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**22 Jan 2020**

## **Key actions to turbo-charge Australian hydrogen**

The global call to reduce industrial carbon emissions means there has never been a better time for Australia to grow its hydrogen industry.

The technology to produce clean hydrogen through the application of electricity to water (called electrolysis) is well established. If the electricity used for the electrolysis is from renewable sources, such as solar and wind, the resulting hydrogen has zero carbon and is clean. Hydrogen can also be produced from fossil fuels with carbon capture and storage, which means that there are low to zero carbon emissions.

This clean hydrogen can play a major role in Australia's future energy mix, fuelling Australian vehicles and heating Australian homes and businesses. Hydrogen can also support Australia's energy security by storing excess renewable electricity and feeding it back into our grid during periods of high demand.

Exports are also a major opportunity for the Australian hydrogen industry. Our global trading partners are hungry for clean hydrogen and are currently shopping around for reliable, high volume suppliers.

For example, South Korea has set an exciting goal of powering 30 per cent of its cities and towns with hydrogen, and has planned to manufacture 6.2 million hydrogen fuel cell cars by 2040.<sup>1</sup> Japan is also pursuing an ambitious hydrogen-fuelled future, and will showcase hydrogen at this year's Tokyo Olympics. The Olympic flame is expected to use hydrogen, and hydrogen will fuel the buses transporting people to and from the competitions.<sup>2</sup>

Australia is uniquely placed to produce and export clean hydrogen to these and other countries. Our solar and wind power capacity, our political stability, and significant export experience mean that we could be a world leader.

Realising this huge potential in hydrogen requires further government support in two key areas – investment in projects and coordinated policy and regulation.

### **Investment**

Grant funding is essential to unlock significant private sector investment in the hydrogen industry. The Australian Renewable Energy Agency (ARENA) is the industry's main funding body, providing grants to improve the competitiveness of renewable energy technology and accelerate the national shift to affordable and reliable renewable energy.

However, ARENA is scheduled to close in mid-2022, and no replacement has been announced. Further, ARENA's remaining funding for hydrogen projects will not close the funding gap.

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<sup>1</sup> <https://www.afr.com/politics/federal/australia-to-benefit-from-south-korea-s-hydrogen-revolution-20191113-p53a9c>

<sup>2</sup> <https://www.bloomberg.com/news/articles/2020-01-15/this-bus-filling-station-is-the-latest-in-japan-s-hydrogen-quest>

We urge the federal government to extend ARENA's remit and hydrogen budget. New policy should be set by mid-2020 to provide investment certainty to investors and allow legislation to be in place.

### **Regulation**

Australia's National Hydrogen Strategy was launched by the Federal Government in December 2019. Signed by all state and territories, the Strategy provides an excellent foundation for further market and regulatory design. We welcome the Strategy and encourage governments to move quickly to take advantage of the global momentum for hydrogen.

Domestically we need integration, where the relevant regulatory frameworks across different sectors, jurisdictions, issues and parts of the various value chains are consistent to enable the sector to grow.

Building the right regulatory frameworks will be complex and will take time. This work should start now to support efficient investments in infrastructure.

An example of potential regulation is a 'guarantee of origin' with associated certification for Australian hydrogen. This is particularly important for the development of a credible, valuable and differentiated hydrogen product for our international partners.

### **The cost of missing the boat**

Developing hydrogen as part of the long-term energy mix can have enormous pay back for Australians. Large scale hydrogen production will mean new jobs and a major new export market. Importantly, clean hydrogen allows Australia to reduce our carbon emissions.

We cannot afford to be complacent and risk missing the boat on Australia's potential to be a world-leading producer, user and exporter of hydrogen.

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