

Proposed H2Perth Liquid Hydrogen Production Facility

Rockingham and Kwinana, Western Australia

Proposal overview

Woodside is a global energy company founded in Australia. Our strategy is to thrive through the energy transition by developing a low-cost, lower-carbon, profitable, resilient and diversified portfolio¹. Our three strategic pillars - oil, gas, and new energy - each have a role to play.

As part of our new energy portfolio, we are proposing the development of H2Perth, Australia's first commercial-scale liquid hydrogen (LH₂) production and export facility.

H2Perth is anticipated to be a new development for Australia's emerging hydrogen industry. The proposed project aims to establish the first international end-to-end liquefied hydrogen supply chain linking Australia and Japan. H2Perth has the potential to serve as a test case for the hydrogen industry, integrating a range of new technologies associated with the production, storage and loading of LH₂ onto the LH₂ carrier.

H2Perth aims to make LH₂ available initially for export, while creating employment and local content opportunities and providing an opportunity to establish a new strategic export industry for Western Australia. Future phase(s) of the project to expand hydrogen production for domestic supply or export are being considered.

H2Perth is proposed to be built on approximately 80 hectares (ha) of vacant industrial land within the Rockingham Industrial Zone (RIZ) in Rockingham and Kwinana, south of Perth and near to our Hydrogen Refueller @H2Perth project. The plant area is proposed within a 120 ha development envelope including infrastructure connections and construction laydown areas.

The facility would be located on the traditional lands of the Noongar people, specifically the dialectical groups of the Binjareb/Pinjarup, Wilman and Ganeang in the Gnaala Karla Booja determination area of Noongar Nation.



Figure 1: Proposed H2Perth schematic is conceptual only, not to scale and subject to any necessary commercial arrangements, commercial feasibility, regulatory and other approvals, third party activities and a final investment decision which may result in changes to the overall development concept.

Approach to net zero Scope 1 and 2 greenhouse gas emissions

Hydrogen can be produced through a variety of different methods, and although hydrogen does not emit carbon when it is used, some methods of making hydrogen do generate greenhouse gas (GHG) emissions.

At H2Perth, Woodside is proposing to produce hydrogen via natural gas² reforming. This is a process where natural gas (CH₄) is converted to hydrogen. Carbon dioxide (CO₂) is also produced as part of the natural gas reforming process. However, technologies such as carbon capture, utilisation and storage (CCUS), where the CO₂ is captured and transported underground for safe and permanent storage, can assist in managing this.

H2Perth is targeting net zero Scope 1 and Scope 2 GHG emissions from the start of operations through the application of CCUS and by offsetting any residual emissions using carbon credits, Guarantee of Origin certificates and/or other market mechanisms.

H2Perth is also anticipated to be one of the first Western Australian projects to utilise CCUS as a service, which could demonstrate the potential for WA-based CCUS industries to support local and global decarbonisation efforts.

¹ For Woodside, a lower-carbon portfolio is one from which the net equity Scope 1 and 2 GHG emissions, which includes the use of offsets, are being reduced towards targets, and into which new energy products and lower-carbon services are planned to be introduced as a complement to existing and new investments in oil and gas. Our Climate Policy sets out the principles that we believe will assist us achieve this aim. Woodside uses the term 'lower-carbon' to describe the characteristic of having lower levels of associated potential GHG emissions when compared to historical and/or current conventions or analogues, for example relating to an otherwise similar resource, process, production facility, product or service, or activity.

² Natural gas usage refers to estimated use for a proposed approximately 100 tpd LH₂ facility. Any potential changes to the development concept or potential future phases or expansions may alter this estimated amount.

