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Jai Thomas, Coordinator of Energy
Energy Policy WA
Department of Mines, Industry Regulation and Safety
1/66 St Georges Terrace
Perth WA

Submitted via EPWA-info@dmirs.wa.gov.au.

Dear Mr Thomas

CONSULTATION PAPER: RENEWABLE HYDROGEN TARGET (RHT) FOR ELECTRICITY GENERATION IN THE SOUTH WEST INTERCONNECTED SYSTEM (SWIS)

Woodside Energy Group Ltd (Woodside) welcomes the opportunity to provide feedback on the Renewable Hydrogen Target for Electricity Generation in the SWIS (Paper).

Woodside provides energy that the world needs to heat and cool homes, keep lights on and support industry. On 1 June 2022 Woodside merged with BHP Petroleum to create a leading independent global energy company. Our merged portfolio includes assets and interests in a range of locations and regulatory jurisdictions including Australia, US, Trinidad and Tobago, Senegal, Timor-Leste, Canada and Mexico.

Woodside aims to build a low-cost, lower-carbon, profitable, resilient and diversified portfolio towards our aspiration of net zero by 2050 or sooner¹. To achieve this, we are reducing our net equity Scope 1 and 2 greenhouse gas emissions and targeting investment of US\$5 billion by 2030 in new energy products and lower-carbon services that our customers need as they reduce their emissions².

In Western Australia, Woodside is the proponent of H2Perth, a proposed domestic and export scale hydrogen and ammonia production facility within the Rockingham Industry Zone (RIZ). H2Perth would be developed in three phases, providing a significant opportunity to establish a new strategic export industry for WA, supply hydrogen to local and international users seeking to lower their emissions, and support the stable transition of the SWIS to renewable sources.

H2Perth proposes to make hydrogen through autothermal reforming of natural gas and electrolysis, with estimated electrolysis requirements of up to 250 MW for Phase 1 (targeting 2027), expanding to 3.25 GW at full scale (targeting 2033). Woodside intends for H2Perth to be net zero from the start of operations, using a combination of renewable electricity targets, offsets and carbon capture, utilisation and storage technologies. As such, H2Perth is expected to be a significant stimulant and source of demand for new renewable generation to feed into the SWIS. Woodside is pursuing multiple paths to source renewable supply, including commercial arrangements with a local renewable developer and open market engagement with existing and new market entrants.

¹ Target is for net equity Scope 1 and 2 greenhouse gas emissions, relative to a starting base 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 an FID prior to 2021.

² Individual investment decisions are subject to Woodside's investment hurdles. Not guidance. Potentially includes both organic and inorganic investment.

Woodside is also progressing a separate, stand-alone hydrogen opportunity called the Hydrogen Refueller @H2Perth, which was successful in securing funding from the WA Government in August 2022 through the Hydrogen Fuelled Transport Program. Hydrogen Refueller @H2Perth aims to supply low-cost hydrogen fuel for local customers. Hydrogen Refueller @H2Perth would be a self-contained hydrogen electrolysis production, storage and refuelling station adjacent to the main H2Perth project. Initially, Woodside is targeting hydrogen production of 235 kg per day, with potential to scale-up to a targeted 800 kg per day. The facility is planned to be operational in the second-half of 2024, subject to necessary commercial arrangements and regulatory approvals, including securing land tenure.

Woodside welcomes policy measures that support a stable transition of the SWIS to renewables this decade and greater local demand for hydrogen. As such, we support the five objectives of the RHT set out in the Paper: industry development, decarbonisation of the electricity grid, grid reliability and stability, reducing fuel cost escalation risks and decarbonisation of WA's economy.

However, we believe the design of the RHT as outlined in the paper requires further consideration to ensure it meets its intended objectives. We wish to highlight the following for consideration:

Scheme efficiency and affordability

Although certificate-based schemes work to create markets for a service, the size of the market that would be created and how effectively it can operate are important factors. An electricity generation certificate scheme for hydrogen for a small portion of SWIS electricity demand (even at the upper range of targets proposed in the Paper) would likely be a small, shallow – and therefore an illiquid market. These characteristics can negatively impact affordability and administration costs for a modest demand upside.

