GAS IN NEW ZEALAND

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Gas Industry Co.

This presentation will cover

- Background on GIC and the gas sector
- Gas prices
- Gas for electricity security of supply
- Gas supply and demand forecast

- If there is time: Gas Transition Plan

About GIC and the Gas Sector

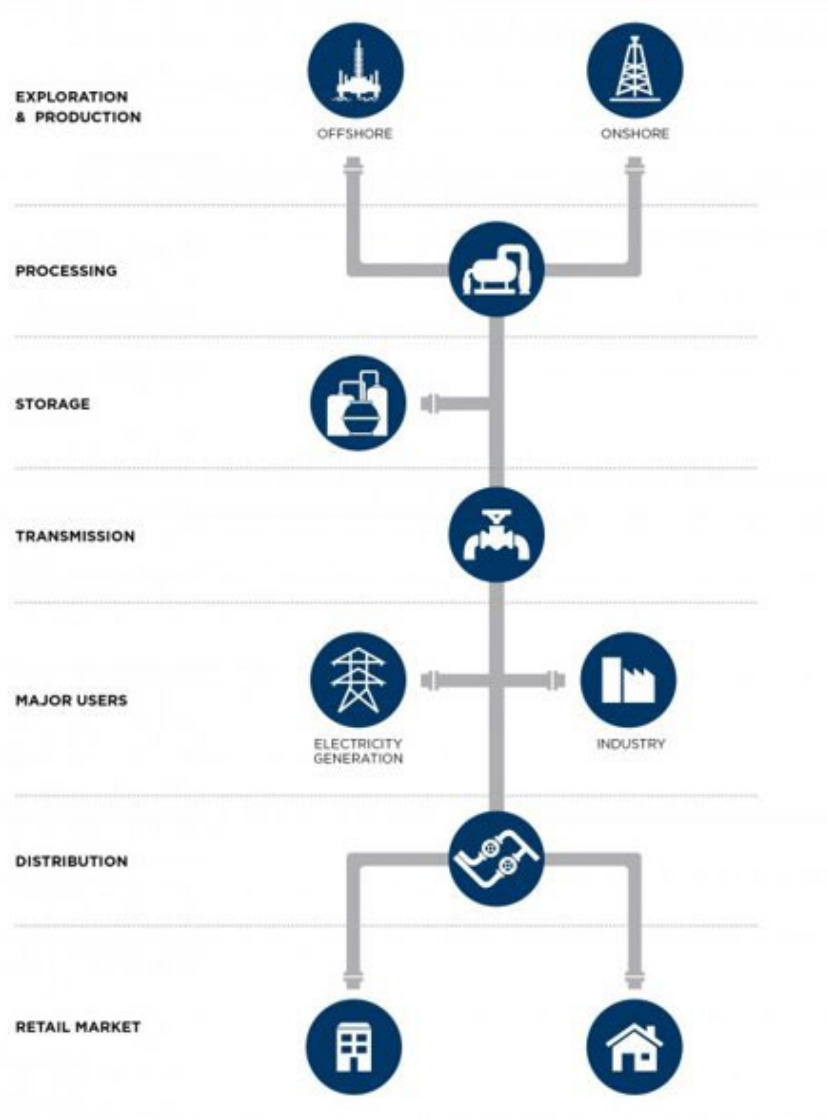
Gas Industry Co is the industry co-regulator.

Our principal objective is to ensure that gas is delivered to customers in a safe, efficient, reliable, fair and environmentally sustainable way.

As the industry body we develop arrangements, including regulations, which improve:

- consumer outcomes;
- the operation of gas markets; and
- access to infrastructure.

