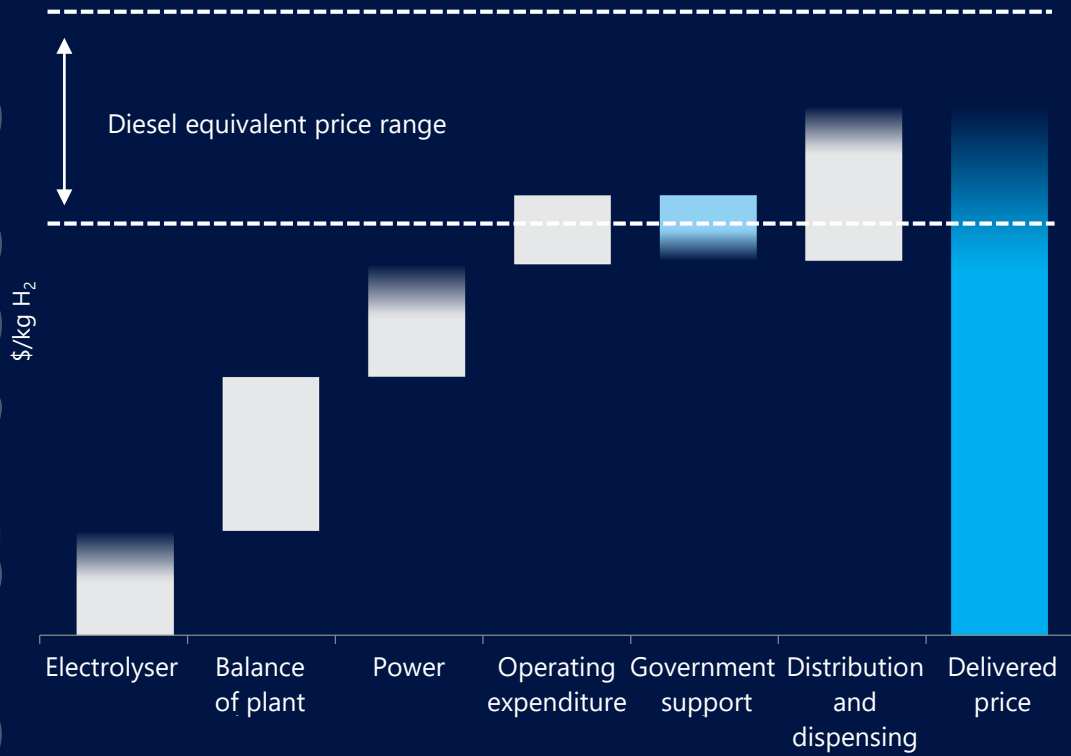


1. Sourced from the Hydrogen Council, McKinsey, IRENA, BNEF, Ruffini & Wei (2018) (learning rates), DoE.  
 2. Installed base: assuming 50/50 split of electrolysers volume with 50-75% utilisation; assuming 115 kW for PV, 250 kW for buses and 300 kW for trucks; LCOE used for solar cost; batteries in MWh.  
 3. Learning rate corresponds to the percentage cost reduction per unit for every doubling in cumulative volume.

