MEDIA RELEASE

ARENA
Australian Government
Australian Renewable Energy Agency

8 MAY 2020

# Trialling renewable methane in Australia's gas pipelines

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has today announced $1.1 million in funding to APA Group (APA) to build a modular renewable methane production demonstration plant at their Wallumbilla Gas hub near Roma in Queensland.

The 'power to gas' demonstration plant will produce approximately 620kg of hydrogen per year, converting it into 74 gigajoules of methane that can then be injected into APA's natural gas pipelines across the East Coast Gas Grid.

Renewable methane could enable the decarbonisation of Australia's existing gas infrastructure, including gas transmission and distribution networks and export supply chains.

APA has partnered with Southern Green Gas to develop the $2.2 million project to demonstrate the renewable methane process. The project offers the chance to assess the benefits of using methane to 'green' gas networks, compared to other similar ARENA funded projects that aim to use renewable hydrogen directly.

The renewable methane process involves the production of renewable hydrogen from an Anion Exchange Membrane (AEM) electrolyser. The electrolyser uses water extracted from the atmosphere and is powered by solar PV. The hydrogen produced is then converted to methane by reaction with carbon dioxide, which is also extracted directly from the atmosphere.

The demonstration plant will generate cost and technical data to be used to assess the feasibility of a larger, commercial scale, renewable methane plant.

ARENA CEO Darren Miller said: "Renewable methane is in effect indistinguishable from the methane that currently fills our natural gas pipelines. The gas network is expected to play a key role in supporting the decarbonisation of Australia's energy system.

This project will demonstrate the viability of producing renewable methane from solar power. Through a new and innovative approach, the project will capture moisture in the air to produce renewable hydrogen as a precursor to renewable methane.

At scale, renewable methane has the potential to be a significant source of Australia's future natural gas requirements all through the deployment of solar energy and capturing the water from the atmosphere. Renewable methane is compatible with Australia's developing hydrogen sector in that known technologies can convert methane to hydrogen and vice versa," he said.

APA Group's CEO and Managing Director Rob Wheals: "ARENA's support means we can work to understand the costs and benefits of generating renewable methane for use in the existing East Coast Gas Grid. This is a great example of government support for innovation in the Australian energy industry. APA is excited about its part in this process.

"We know the science of producing methane. This unique project is the first step in testing whether it is possible on an industrial scale to create methane, using solar-generated electricity, water and CO2 from the atmosphere.

With this project we're aiming to determine whether this carbon neutral process might be part of the green energy solution of the future, and if our pipelines can be used to transport pure renewable energy domestically or to be exported."

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