

**PART OF  
A BETTER  
FUTURE**



# **SUCCESS THROUGH PARTNERSHIP**

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## Climate strategy and emissions data

Further information as to Woodside’s climate strategy, including references to “lower carbon” as part of that strategy, is set out in Woodside’s Climate Report 2022 available on the Woodside website at <https://www.woodside.com/sustainability/climate-change>. The footnotes to this presentation provide further clarification of “lower carbon” where applicable. Woodside uses the term ‘lower-carbon services’ to describe technologies, such as CCUS or offsets, that may be capable of reducing the net greenhouse gas emissions of our customers

All greenhouse gas emissions data in this presentation are estimates, due to the inherent uncertainty and limitations in measuring or quantifying greenhouse gas emissions.

Woodside “greenhouse gas” or “emissions” information reported are Scope 1 GHG emissions, Scope 2 GHG emissions, and/or Scope 3 GHG emissions. For more information on emissions data refer to Woodside’s Climate Report 2022 available on the Woodside website at <https://www.woodside.com/sustainability/climate-change>

# Our areas of activity



Product type	
<span style="color: green;">●</span>	Oil
<span style="color: darkblue;">●</span>	Gas or Oil
<span style="color: blue;">●</span>	New energy opportunities
<span style="color: cyan;">●</span>	Carbon origination projects

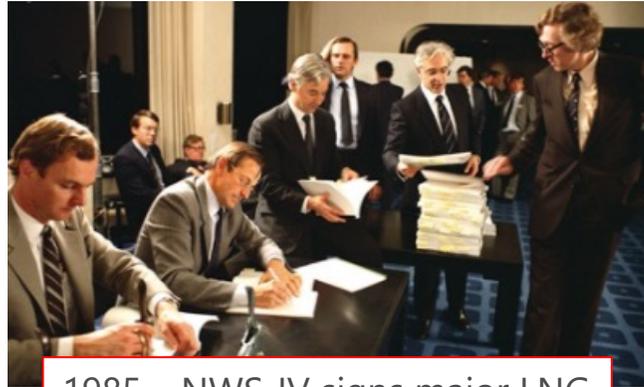
Phase	
	Producing assets
	Developments
	Appraisal and exploration

<sup>1</sup>Denotes marketing office  
<sup>2</sup>Denotes representative and liaison office

# History of partnerships to unlock new industry



1977 – North West Shelf agreement signed: Woodside operated joint venture with BP, BHP, Shell, Chevron, and MiMi (Mitsui / Mitsubishi venture)



1985 – NWS JV signs major LNG contracts with 8 Japanese gas and power companies



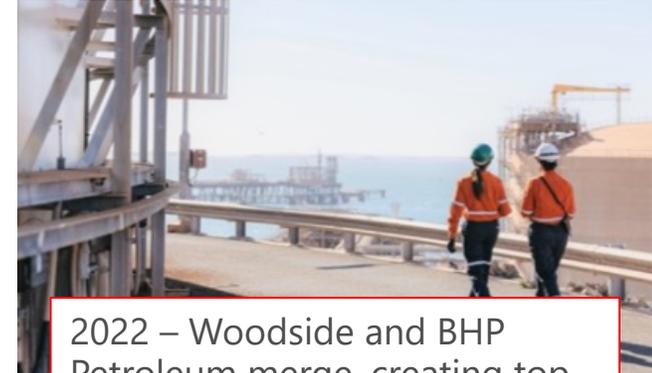
1989 – First LNG cargo delivered to Japan (more than 5000 delivered currently)



2008 - Production completed on 5<sup>th</sup> LNG processing train – total spend over \$25 billion (Australia's largest resource project)



2020 – NWSJV execute gas processing agreement to process external gas at KGP



2022 – Woodside and BHP Petroleum merge, creating top 10 energy producer globally (by production)

# Hydrogen and ammonia solutions

## HYDROGEN AND AMMONIA STRATEGY

Develop solutions and pursue technologies to assist our customers with their decarbonisation pathways