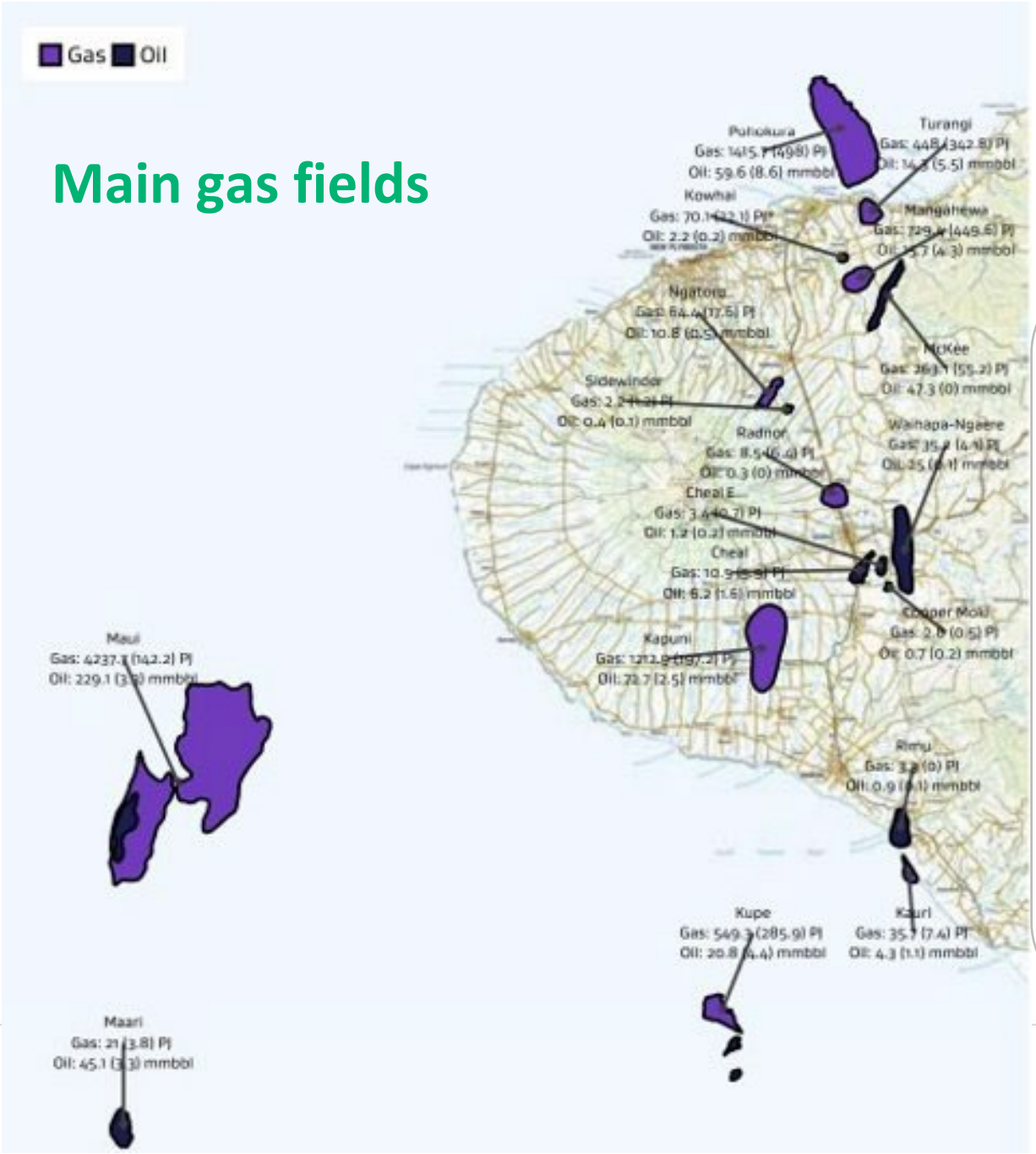
The gas industry is an intersection of production, transmission, and customers