# Green hydrogen can be competitive with diesel



## Estimated cost of supply<sup>1</sup>



## Proposed H2TAS project

10 MW (4.5 tonnes H<sub>2</sub> per day) green hydrogen production facility



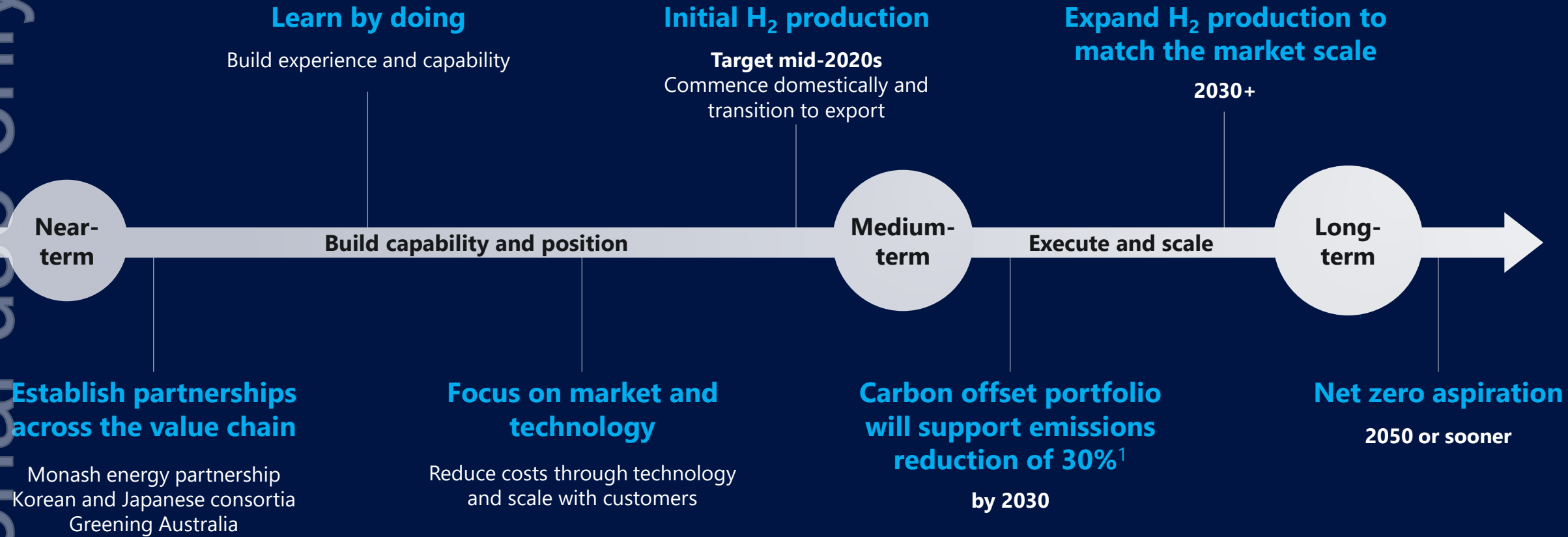
Conceptual image, not to scale.  
1. Indicative. Based on 2019 prices.



# Right steps to a profitable future business



ersonal use only



1. 30% target as described on slide 16.