Project snapshot

Proposed activity	Production and storage of LH ₂ initially for export.
Proposed location	Approximately 80 ha of vacant industrial land within the RIZ, located in the City of Rockingham and City of Kwinana. The proposed development area encompasses up to 120 ha of land including additional land required for infrastructure connections and construction laydown areas.
Proposed method	Natural gas ³ reforming to produce gaseous hydrogen and hydrogen liquefaction.
Estimated production	The initial phase of the development is proposed to produce up to approximately 30,000 tonnes per annum of lower-carbon ⁴ LH ₂ .
Estimated timing	Construction and commissioning are expected to take approximately three to four years. Initial site works may commence from late 2027, with broader construction activities progressing thereafter. Operations are currently targeted to begin in the early 2030s.
Proposed workforce numbers	The workforce is estimated at more than 500 construction jobs. During operations, it is expected to be approximately 100 direct jobs ⁵ .
Project status	Preliminary Front End Engineering and Design (pre-FEED) for initial phase of development. Woodside is maturing the technical design of H2Perth and progressing the environmental approvals.
Carbon management	The project is targeting net zero Scope 1 and Scope 2 GHG emissions from the start of operations through the application of CCUS and by offsetting any residual emissions using carbon credits, Guarantee of Origin certificates and/or other market mechanisms.

What is hydrogen and what can it be used for?

Hydrogen is the simplest element in the universe. It is abundant, versatile, and can act as an energy carrier, storing and transporting energy in a usable form from one place to another. It can be used in a range of applications such as:

- Heavy duty transport: LH₂ is a potential substitute for diesel in trucking fleets, utilising fuel cells that need LH₂ for fuel.
- Power generation: Hydrogen can be blended into fuels used for existing coal or gas-fired power generation to reduce GHG emissions.
- Shipping and aviation fuels: Hydrogen is a potential substitute for shipping and aviation fuel.
- Industrials and chemicals: Hydrogen is used as industrial and chemical feedstocks and is primarily manufactured from fossil fuels without carbon management. This creates an opportunity for the same products to be manufactured through the application of CCUS and by offsetting any residual emissions using carbon credits, Guarantee of Origin certificates and/or other market mechanisms, resulting in a lower-carbon product⁴.

Project approvals

H2Perth is subject to environmental assessment under both Western Australian and Commonwealth legislation.

The project was referred under the Western Australian *Environmental Protection Act 1986* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

In addition to these primary environmental approval requirements, Woodside intends to submit a Development Application under the *Planning and Development Act 2005* (WA), and intends to submit a Works Approval to the Department of Water and Environmental Regulation (DWER) under Part V of the *Environmental Protection Act 1986* (WA) (EP Act). Following the completion of construction, Woodside intends to seek to licence H2Perth under Part V of the EP Act.

These processes provide opportunities for public consultation in accordance with statutory requirements.

Environmental assessment

Woodside had previously proposed a hydrogen and ammonia production facility, and environmental approvals were commenced for the previous ammonia concept, with State and Commonwealth environmental referral documents submitted in 2023. The Commonwealth referral decision set the level of assessment as 'Not a controlled action'. The Western Australian (WA) Environmental Protection Authority (EPA) set the level of assessment as 'Referral Information with additional information and public review'.

Due to a change of concept to LH₂ production and export, Woodside sought approval from the EPA under section 43A of the EP Act to amend the proposal during the assessment phase. Woodside submitted a section 43A application to the EPA for assessment on 28 November 2025. On 20 May 2026, the EPA approved the section 43A application to amend the proposal. Woodside intends to submit the Environmental Review Document (ERD) for the LH₂ scope to the EPA for assessment in H1 2027.

³ Natural gas usage refers to estimated use for a proposed approximately 100 tpd LH₂ facility. Any potential changes to the development concept or potential future phases or expansions may alter this estimated amount.

⁴ Woodside uses the term 'lower-carbon' to describe the characteristic of having lower levels of associated potential greenhouse gas (GHG) emissions when compared to historical and/or current conventions or analogues, for example relating to an otherwise similar resource, process, production facility, product or service, or activity.

⁵ Direct jobs refers to employment directly attributable to project activities, including operation of the H2Perth facility and CCUS logistics.