Main gas fields

Offshore

- Pohokura
- Maui
- Kupe

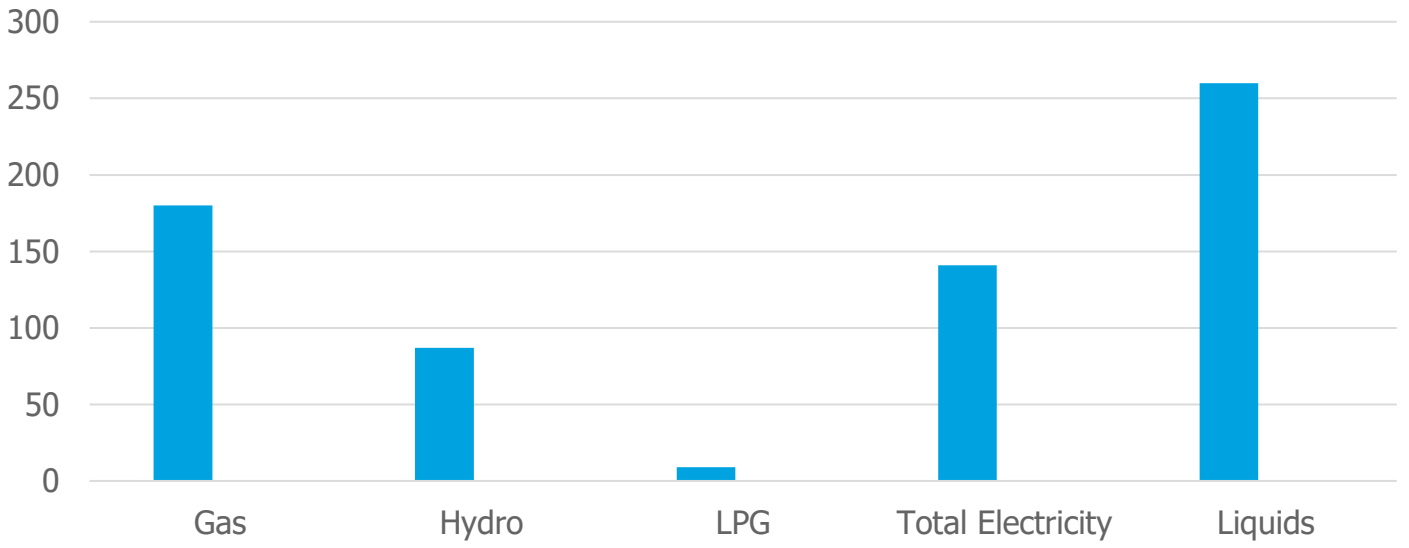


Onshore

- Kapuni
- Mangahewa
- Turangi

Energy supplied to New Zealand:

Natural gas is second only to liquid fuels such as petrol and diesel in New Zealand's energy system in total energy value



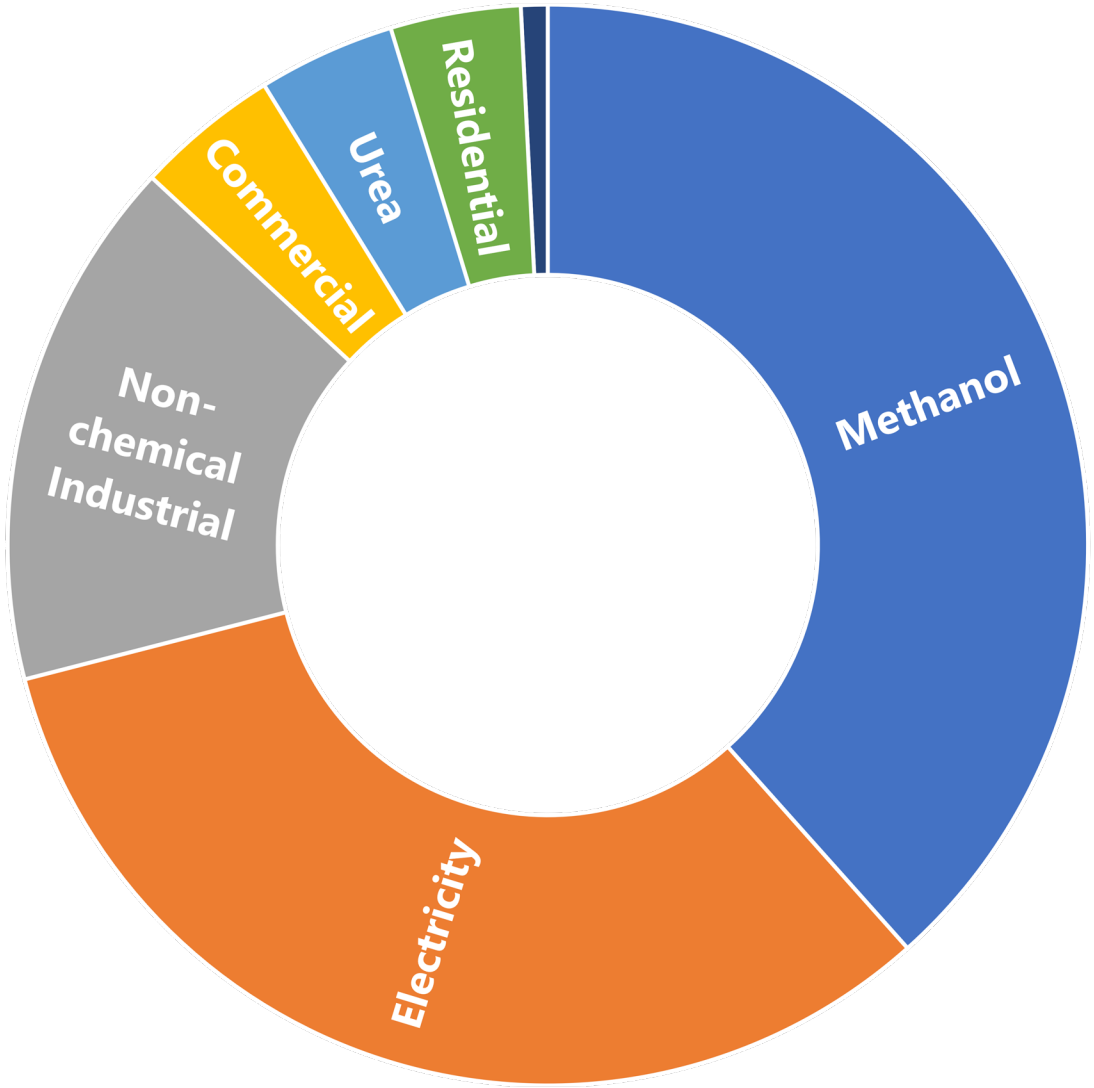
Annual calorific value of energy supplied. 2020 calendar year, MBIE, Energy in New Zealand 2021, page 10. Energy value at point of supply.