# CAPITAL MANAGEMENT

---

**Sherry Duhe**

CFO and Executive Vice President

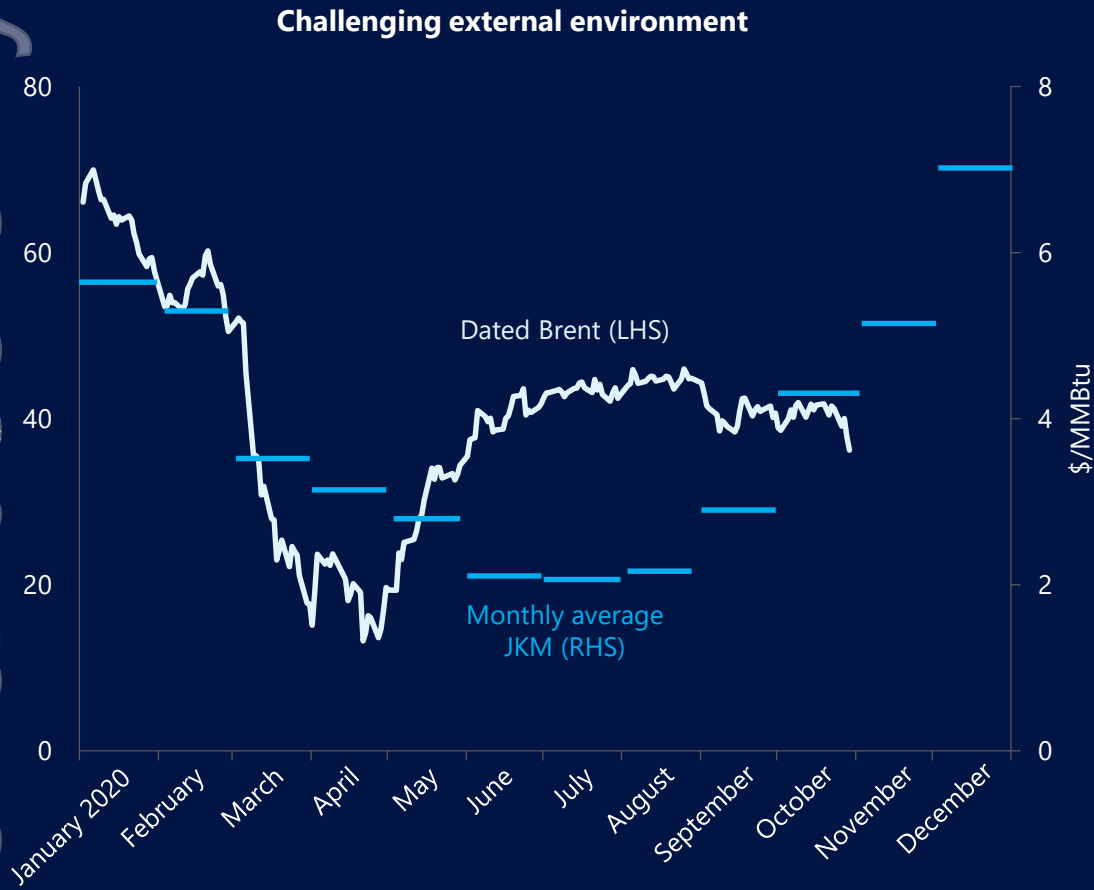
ersonal use only

# CAPITAL MANAGEMENT

## Demonstrating resilience



ersonal use only



Source: Platts. JKM is the reported average price for deliveries in the given month. The December JKM price is the cumulative monthly average for prices published to 4 November 2020.

## Clear priorities



ersonal use only

- 1** Cash and value preservation in current environment
- 2** Sell-down Pluto Train 2 and Sangomar equity
- 3** Scarborough FID commercial and financial readiness
- 4** Identify and assess value-accretive opportunities
- 5** Release value from existing infrastructure
- 6** Protect key financial metrics and strong balance sheet

