Australian Government
Australian Renewable Energy Agency

ARENA

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Hydrogen offers significant exporting potential for Australia

Australia is in a strong position to take advantage of the growing hydrogen export market, according to a new report released today by the Australian Renewable Energy Agency (ARENA).

The report, prepared for ARENA by ACIL Allen Consulting, identifies opportunities for Australia to export hydrogen to help meet the potential future global demand.

Over the next decade, Australia could seize on the opportunity to export hydrogen as significant increase in demand for green hydrogen, ARENA Chief Executive Officer Ivor Frischknecht said.

“Hydrogen has long been talked about as a potential energy source. Hydrogen produces no carbon emissions when burned - only water vapour and heat, and produces more energy per kilogram than natural gas,” he said.

Green or clean hydrogen can be produced via electrolysis from renewable electricity, or can be produced using fossil fuels with the emissions then captured and sequestered. Hydrogen could then be exported by liquefying it, or by converting it to a carrier such as ammonia.

“Australia has a golden opportunity to become a major exporter of hydrogen, as other countries look to transition to low carbon energy sources,” Mr Frischknecht said.

“If Australia can tap into our abundant wind and solar resources to produce hydrogen using renewable energy, we could export hydrogen at large scale,” he said.

With the right conditions, Australian hydrogen exports could contribute $1.7 billion per annum to the economy and provide 2,800 jobs by 2030, the report found.

Four countries - Japan, China, the Republic of Korea and Singapore - are identified in the report as prospective markets for Australian hydrogen by 2025.

“While countries like Japan and Korea look to decrease emissions and increase renewable options, they are looking to import hydrogen at large scale but there are as yet no

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exporters," Mr Frischknecht said.

According to the report, Australia is in a competitive position in regards to potential exports to Asia due to its location, excellent renewable energy resources, well established energy trading relationships and experience in large scale energy infrastructure construction.

But Australia is not alone, as countries like Norway, the United States and Middle Eastern countries are also likely to scale up their capability to export hydrogen.

"The sector is still in its infancy which places Australia in a prime position to utilise its abundant renewable resources, as well as proven track record of exporting energy and strong relationships with energy importers to become a major player in exporting hydrogen to Asia and around the globe," Mr Frischknecht said.

A hydrogen export market has also been identified to benefit regional communities as hydrogen production facilities are likely to be located close to the supply of renewable energy, particularly large scale solar farms, the report found.

Exporting renewables including hydrogen is one of ARENA's four investment priorities.

In December, ARENA announced a $20 million funding round into research and development in exporting hydrogen.

ARENA is also one of the leading agencies involved in the Hydrogen Strategy Group.

Dr Alan Finkel AO, the Chief Scientist and Chair of the Hydrogen Strategy Group today released the Group's briefing paper prepared for COAG Energy Council, which ARENA welcomed.

To download the report, visit arena.gov.au

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