Gas Demand

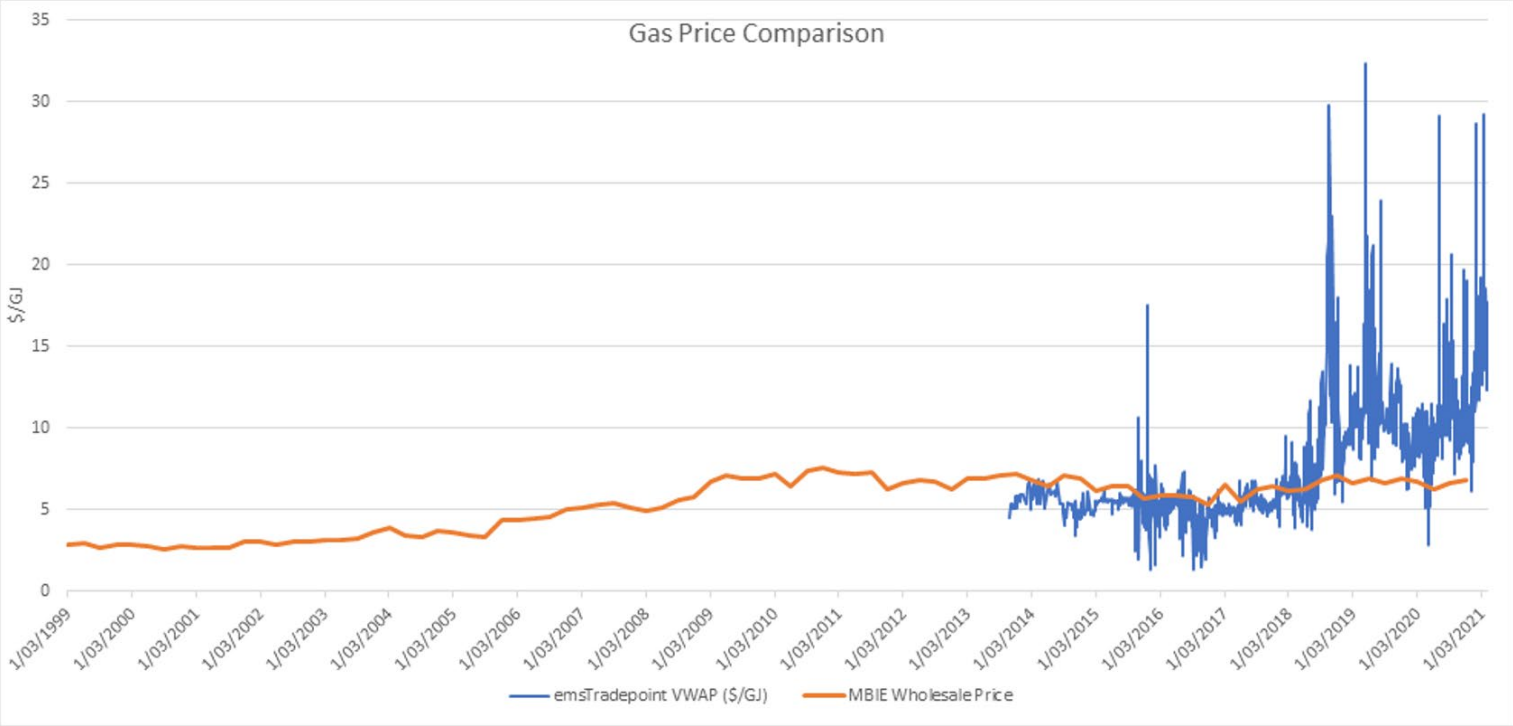
Only 4% of gas is used residentially.