# CAPITAL MANAGEMENT

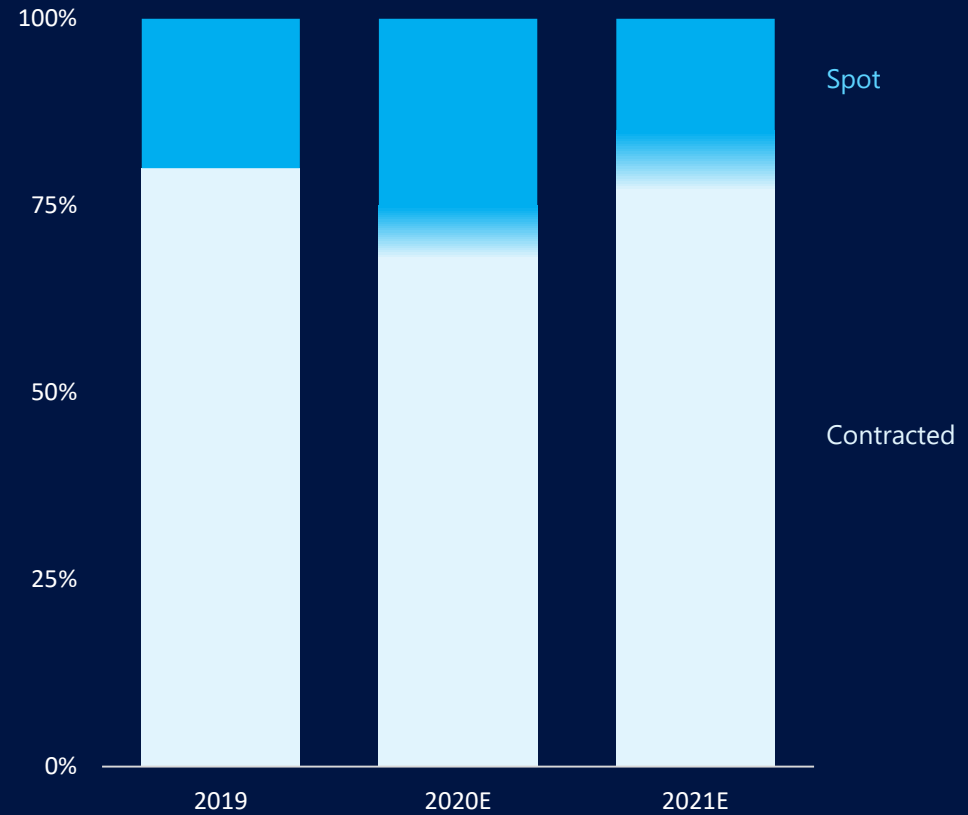
## Revenue effectiveness



ersonal use only

- Balanced portfolio of long-term LNG contracts and spot sales
- Portfolio provides flexibility to meet customer demand and to capture upside
- High quality customer base
- Targeting approximately 15-20% spot sales in 2021
- Active optimisation of sales portfolio
- Price reviews central to managing risk

