

MEDIA RELEASE – EMBARGOED UNTIL NOON

Monday, 10 December 2018

Research released on role of gas in a low-carbon economy

Given the vital role gas and its infrastructure play in the New Zealand economy, it is crucial to understand the options for gas in the changing policy environment.

That's the message from a report by London-based consultants Vivid Economics which was officially released in Wellington today.

Taranaki-based energy companies First Gas and Powerco commissioned Vivid Economics to explore potential scenarios for future use of the gas infrastructure as New Zealand moves to a low-carbon economy.

Gas and its infrastructure provide around 20% of New Zealand's primary energy supply.

Vivid Economics' report finds that there are many uncertainties in New Zealand's changing policy environment around gas and it is too early to pick one preferred energy source for a low-carbon economy. It may be that some sectors' energy needs are met with one solution, and other sectors met by another.

"Greater certainty over the relative potential for hydrogen and electrification to address GHG (greenhouse gas) emissions in hard-to-treat sectors is needed before a good decision on the role of gas transmission and distribution infrastructure in meeting the net zero target can be made," the report says.

Hard-to-treat sectors include winter peaking in electricity generation, intermediate and high-temperature industrial heat, heavy vehicles, and agriculture, waste and industrial process emissions.

Vivid Economics recommends further research take place in New Zealand during the short-to-medium term, including:

- A full study on the impacts of large-scale tree planting
- A techno-economic assessment of the potential for hydrogen and electrification options
- A feasibility assessment of carbon capture and storage

In some "easy-to-treat" sectors, consensus is that electricity and its infrastructure are the best future solution to reduce GHG emissions, the report says. Emissions from off-peak electricity can be reduced with a combination of wind, solar and hydro generation; emissions from space and water heating in residential and commercial properties can be reduced with a combination of energy efficiency and electric heating; and emissions from cars and vans can be reduced with electric vehicles. But New Zealand needs to be careful not to overestimate the ability of electrification to remove carbon emissions from the energy system.

"In hard-to-treat sectors, the preferred approach is far from clear. In these areas, there is value in preserving the opportunity to deploy different solutions as understanding the technology evolves. These parts of the economy may require new technologies or offsetting actions, for example forestry, to achieve net zero emissions."

Vivid Economics looked at three scenarios as part of its research:

- Diversified mix: Natural gas use reduces substantially, but the pipeline infrastructure continues to play a vital role in meeting energy needs. Gas is directed towards the three parts of the energy system where it is difficult to substitute with renewables – electricity peaks, industrial heat, and the production of industrial products largely for export. The remaining emissions are offset through mass forestry.
- Green gas: Gas infrastructure is retained, with innovation and technology allowing for hydrogen produced through electrolysis, and/or biogas to use the gas grid.
- All electric: Considers a substantial overbuild of renewable generation to meet electricity demand peaks. All existing gas pipelines would be decommissioned.

“Affordability differs between scenarios; and a decision now to completely decarbonise using electricity would risk unnecessary costs.”

First Gas Chief Executive Paul Goodeve says Vivid Economics’ research shows that it is important for policy makers to take a careful and cost-effective approach to New Zealand’s transition to a low-carbon economy so the public are not over-burdened.

“What this research shows is that there is no easy answer to achieve a low-carbon economy,” Mr Goodeve says.

“A key element is affordability. We need to find affordable ways to meet winter electricity peak demand and maintain the competitiveness of large industries that use gas for production. Would New Zealanders find it palatable to pay substantially more for their electricity to upgrade infrastructure which will be underutilised to cover large energy use sectors and peak winter use? These are considerations we believe policy makers need to take carefully into account when making decisions.”

Powerco Chief Executive Nigel Barbour says the Government and the Independent Climate Commission will be looking at ways to achieve low-carbon outcomes and he hopes the Vivid Economics report will play a valuable role in informing them during that process.

Please refer to the attached final report from Vivid Economics – ‘Gas infrastructure futures in a net zero New Zealand’ for further information about the research.

London-based consultants Vivid Economics advise on critical and complex policy and commercial questions in the resource and environment-intensive sectors. In March last year, they produced ‘Net Zero in New Zealand’, a report on how this country can tackle climate change. The report was commissioned by GLOBE-NZ, a cross party groups of MPs.

First Gas is New Zealand’s largest owner and operator of gas networks, with more than 2,500km of high-pressure gas transmission pipes and about 4,800km of gas distribution pipes in the North Island. First Gas’ focus is a safe, reliable supply of gas to more than 65,000 customers throughout the North Island.

Powerco is New Zealand’s second largest electricity utility and gas distribution utility with around 1.1 million customers (across 446,000 connections) connected to its networks. Powerco’s electricity networks are in Western Bay of Plenty, Thames, Coromandel, Eastern and Southern Waikato, Taranaki, Whanganui, Rangitikei, Manawatu and the Wairarapa. Its gas pipeline networks are in Taranaki, Hutt Valley, Porirua, Wellington, Horowhenua, Manawatu and Hawke’s Bay.