About a third is used to generate electricity.

Methanex is New Zealand's largest energy user



Gas Prices



Most gas (~95%) is sold under long-term contracts.

Spot prices are mainly only for balancing.

Since the 2000s, wholesale gas has generally been priced around $6-8/GJ

2021 carbon cost was $3.51/GJ

Gas for Electricity Security of Supply

The electricity market currently assumes gas availability but doesn't pay for gas to be available for dry year security.

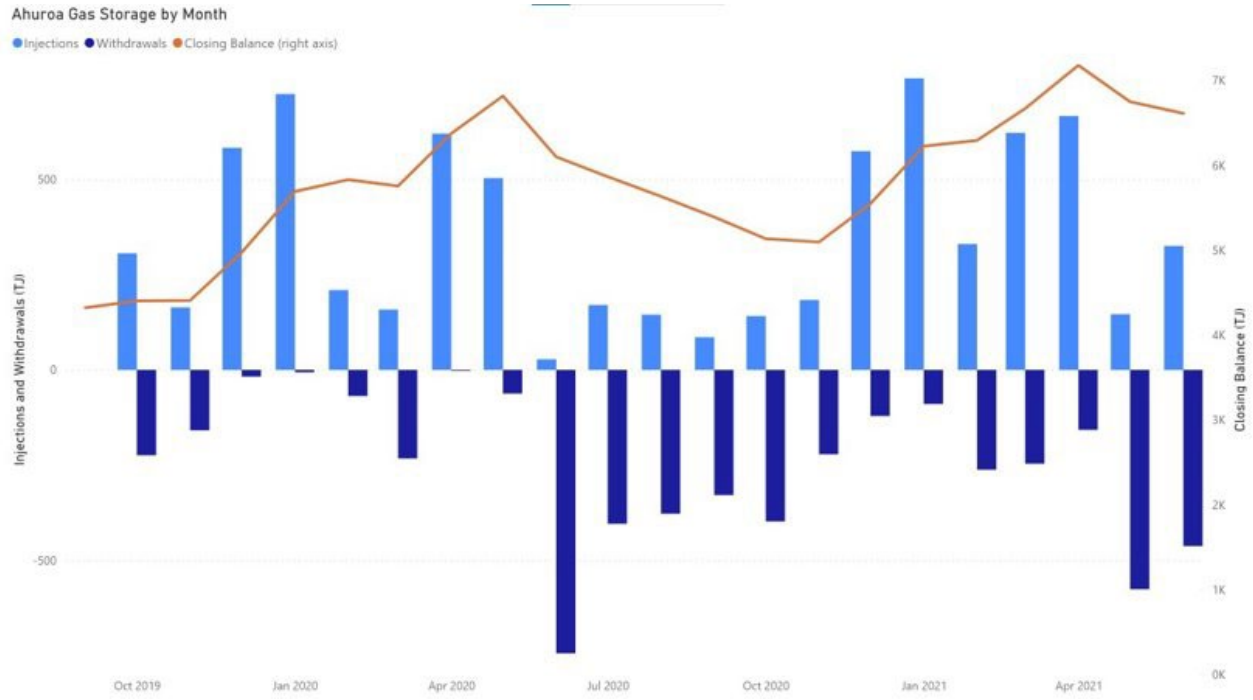
Our 2021 Gas Market Settings Investigation found a key uncertainty is: Who pays for stand by gas to be available for a dry year?
- Storage?
- Demand response?