### Produced LNG cargo mix



CAPITAL MANAGEMENT  
Sustained cash margin

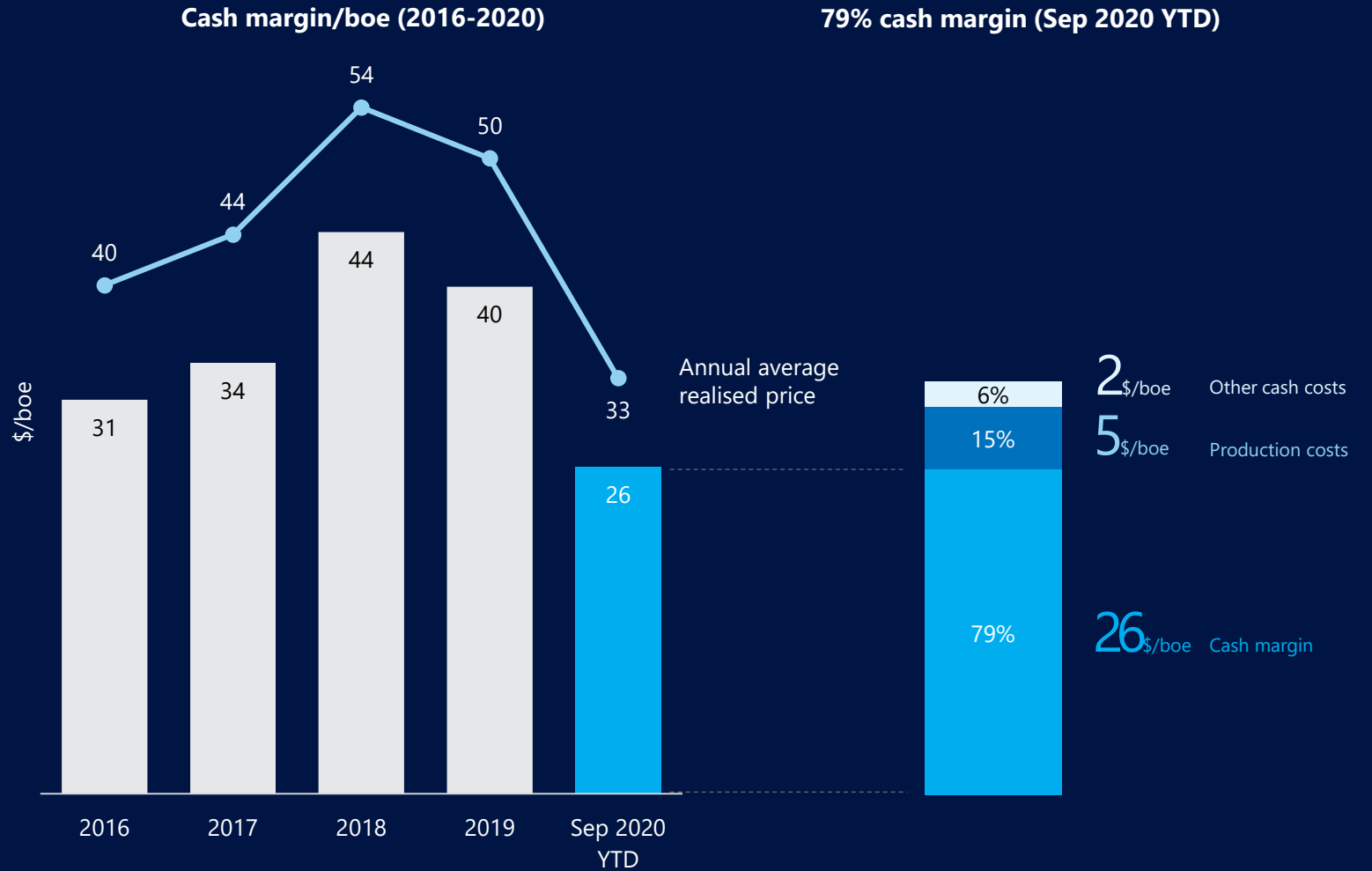


ersonal use only

High reliability, low cost base business delivering cash

Disciplined cost focus

Sustained strong cash margin above 75%



Cash margin and cash margin/boe shown on a pre-tax basis.

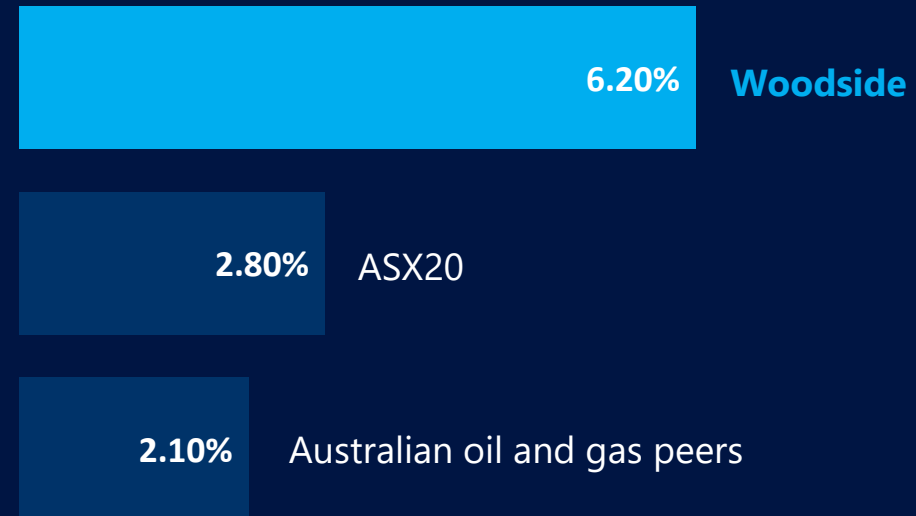
# Returning value to shareholders



ersonal use only

- Dividend policy of 50% of underlying NPAT
- Recent dividends have represented payout ratio of approximately 80%
- Maintained 2020 interim dividend payout ratio through challenging market conditions
- Peer leading dividend yield
- Active dividend reinvestment plan
- Franking credit balance of A\$2.3B

Dividend yield, 12 months ending 30 June 2020<sup>1</sup>



<sup>1</sup> Based on closing share prices as at 19 October 2020. Calculated as the mean, on a net basis and not grossed up for franking credits.

