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New report assesses commercialisation options for a large gas discovery

A new study into commercialisation possibilities for a large new gas find in New Zealand has identified Liquefied Natural Gas (LNG) exports and petrochemical production among the best options for the country.

The report, [*Possible Commercialisation Options for New Gas Discoveries*](#) commissioned by industry body and co-regulator Gas Industry Co, was produced by Wellington-based Concept Consulting Group.

With continuing investment in oil and natural gas exploration, there is potential for significant new gas discoveries of a scale that may exceed the domestic market's current ability to absorb them. The report considers potential opportunities to commercialise any significant new gas finds beyond existing sources of demand, and in particular assesses issues and opportunities for:

- LNG
- new petrochemical production
- gas as a transport fuel
- new gas-fired electricity generation
- increased industrial, commercial and residential demand

It finds the best options for New Zealand are:

- exporting gas as LNG for gas discoveries of 3,000-4,000 petajoules (PJ) or above; and
- manufacturing methanol, ammonia or urea for fields that are not large enough to warrant an LNG facility. Of these, urea manufacturing is particularly attractive as it could satisfy domestic demand and take advantage of the lower shipping costs relative to imported urea.

The study focuses on feasible options in the medium and long term, and as such, the analyses incorporate a moderate view of future world energy prices and other factors (a long-term oil price of US\$75/bbl, for example).

Other findings of the study:

- Some emerging technologies for natural gas as a transport fuel show promise, particularly for heavy duty haulage, and offer the potential of significantly lower fuel prices. However, the scale of likely New Zealand demand for these options would be insufficient to underwrite a new gas find on its own.
- Although electricity generation has historically played an important role commercialising gas, the opportunities for developing new *baseload* gas-fired generation are constrained by electricity demand growth and the competitiveness of renewable generation technologies such as geothermal and wind. Gas-fired generation remains the most

competitive form of *peaking* generation, but the quantities of gas involved are relatively small.

- The direct use of gas in the residential, commercial and industrial sectors has been a relatively small but steady source of demand. However, most of the significant opportunities to switch to gas have been taken up in the North Island. In the South Island, any find that did not justify LNG export could potentially displace existing coal applications but faces commercialisation challenges including scale limitations and pipeline development costs.

Gas Industry Co Chief Executive Steve Bielby said the report provides useful insights into how a new gas discovery may be utilised, and said that it illustrates how, despite New Zealand's remote location, there are ready opportunities to commercialise significant new gas finds and make valuable contributions to the New Zealand economy.

The report was produced as part of Gas Industry Co's strategy of ensuring good information is available about the gas industry and its future prospects, so as to assist industry participants and other stakeholders with their strategic decisions.

The study supplements a gas supply/demand update report, [Long-Term Gas Supply and Demand Options](#) produced by Concept for Gas Industry Co in September 2014, which focussed only on existing sources of natural gas supply and demand. The current study also builds on a discussion paper, [Commercialisation Issues, Opportunities and Challenges in the Event of Substantive Gas-Rich Exploration Success](#), produced for Gas Industry Co by John Kidd, of Woodward Partners, in May 2014.

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