MEDIA RELEASE

ARENA
Australian Government
Australian Renewable Energy Agency

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Australian first biomethane trial for NSW gas network

On behalf of the Australian Government, the Australian Renewable Energy Agency (ARENA) has announced $5.9 million in funding to Jemena to trial injecting biomethane into the natural gas network in New South Wales.

In a joint initiative with Sydney Water, the demonstration scale project will upgrade biogas produced from the anaerobic digestion process at Sydney Water's Malabar wastewater treatment plant to biomethane for injection into the Jemena gas distribution network, as natural gas consists primarily of methane.

The $14 million project involves the installation of gas cleaning and upgrading equipment that will be located at Malabar, with the infrastructure then connected to the Jemena natural gas network. The project will see Sydney Water initially supply 95 terajoules (TJs) per year of zero emission biomethane. Under a long term agreement, this will be scaled up to 200 TJs annually;,equivalent to the gas demand of approximately 13,300 homes.

The project will also investigate renewable gas trading opportunities linking gas users with renewable gas production facilities. Such trading mechanisms would support a highly replicable 'green gas' market across other gas networks.

If successful, the project is expected to support wider uptake of biomethane technology by the Australian waste industry with the application expected to have broader application than just the wastewater treatment sector.

According to Jemena, there are more than 30,000 TJs of potential biogas in the vicinity of the NSW gas pipelines, enough to supply 1.4 million households in NSW. The world's biogas and biomethane resources could cover 20 per cent of global natural gas demand while reducing greenhouse gas emissions, according to a recent International Energy Agency report.

ARENA has previously funded a Jemena trial that is producing hydrogen using renewable energy for injection into the Sydney gas network in Horsley Park in western Sydney.

Renewable hydrogen and biomethane can be used as complementary gases to displace natural gas and reduce emissions. The injection of both hydrogen and biomethane allows for further decarbonisation than hydrogen alone due to blending limits of hydrogen in current gas infrastructure.

The Malabar plant is expected to produce the first biomethane for injection into the gas network in early 2022.

ARENA CEO Darren Miller said this first of its kind project would show how biomethane could help to supplement domestic gas supplies and decarbonise the gas network.

"The injection of biomethane into the natural gas network is currently unproven in Australia due to a range of technical, regulatory and commercial factors.

"Displacing natural gas with biomethane and renewable hydrogen is recognised as the likely pathway to decarbonise natural gas networks. With a successful demonstration by Jemena, we could see biomethane use increasing across the country" he said.

Jemena Executive General Manager Gas Distribution, Dr Jennifer Purdie said this project will deliver on customer demands for access to renewable gas.

"This agreement will see biomethane injected into the gas network for the first time in Australia with an initial capacity of 95 terajoules of renewable green gas per year, which is enough to meet the gas demand of approximately 6,300 homes. This has the potential to be scaled up to 200 terajoules per year, enough to meet the gas demand of around 13,300 homes."

Sydney Water Managing Director, Roch Cheroux said: "As Australia's largest water utility, we're proud our world-class products and services are central to this Australian first project to supply biomethane to the gas grid."

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“This has the potential to supply zero-emission renewable gas to thousands of households, a fantastic demonstration of Sydney Water’s innovation to support a circular economy.”

“Wastewater recycling also allows us to produce recycled water, electricity and biosolids, all of which we are currently doing across parts of our network.”

This year, ARENA has also been developing the national Bioenergy Roadmap on behalf of the Australian Government to identify the role that the bioenergy sector can play in accelerating Australia’s energy transition, stimulating regional development, enhancing energy security and helping Australia further reduce our emissions. The roadmap is due to be provided to the Minister for Energy and Emissions Reduction later this year.

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