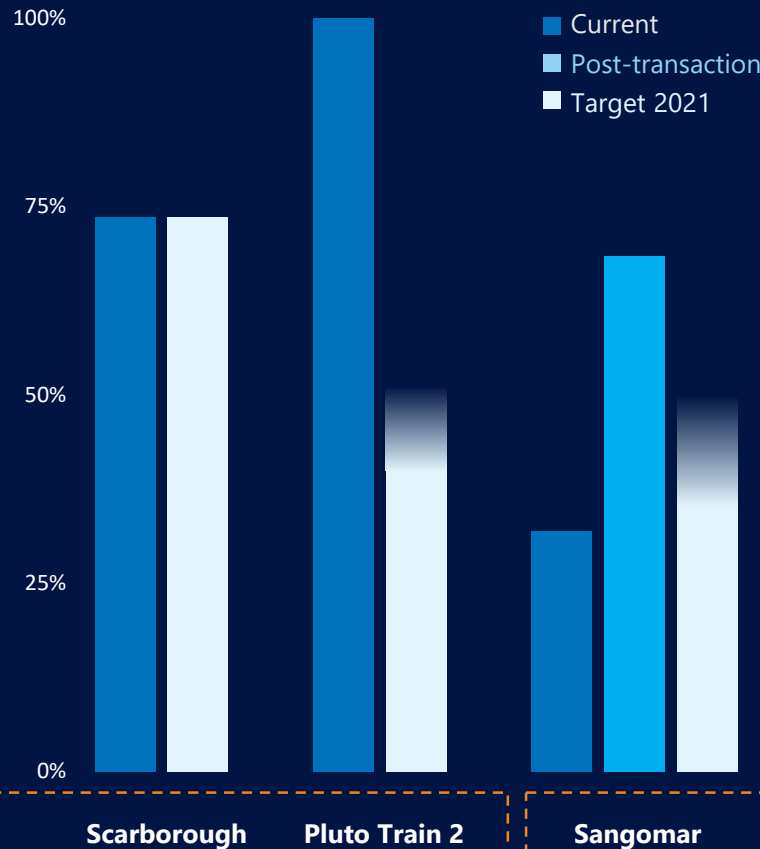
# Managing participating interest to support growth



## Pluto Train 2 sell-down

- Key capital management lever
- Reduces capital spend by approximately \$3 billion<sup>1</sup>
- Exploring opportunity to monetise infrastructure assets
- Strong interest from infrastructure investors
- Ongoing engagement with interested parties

2021 targeted participating interest



## Sangomar sell-down

- Completion of acquisition of additional 36.44% targeted for Q4 2020
- Approvals received from:
  - Cairn PLC shareholders
  - Senegal Minister of Petroleum & Energies
- Targeting subsequent sell-down of interest in 2021
- Reducing interest to ~40% reduces capital spend by approximately \$1.2 billion<sup>1</sup>
- De-risked asset in execute phase with near-term production

