

28 June 2017

Gas industry to capture carbon-free fuels

New sources of gas supply can power Australia's long-term gas future in a decarbonising energy system, the national Gas Vision 2050 Seminar will hear today.

Energy Networks Australia CEO John Bradley said the industry was focussed on the urgent need to address customer confidence in affordable, secure supplies today and the long-term need to introduce new low or zero emission sources to the gas network.

"Three transformational technologies – hydrogen, biogas and carbon capture and storage – have the potential to drive the gas decarbonisation journey in Australia," Mr Bradley said.

Gas industry leaders will hear from Energy Minister Josh Frydenberg at today's seminar in Melbourne.

An international expert on transforming gas networks, Dan Sadler of Northern Gas Networks, will detail plans to convert the UK city of Leeds natural gas supply to hydrogen.

"On a cold winter's day, 90 per cent of the UK's energy for heat, light and power comes from the gas network," Mr Sadler said.

"Incrementally converting the UK gas grid to hydrogen would be a major step towards meeting the UK's carbon reduction targets in a way that is technically possible and economically viable. It would provide secure, highly skilled, long term jobs and prosperity for the UK for decades to come.

"Australia has an incredible and unique opportunity when considering the onset of a hydrogen economy. Independently it can provide domestic energy requirements with clean hydrogen, at scale, utilising technology available around the world today."

Mr Bradley said gas in Australia was meeting almost half our household energy needs with low emissions and playing a vital role in power system security.

"Hydrogen is primed to play an important part in the decarbonisation of Australian gas, as industry leads innovation efforts to capture the potential of carbon-free fuels," Mr Bradley said.

"With massive growth in renewable energy in Australia, our gas networks and science agencies are looking at the potential to produce and store hydrogen in gas networks, to help support intermittent renewables.

"A number of industry-led research and development projects are already underway and the South Australian Government has just announced funding for a hydrogen-fuelled bus trial, as the first stage of a Hydrogen Roadmap to be released later this year."

Today's seminar follows the recent release of the *Gas Vision 2050*, a joint initiative of Australia's peak gas industry bodies. The publication highlights how gas can continue to provide Australians with reliable and affordable energy in a low carbon energy future.

Examples of current Australian gas industry research and development projects include:

Hydrogen

- » ActewAGL is working with the Australian National University on a research initiative around three elements: producing hydrogen from excess renewable energy; hydrogen usage as a storage medium; and a renewable energy source that can be injected into the ACT gas distribution network.

- » Jemena is working on a Power to Gas trial to demonstrate how excess renewable energy can be converted to hydrogen to be stored in gas pipelines to be used when and where it's needed.
- » An Energy Networks Australia project is reviewing the implications of combining hydrogen in networks on appliances and gas supply and distribution networks.

Biogas

- » An ActewAGL project aims to convert organic waste to biogas in an anaerobic digester and to inject the renewable gas into the ACT's gas distribution network. A business case for a pilot scheme is being developed.

Hybrid renewables-natural gas technology

- » ATCO Gas Australia's GasSola research and development project in the south-west of Western Australia combines the use of solar panels, battery storage and a natural gas powered generator. It aims to provide a reliable, secure back-up to renewable energy sources at a household level and support the electricity network in times of peak capacity. In addition to this residential project, a scalable commercial hybrid system is in development at ATCO's Jandakot Operations Centre.
- » Jemena is establishing a natural gas microgeneration trial to investigate the role natural gas can play in a hybrid residential energy solution. The trial will incorporate solar PV, battery technology, and natural gas microgeneration to optimise energy usage and reliability.

Energy Networks Australia is now working to deliver a long term research and development plan to support the Vision.

The *Gas Vision 2050* is available [here](#).

The program for today's seminar is available [here](#).

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Energy Networks Australia represents Australia's electricity transmission and distribution networks and gas distribution networks. Our members provide energy to virtually every household and business in Australia.