Woodside recognises that the scope of this policy proposal and consultation is exclusively renewable hydrogen, defined in the Paper as “*electrolysis, utilising renewable electricity generation for all energy input requirements*”. While we understand the desire to increase the share of hydrogen produced from renewable energy and the rationale for consistency with the *Renewable Hydrogen Strategy*, we would observe that further stipulating the production method for the required hydrogen is likely to amplify the distortions described above.

Hydrogen production facilities that use electrolysis to produce hydrogen in the south-west will themselves be large electricity consumers in the SWIS. It is unclear from the Paper whether such facilities would be considered Liable Entities. If hydrogen producers are liable, the cost to procure relevant certificates will impact the domestic and export competitiveness of such projects and simply lead to a higher cost of hydrogen for local consumers. These outcomes could be mitigated by exempting hydrogen production facilities from the RFT.

Demand and supply-side policies need to work together with a goal to lower costs

Woodside supports a policy focus on addressing current barriers to scaling renewable electricity generation and hydrogen production from electrolysis in Western Australia. Renewable electricity generation and hydrogen production experience a number of common challenges including land access, transmission access and timely approval/s. Improvements in these areas, would lower costs and increase the supply of hydrogen to the market.

Deliberate market creation and other demand side policies remain important. Key elements could include:

- Openness to multiple hydrogen use cases as outlined in the paper, with an initial focus on use cases that are closer to cost parity, such as heavy vehicles.
- Integrate local demand measures with initiatives to boost export demand, such as greater collaboration with WA's existing energy trade partners, who already value WA as a reliable energy supplier. Woodside has collaborated closely with Japanese electricity utilities since 2020 on feasibility studies for a low emission ammonia supply chain between Western Australia and Japan. The studies point to the potential for ammonia imports to reduce coal consumption and associated emissions in Japanese coal-fired power stations, which would generate demand for significant volumes of ammonia from Western Australia.

Pursue lower emissions objectives through carbon intensity thresholds, rather than stipulating production methods

Both demand and supply side policies will be most impactful if they are method-agnostic, as flexibility on production methods enables customers to pursue options that more closely align with their drivers and preferences, which could include cost, emissions intensity and specific carbon management methods.

Lower emissions objectives could still be established and supported by adopting emissions intensity thresholds as opposed to simply defining Renewable Hydrogen as electrolysis only at a 100% renewable input. Such emission intensity thresholds could be underpinned by the methodologies currently being developed as part of the Australian Hydrogen Guarantee of Origin (GO) Scheme, where Woodside is participating in the design trials through H2Perth, as well as our Tasmanian opportunity H2TAS. The GO Scheme does not restrict production methods. It would be reasonable for emission intensity thresholds to progressively tighten over time to reflect progress of renewable penetration and supporting storage technologies in the SWIS.

We also note that other jurisdictions are adopting a method-agnostic approach to support their objectives of using hydrogen to decarbonise and stabilise energy systems. A recent example is the United States' landmark *Inflation Reduction Act*, which incentivises a range of energy technologies for consumers and producers, including clean hydrogen defined by carbon intensity thresholds.

Conclusion

In addition to consultation responses, a decision to progress the RHT would ideally also be guided by outcomes of other policy work, including the SWIS Demand Assessment, Sectoral Emissions Reduction Strategies and State's Renewable Energy Target of 80% for the SWIS by 2030.

Woodside is a member of the Australian Hydrogen Council and has reviewed their submission, noting the potential value of kilogram production targets as an alternative to a percentage of electricity consumption.

We appreciate EPWA's consideration of these points and welcome an opportunity to discuss.

Yours faithfully

Sam Bartholomaeus

Sam Bartholomaeus
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Power and Renewables