**Capital reduction of ~\$3B**

**Capital reduction of ~\$1.2B**

1. Excludes proceeds of sell-down.

ersonal use only



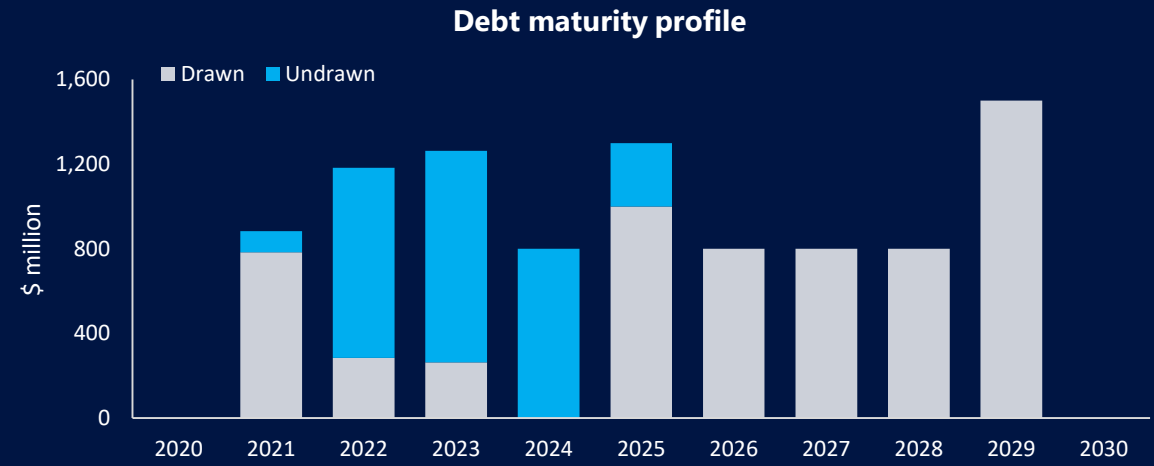
# CAPITAL MANAGEMENT

## Depth for Scarborough FID and emerging opportunities



ersonal use only

- Maintaining liquidity
- Optionality for value-accretive inorganic opportunities
- Support for creation of future business in a lower-carbon world



- Financial capability and balance sheet strength to take Scarborough FID
- Debt portfolio remains low cost and long tenor

## Multiple capital management levers



# Comprehensive and objective evaluation of opportunities



## Strategic priorities

Quality, tier one assets	Asset and geographical synergies
Immediate or near-term production	Portfolio balance
Carbon management	Sustainability

## Commercial considerations

Balance sheet and key financial metrics	Lower oil price resilience
Fiscal and regulatory regime	Partner alignment
Operatorship	Upside potential

## Investment targets<sup>1</sup>

<b>&gt; 12%</b> IRR
<b>&gt; 0.25</b> VIR <sup>2</sup>
<b>&lt; 8 years</b> Payback <sup>3</sup>

1. Typical target investment hurdles for Woodside investments. Not an exhaustive list of hurdles.  
2. Value investment ratio (VIR) = NPV (project)/NPV (total capital expenditure less abandonment expenditure).  
3. From start-up.

ersonal use only

# CAPITAL MANAGEMENT

## Full-year 2020 guidance



Item	Full-year guidance	Remarks
<b>Production range</b>	99 – 101 MMboe	
<b>Investment expenditure guidance</b>	\$2,100 – 2,300 million	Increase primarily resulting from additional Sangomar interest (~\$600m)
<b>Total expenditure guidance<sup>1</sup></b>	~\$2,900 million	Increase primarily resulting from additional Sangomar interest
<b>Net finance costs</b>	\$200 – 300 million	
<b>Depreciation and amortisation</b>	<b>Oil and gas properties</b>	\$1,650 – 1,750 million
	<b>Lease assets</b>	\$80 – 100 million
	<b>Other property and equipment, and exploration and evaluation amortisation</b>	\$30 – 50 million
<b>Unit production cost</b>	Increase of ~\$0.4/boe	Attributable to COVID-19 and related events

1. Total expenditure excludes shipping and trading.

**BREAK**

---

ersonal use only

# QUESTION AND ANSWER

---

**Peter Coleman**  
CEO and Managing Director

ersonal use only

# REMEMBRANCE DAY

---

ersonal use only

# QUESTION AND ANSWER

---

**Peter Coleman**  
CEO and Managing Director

personal use only

# SUMMARY

---

**Peter Coleman**  
CEO and Managing Director

ersonal use only



## SUMMARY

# Clear priorities



ersonal use only

- 1** Achieve Scarborough FID in H2 2021
- 2** Sell-down Pluto Train 2 and Sangomar
- 3** Deliver Sangomar Phase 1
- 4** Maintain a robust and resilient hydrocarbon business
- 5** Deliver value through the energy transition

ersonal use only



# INVESTOR BRIEFING DAY 2020

---

11 November 2020

[www.woodside.com.au](http://www.woodside.com.au)

