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Queensland green ammonia plant could use renewable hydrogen

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today provided \$1.9 million in funding to Queensland Nitrates Pty Ltd (QNP) to assess the feasibility of the construction and operation of a renewable ammonia plant at its existing facility near Moura in Central Queensland.

The consortium, led by QNP and partners Neoen and Worley, proposes to produce 20,000 tonnes per year of ammonia from 3,600 tonnes of renewable hydrogen. The new plant would provide up to 20 per cent of Queensland Nitrates' current ammonia requirements, which is presently manufactured from natural gas. The renewable hydrogen would also fill an ammonia production gap that QNP currently procures from third party suppliers.

The aim of the study is to determine the technical and economic feasibility of producing renewable ammonia at a commercial scale, helping to further progress the commercialisation of renewable hydrogen production for both domestic and international use.

If proven feasible, QNP would produce hydrogen via electrolysis for one fifth of its ammonia production. The electrolyzers would be powered by a hybrid supply of wind, solar and stored renewable energy from facilities owned and operated by Neoen.

According to Bloomberg, over 50 per cent of deliberate hydrogen production is used for ammonia. Ammonia production accounts for 1 per cent of global emissions.

Domestic and international markets for renewable hydrogen are emerging. Australia holds a competitive advantage to play a global role in the emerging hydrogen export market due to the existing expertise and infrastructure in energy export supply chains, proximity to key emerging hydrogen markets in Asia and an abundance of renewable energy resources.

ARENA CEO Darren Miller said: "Companies looking at creating hydrogen via electrolysis will help establish a local economy for hydrogen and ammonia production in Australia. This is the first step in the country tapping into the huge potential of a renewable hydrogen export industry."

"ARENA is helping to create a market for hydrogen and to ensure that Australia remains at the front of this shift to renewable energy. ARENA is helping industry produce hydrogen at a price, quality and reliability point where it can be competitive with natural gas."

ARENA has also recently launched new investment priorities which includes accelerating hydrogen as an alternative fuel source. Previously, ARENA has supported Toyota's hydrogen centre at their Altona former car manufacturing plant, ATCO's hydrogen microgrid in Western Australia, Jemena's power-to-grid gas demonstration in western Sydney and BOC's renewable hydrogen refuelling project at Bulwer Island. Last year, ARENA also awarded \$22.1 million to 16 hydrogen research projects. ARENA is also contributing to the National Hydrogen Strategy being led by Chief Scientist Alan Finkel.

Last year ARENA commissioned a report by ACIL Allen Consulting to look into the opportunities for Australia from hydrogen exports. The report found that Australia is in a strong position to become a leading exporter of hydrogen, as global demand increases over the next decade, predicting Australia's hydrogen export industry could be worth \$1.7 billion annually to the economy and create 2,800 jobs by 2030.

QNP General Manager David Armstrong said: "QNP, along with project partners Worley and Neoen, is pleased to have ARENA support enabling the feasibility study to proceed. We look forward to the success of the project including the contribution it makes to the development of a larger renewables-based hydrogen industry."

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