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## World-first project to turn biogas from sewage into hydrogen and graphite

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced it has approved up to \$9.41 million in funding to Hazer Group Limited (Hazer) for the construction and operation of a groundbreaking hydrogen production facility in Munster, Western Australia.

West Australian renewable energy company Hazer are seeking to build a \$15.8 million 100 tonne per annum facility to demonstrate their proprietary hydrogen production technology which converts biogas from sewage treatment into hydrogen and graphite.

The Hazer Process is an innovative technology that converts bio-methane to renewable hydrogen and graphite using an iron ore catalyst, creating an alternate hydrogen pathway to the traditional approaches of steam methane reforming and electrolysis.

Hazer will sell the renewable hydrogen for industrial applications and is exploring markets for graphite including carbon black, activated carbon and battery anode applications. Hazer aims to take advantage of waste or low value biogas streams such as from wastewater treatment plants, landfill sites and other industrial locations to produce higher value hydrogen and graphite.

Hazer has identified the proposed location for the project at the Woodman Point Wastewater Treatment Plant, owned by Western Australian Water Corporation (WA Water Corporation), located in Munster, WA. Hazer has entered into a Memorandum of Understanding with WA Water Corporation for the supply of biogas and to provide the project site for construction.

Hazer aims to complete construction of the facility by December 2020 and begin operations in January 2021.

ARENA's funding is contingent upon a funding agreement being executed subject to conditions including a biogas supply agreement, a hydrogen offtake agreement and Hazer securing sufficient finance for the completion of the project. The funding will account for 41 per cent of the total costs, including a contribution to operating costs.

ARENA CEO Darren Miller said Hazer's project represents a new and innovative way to produce renewable hydrogen, which aligns with ARENA's new investment priority focussed on accelerating hydrogen.

"Renewable hydrogen is typically produced by splitting water molecules using renewable electricity. However, Hazer's process represents an alternative way to produce hydrogen using biogas sourced from wastewater treatment plants. If successful, this project will offer opportunities to replicate the technology across other treatment plants and landfill sites across Australia," he said.

"This technology could help set up Australia as an exporter of hydrogen, and open up new market opportunities from the graphite that is produced as a by-product of the hydrogen production process," Mr Miller said.

Hazer Managing Director, Geoff Ward said: "We are delighted to have progressed through ARENA's process and been selected for funding. We gratefully acknowledge the support of the Australian Government through the important phase of commercial development for this novel Australian technology.

"There is very significant interest in the potential for hydrogen to play an important role in the Australian economy through providing energy storage, services in grid support and resilience, in direct use as a transport fuel, and as a source of low emission heat and power. The completion of the Hazer Commercial Demonstration Plant is a key step to demonstrate the robustness and value of our technology and position Hazer to capture opportunities in this important growth market."

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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.

ARENA has thrown its weight behind Australia's increasing focus on hydrogen as an alternative fuel source. ARENA recently announced \$950,000 in funding for gas company BOC for a renewable hydrogen production and refuelling project in Queensland. ARENA has also supported Toyota's hydrogen centre at their former car manufacturing plant in Altona, ATCO's hydrogen microgrid in WA and Jemena's power-to-grid gas demonstration in western Sydney. Last year, ARENA 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.

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