[investor@woodside.com.au](mailto:investor@woodside.com.au)

# APPENDIX

---

ersonal use only

## Notes to petroleum resources 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 the Australian Securities Exchange (ASX) and available at <https://www.woodside.com.au/news-and-media/announcements>, net Woodside share at standard oilfield conditions of 14.696 psi (101.325 kPa) and 60 degrees Fahrenheit (15.56 degrees 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. The Reserves Statement dated 31 December 2019 has been subsequently updated by ASX announcements dated 26 February 2020 and 14 July 2020.
3. 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 facility (FPSO), while for the onshore gas projects the reference point is defined as the inlet to the downstream (onshore) processing facility.
4. 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.
5. 'MMboe' means millions (10<sup>6</sup>) 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.
6. The estimates of petroleum resources are based on and fairly represent information and supporting documentation prepared under the supervision of Mr Jason Greenwald, 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 Greenwald's qualifications include a Bachelor of Science (Chemical Engineering) from Rice University, Houston, Texas, and more than 20 years of relevant experience. The estimates have been approved by Mr. Ian Sylvester, Woodside's Vice President Corporate Reserves.

# APPENDIX

## Glossary



\$, \$m, \$B	US dollar unless otherwise stated, millions of dollars, billions of dollars
A\$	Australian dollar
2P	Proved plus Probable reserves
2C	Best Estimate of Contingent resources
boe, MMboe, Bboe	Barrel of oil equivalent, million barrels of oil equivalent, billion barrels of oil equivalent
Cash margin/boe	Revenue from the sale of produced hydrocarbons less production costs, royalties and excise, insurance and shipping and direct sales cost; divided by produced hydrocarbon sales volumes (MMboe)
CCS	Carbon capture and storage
CCUS	Carbon capture, utilisation and storage
FEED	Front-end engineering design
FID	Final investment decision
FPSO	Floating production storage and offloading
FPU	Floating production unit
Free cash flow	Cash flow from operating activities less cash flow from investing activities
Gearing	Net debt divided by net debt and equity attributable to the equity holders of the parent
HOA	Heads of agreement
H <sub>2</sub>	Hydrogen
IRR	Internal rate of return
JV	Joint venture
kbpd	Thousand barrels per day
KGP	Karratha Gas Plant

kt	Kilotonnes (metric)
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
MMbbl	Million barrels
MMBtu	Million British thermal units
mmscf/d	Million standard cubic feet per day
Mtpa	Million tonnes per annum
NPAT	Net profit after tax
NWS	North West Shelf
PRRT	Petroleum Resource Rent Tax
RFSU	Ready for start-up
SPA	Sale and purchase agreement
PSC	Production sharing contract
Tcf	Trillion cubic feet
TRIR	Total recordable injury rate. The number of recordable injuries (fatalities plus lost workday cases plus medical treatment cases) per million hours worked
Ullage	Available capacity
Unit production cost	Production cost divided by production volume
VIR	Value investment ratio
Woodside target schedule	Woodside schedule subject to all necessary joint venture approvals, regulatory approvals, and/or appropriate commercial arrangements being finalised. See further detail set out in slide 3, "Disclaimer, risks and assumptions" for more information.
YTD	Year to date



**Head Office:**

Woodside Petroleum Ltd  
Mia Yellagonga  
11 Mount Street  
Perth WA 6000

**Postal Address:**

GPO Box D188  
Perth WA 6840  
Australia  
T: +61 8 9348 4000  
F: +61 8 9214 2777  
E: [companyinfo@woodside.com.au](mailto:companyinfo@woodside.com.au)  
E: [investor@woodside.com.au](mailto:investor@woodside.com.au)

**Woodside Petroleum Ltd**

ABN 55 004 898 962

[woodside.com.au](http://woodside.com.au)



ersonal use only