

Jai Thomas  
Coordinator of Energy  
Department of Mines, Industry Regulation and Safety  
Energy Policy WA

Via email: [EPWA-info@dmirs.wa.gov.au](mailto:EPWA-info@dmirs.wa.gov.au)

9 November 2022

Dear Mr Thomas,

The energy sector in Western Australia exists to provide electricity and gas to consumers. It is central to energy production and delivery that the long-term interests of energy consumers are served. The Expert Consumer Panel (ECP) was established by the Western Australian Government to provide input on policy, rules and other processes across all elements of the energy supply chain. The ECP has a broad membership base with representatives from the social welfare sector, climate movement, former senior energy sector executives and experts, all of whom bring a unique customer perspective to the work of the group.

The WA State Government's vision for Renewable Hydrogen as expressed in the Renewable Hydrogen Strategy is for the state to be a significant producer, exporter and user of renewable hydrogen. It is in this context and in the pursuit of these aims that the proposal for a Hydrogen Target for electricity generation in the South West Interconnected System has emerged. The purpose of the proposal is "supporting the growth of green hydrogen as an emerging industry", through the creation of a guaranteed ongoing buyer for Green Hydrogen in the form of electricity generators on the SWIS.

ECP members are pleased to be consulted on this proposal at an early stage, are available to discuss the submission further if required, and will continue to engage in the process as it progresses.

This proposal immediately raised a number of questions and concerns for ECP members:

- Electricity consumers should not be used to subsidise the cost of developing emerging industry.
  - WA households and businesses are facing significant affordability challenges and it is important that new levies do not further exacerbate cost of living issues. We are also concerned that these levies can be an extremely regressive way to fund industry development.

- Poor round-trip efficiency for producing hydrogen from electrolysis and later using that hydrogen to generate electricity.
  - There is no evidence this would be lower cost than, or even competitive with, other commercially available storage options such as batteries, gravity storage (pumped hydro, vertical shaft or other), compressed air, thermal storage, etc.
  - It is likely to be an extremely inefficient use of renewable electricity, which we already need to build a large amount of in order to decarbonise our existing and expected electricity consumption.
  - There are concerns around safety and leakage of high volume hydrogen storage.
- Hydrogen is a critical element in the decarbonisation of other hard-to-abate industries such as zero-emissions fertilisers, chemicals, material refining and steel production.
  - Would a hydrogen target for electricity production impact on the availability of green hydrogen for decarbonisation in these sectors?

ECP members acknowledge that the state is facing a significant challenge in ensuring system security and reliability as we pursue decarbonisation of electricity generation in the SWIS. We also acknowledge that such a challenge must be met with investments in a combination of suitable new zero-carbon generation and storage facilities, and that consumers may need to carry some reasonable additional cost to enable that transition. We acknowledge there may be a need for some local experimentation to determine whether or not green hydrogen is a suitable storage medium for supporting electricity generation in WA. However, it is our understanding and view that these challenges are best addressed through existing processes such upgrading the Reserve Capacity Mechanism, which are intended for that purpose. On this, it was suggested that cost-benefit analysis ought to be undertaken to identify the best ways to strengthen the grid and/or provide long duration storage and demand response regimes. We note that the proposal for a renewable hydrogen target for electricity generation on the SWIS as presented is not intended as a solution to that problem.

**While ECP members are not supportive of the proposal as currently framed, if the target is to be adopted then we would recommend:**

- Strong safeguards to ensure there is no greenwashing, and all hydrogen used is certified green hydrogen.
- The target is set to the '1% of electricity consumption in the SWIS' option as this;

- would likely make it more financially viable.
  - would likely result in hydrogen competing with carbon-intensive peaking generation.
  - would minimise the amount of green hydrogen redirected away from decarbonising hard-to-abate industries for this purpose.
- There must be a clear end-date for the Hydrogen Target such that it does not extend beyond the period of time required to achieve the objective of supporting the early-stage development of a local green hydrogen industry.
  - We suggest that instead of the SWIS, it may be more suitable to introduce such a target in the North-West Interconnected System (Pilbara region).
    - There should be a review into the suitability of such a target in the NWIS, before it is implemented anywhere in the State.
    - This grid primarily services large industrial users, and as such is a significantly less regressive funding model for supporting the green hydrogen industry.
    - Key industrial players in the Pilbara are more likely to be beneficiaries of a growing green hydrogen industry, and are thus more likely to agree to subsidise such a target.
    - Possible side benefits of supporting hydrogen production industry in the Pilbara include:
      - Potentially displacing a considerable amount of diesel consumed in the Pilbara and other regions.
      - That it could be used to supply mining and urea production in Pilbara.

Again, ECP members are pleased to be consulted on this proposal at an early stage, are available to discuss the submission further if required, and will continue to engage in the process as it progresses.

Kind regards

Expert Consumer Panel