	HEAVY DUTY TRANSPORT	POWER	SHIPPING AND MARINE FUELS	INDUSTRIALS AND CHEMICALS
FOCUS	Decarbonisation of mobility sector (diesel substitution)	Decarbonisation of coal-fired power generation and longer term substitution of natural gas	Decarbonisation of maritime and supply chains	Provide lower carbon industrial feed stock and CCS in hard-to-abate sectors
BENEFITS	Line of sight to diesel parity Operational benefits vs. battery electric trucks	Diversifies supply and provides lower-carbon power Potential to expand into combined cycle gas turbines	May enable lower carbon shipping corridors	May enable progressive displacement of existing grey ammonia and hydrogen supply <sup>1</sup>
PROGRESS	Long lead items ordered for H2OK	Joint feasibility study on ammonia supply chain from Australia to Japan	Exploring opportunities with potential partners and original equipment manufacturers	Exploring new opportunities across hard-to-abate sectors

# Carbon management strategy

Develop integrated carbon solutions to help our hydrocarbon business, new energy business and our customers

	OFFSETS	CARBON CAPTURE AND STORAGE (CCS)	CARBON TO PRODUCTS
FOCUS	Originate high integrity offset units and purchase from select third parties	Secure and accelerate CCS in Australia and beyond	Invest in technology advancement to convert carbon into useful products
BENEFITS	Available at scale now	Potential for large scale CO <sub>2</sub> storage	Future conversion of carbon at source of generation
PROGRESS	Executed plan to secure offsets to meet Woodside's 2030 net emissions reduction targets <sup>1,2</sup>	Awarded three licences to advance studies on carbon capture and storage in Australia <sup>3</sup>	Collaborations with String Bio, ReCarbon and LanzaTech

1. Amount of offsets includes those currently held in offset accounts, forecast yield from forward contracts and offsets related to land purchased for carbon origination projects (but not yet fully implemented). The offsets include Australian Carbon Credit Units and voluntary market offset units. Forecast includes offsets required up to and including 2030 and excludes retired units.

2. Woodside equity emissions abatement demand is based on current and sanctioned projects at current equity share as well as near- and medium-term net equity scope 1 and 2 greenhouse gas emissions targets.

3. The greenhouse gas assessment permits are subject to commercial agreements and regulatory approvals.

# Decarbonisation through novel technology partnerships

## AI-enabled concentrated solar

- Equity investment and partnership with **Heliogen**
- Commercial scale 5MWe demonstration project planned in California



Conceptual only, not to scale.



## Single-cell proteins

- Invested in **String Bio**, proprietary technology company that converts methane into single-cell protein to be used for livestock feed
- Pilot facility in planning

## Ethanol from waste

- Partnered with **LanzaTech** and **ReCarbon** to produce ethanol from waste gases
- Option to lease agreed for Pilot facility at waste treatment plant in Western Australia



Conceptual only, not to scale.



Conceptual only, not to scale.

