

By email: EPWA-info@dmirs.wa.gov.au

Energy Policy WA

Level 1, 66 St Georges Terrace



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bp expects a gradual decline in the cost of hydrogen production as equipment costs fall and hydrogen is produced at scale. Underpinned by the right policy settings and support measures, the decline in production costs can be accelerated.

Renewable hydrogen target ambition

bp acknowledges the State Government needs to strike the right balance when setting the ambition of the Target. Driving sufficient demand to encourage investment in hydrogen production is important, as is balancing costs to end consumers. The market will also need a sufficient lead time before the scheme commences and certainty over the Scheme’s duration to underpin investment and production decisions.

bp does not have a firm view on whether the 5 per cent and 10 per cent targets outlined would support industry development and emission reduction objectives given the uncertainties outlined in the following sections. We look forward to discussing these uncertainties and providing a firmer view shortly. A 1 per cent target is unlikely to have a material impact on developing the low carbon industry nor on emission reduction goals. At this level of ambition there may be other interventions such as pilot project funding, feasibility studies and b2b information sharing that could lead to similar experience gains for power generators and relatively inexperienced producers.

The timeframe provided for initial consultation did not allow a sufficient period to detail and test the modelling included in the consultation paper. However, initial analysis suggests that the model may have underestimated the volumes of hydrogen required to meet target bands and the overall cost of the Scheme. bp is considering alternative ways to deliver industry development and emissions reduction objectives, which may deliver the same or better outcomes at much lower costs than proposed in the consultation paper. bp is pleased to follow-up this with State Government and notes EPWA’s commitment to ongoing consultation.

Renewable hydrogen target coverage

bp supports the State Government considering demand side intervention to facilitate the development of a renewable hydrogen industry in Western Australia. Importantly, bp is encouraged by the Target’s primary objective of industry development. As with all emerging

low emissions technologies, mechanisms such as targets and contract for difference schemes are necessary to bridge the gap between production costs and customer expectations.

bp supports policy covering as broad a range of sectors as possible so a market can develop efficiently. Narrowing end-use cases risks inefficiencies, higher costs and unintended consequences. A scheme that covers a broad range of end use cases will lead to a lower overall cost while delivering similar or better industry development outcomes.

bp acknowledges that this Target is one of several measures that the State Government is pursuing to support the hydrogen sector and that there is potential for the Target to be expanded in the future. However, there are presently more competitive uses for hydrogen than in power generation and bp encourages the State Government to expand the application of the Target as a priority.

Encouraging hydrogen production for uses where there's a smaller gap between renewable and non-renewable hydrogen production is what will facilitate investment in hydrogen production projects and value chains. Production at scale will help put downward pressure on production costs, with this infrastructure available to deliver hydrogen for power generation at a time when it may be required to support the SWIS, rather than now where the primary rationale for a target is industry development.

In considering the primary objectives of industrial development and decarbonising the electricity grid, bp encourages ACIL and the Government to consider direct use of hydrogen in existing industrial processes, many of which have no electrification pathway and are inherently difficult to abate. Encouraging substitution of "grey" hydrogen for renewable hydrogen will:

- support the transition from natural gas to renewable hydrogen production
- make a more significant contribution to emission reduction targets
- support Western Australian industries achieve a "green premium" with their customers, many of which compete globally and are subject (or will be) to carbon border abatement mechanisms.

bp appreciates that a decision has been made to narrowly consider the initial phase of this Target to be applicable only to electricity generation in the SWIS, but it encourages the Government to reconsider its decision and broaden the Target.

The round-trip efficiencies of using electricity to produce hydrogen, storing, transporting, and then combusting it to produce electricity has been documented in publicly available studies. bp expects hydrogen or derivatives for power generation to have a role in some jurisdictions' efforts to reduce emissions – particularly those without the benefit of significant renewable resources. Some jurisdictions have set timelines of 2030 to achieve significant percentages of power generation from hydrogen and ammonia, with power generation being a primary end use case for hydrogen in those markets.

Hydrogen may feasibly have a role in decarbonisation and security of the SWIS and bp supports including power generation in the proposed scheme. With the State Government setting out a timeline for coal generation retirement and indicating no new gas generation will

be built from 2030, hydrogen may be required to fill a gap if sufficient renewable energy capacity is not delivered in this timeframe.

Encouraging production at scale through more competitive end use cases now will prepare the hydrogen sector to be able to deliver hydrogen to generators when it is needed at a lower cost. Specifically tailored measures can also be considered for power generation, particularly a generator's technical preparedness to accept hydrogen. Indeed, this preparedness will need to be considered when setting the start time for the Scheme.

Hydrogen is better placed to have a role in supporting system security through firming and grid services. bp has considered how grid connected electrolyzers can help smooth the duck curve - the increased demand from electrolyzers can tangibly reduce pressure on the minimum demand forecast, while underpinning renewables buildout and investment in the SWIS. A large variable load can complement rapid buildout of batteries to smooth the duck curve while supporting decarbonisation aims. Drawing from an ARENA study¹ for the NEM, it found that every 100MW of electrolysis offering 15% variability resulted in \$91m NPV in system benefits through avoided additional generation and storage capacity.

bp supports setting clear electricity market rules to value system security and underpin investment in flexible storage options, including hydrogen. The implementation of a broader based hydrogen target will help the industry develop at scale and should make hydrogen more competitive for long-duration firming over time.

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In the case of hydrogen for power generation there are several factors that remain uncertain

- Is not static, with regular review considering international progress and the cost of the Scheme to EITEs