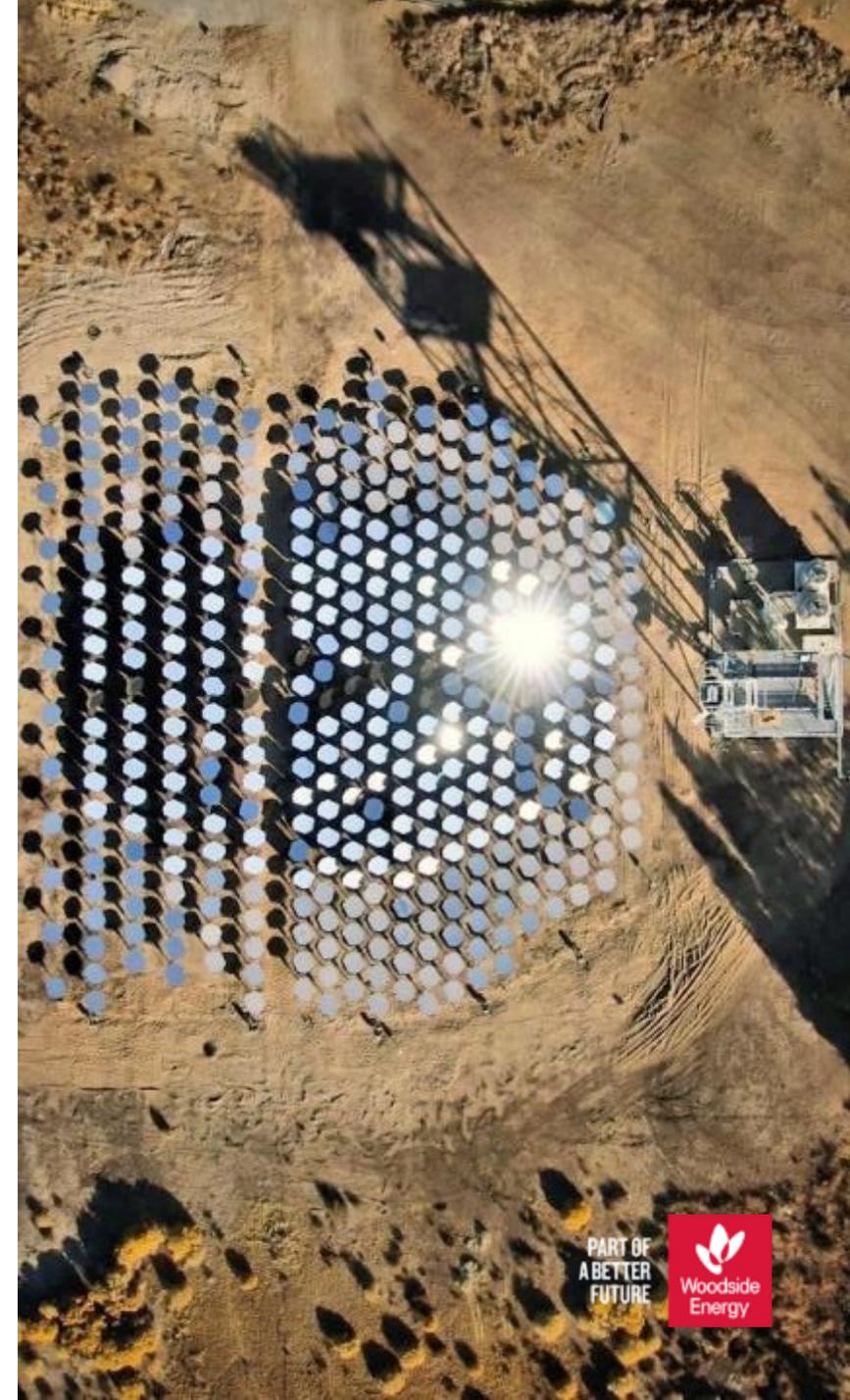
## Renewable ammonia production

- Participating in Southern Green Hydrogen project in Southland
- Partnering with **Meridian Energy**, **Mitsui**, and support of **Murihiku Regeneration** to cover complete value chain from electricity generator, marketing and trading, local support, and experienced developer (**Woodside**)

## Key takeaways

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- The energy transition will take time but will also create opportunities.
- We intend to thrive by developing a low-cost, lower-carbon, profitable, resilient and diversified portfolio.
- We're collaborating with customers, building our new energy portfolio and developing integrated lower-carbon solutions.
- Let's continue to collaborate – it's the key.



# CO<sub>2</sub> Circular Economy

## How does C2P play into a carbon economy

- Capture is essential to sequestration and utilization
- Through sequestration, CO<sub>2</sub> can be permanently isolated from the atmosphere.
- Utilization can offer additional uses, transforming the CO<sub>2</sub> for longer periods of time through creation of different products:
  - Fuels: days to months
  - Food: months to years
  - Base chemicals (polymers, binders): years to decades
- When combined, sequestration and utilization can represent a circular carbon economy