Ahuroa is New Zealand's only gas storage facility, it stores gas underground

Ahuroa can theoretically store up to 18 PJ (about the size of Lake Onslow).

In 2021, Ahuroa had about 6-7PJ of gas in storage. Withdrawals more or less match injections.

It has never been full.



Flexibility provided by Methanex literally keeps the lights on

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NEW ZEALAND / TARANAKI

75 jobs to go as Taranaki methanol producer Methanex plans to close plant

5:16 pm on 1 April 2021

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One of Taranaki's big industrial players, Methanex, has confirmed 75 jobs will be lost after its decision to close one of its plants, citing an inability to secure gas supply as the reason for shutting it down.

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BUSINESS / ENERGY

Genesis signs deal with Methanex for natural gas supply

12:23 pm on 28 May 2021

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Genesis Energy has struck a deal with Methanex to support the security of its electricity system.

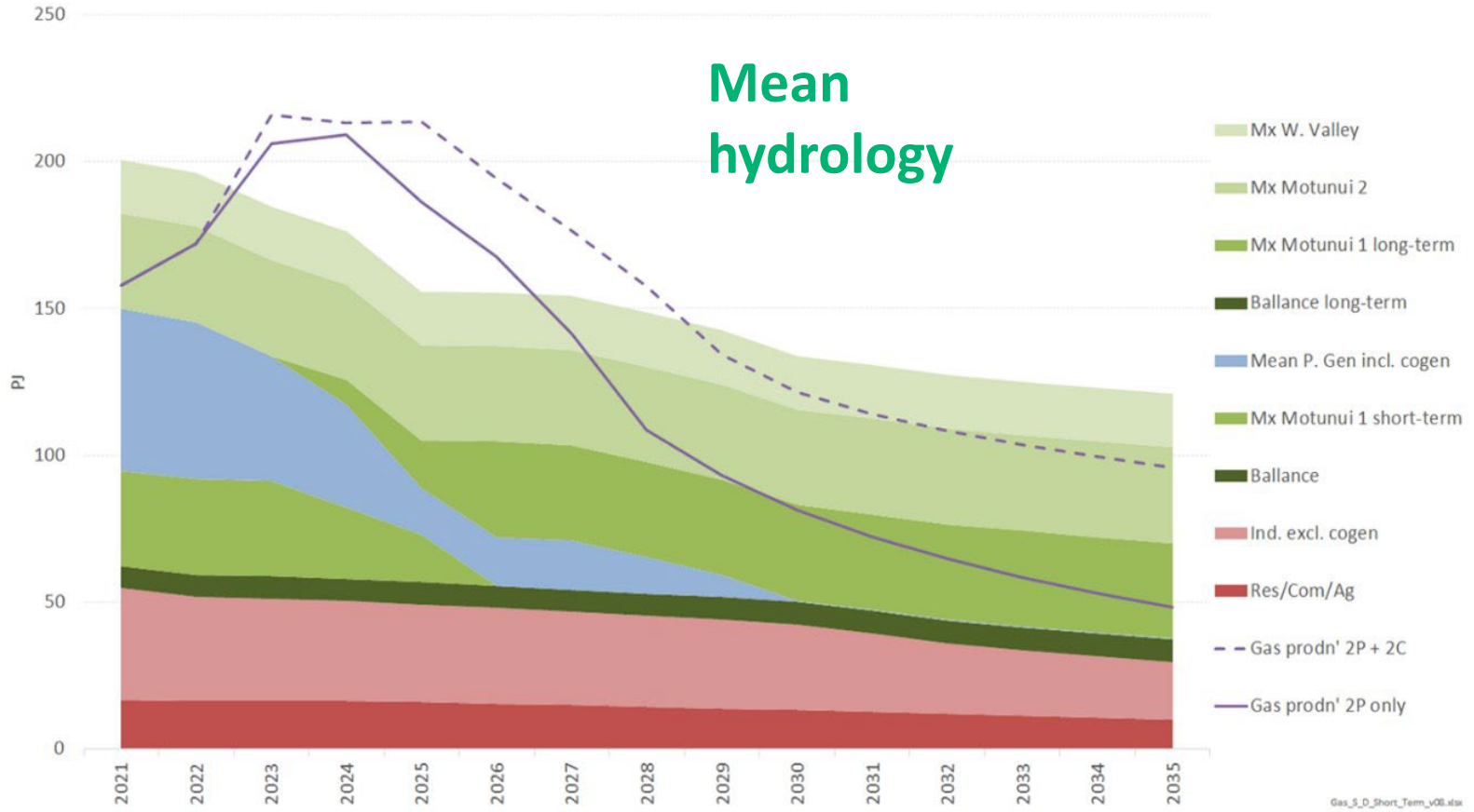
ENERGY

Gas market crisis averted as Methanex cuts production

Pattrick Smellie
Fri, 28 May 2021

Gas from Methanex was arranged by contract, not traded through the spot market

Gas Supply and Demand Forecast



MBIE estimated New Zealand's 2P gas reserves at 2,139PJ (1 Jan 2021)

Long term investment must be incentivised

Reserves are brought to market as demand requires it, and as the required investment occurs.

Figure 17: Projected production profile including simple development of 2C resources

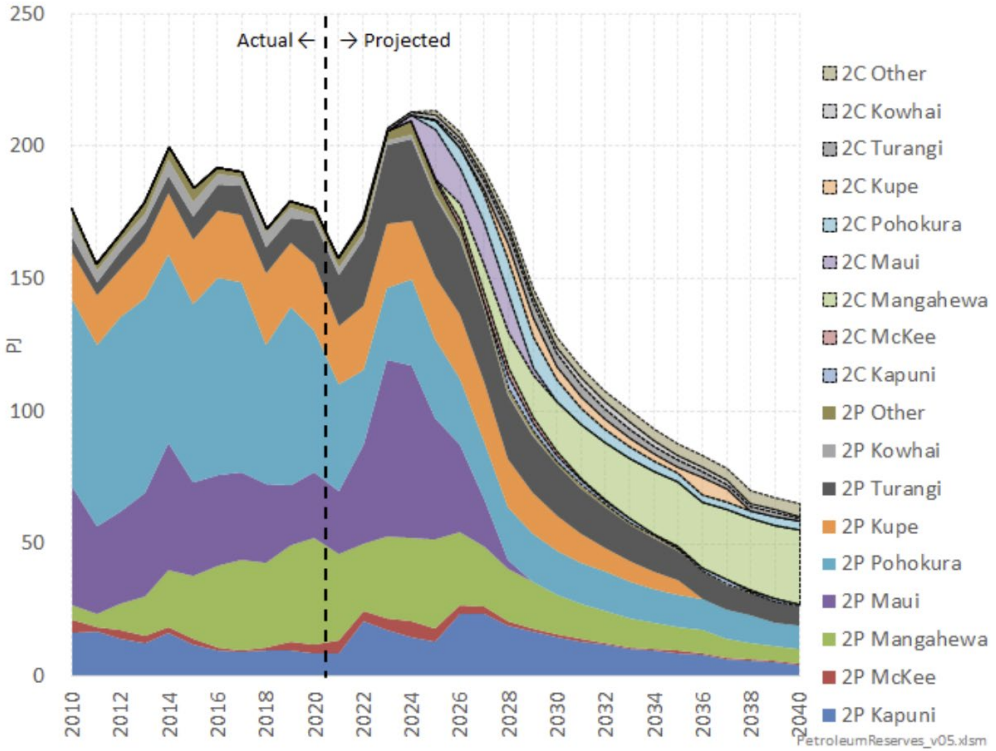


*Figure 17 from Gas supply and demand projections 2022 update

Long term contracts underwrite field development.

Without long term contract, gas fields in New Zealand do not get developed because the producer has no certain market.

2P reserves still require investment to maintain deliverability, and 2C reserves also require technical or economic barriers to be overcome

Figure 6: Winter supply / demand balance for 2021 to 2023[5]

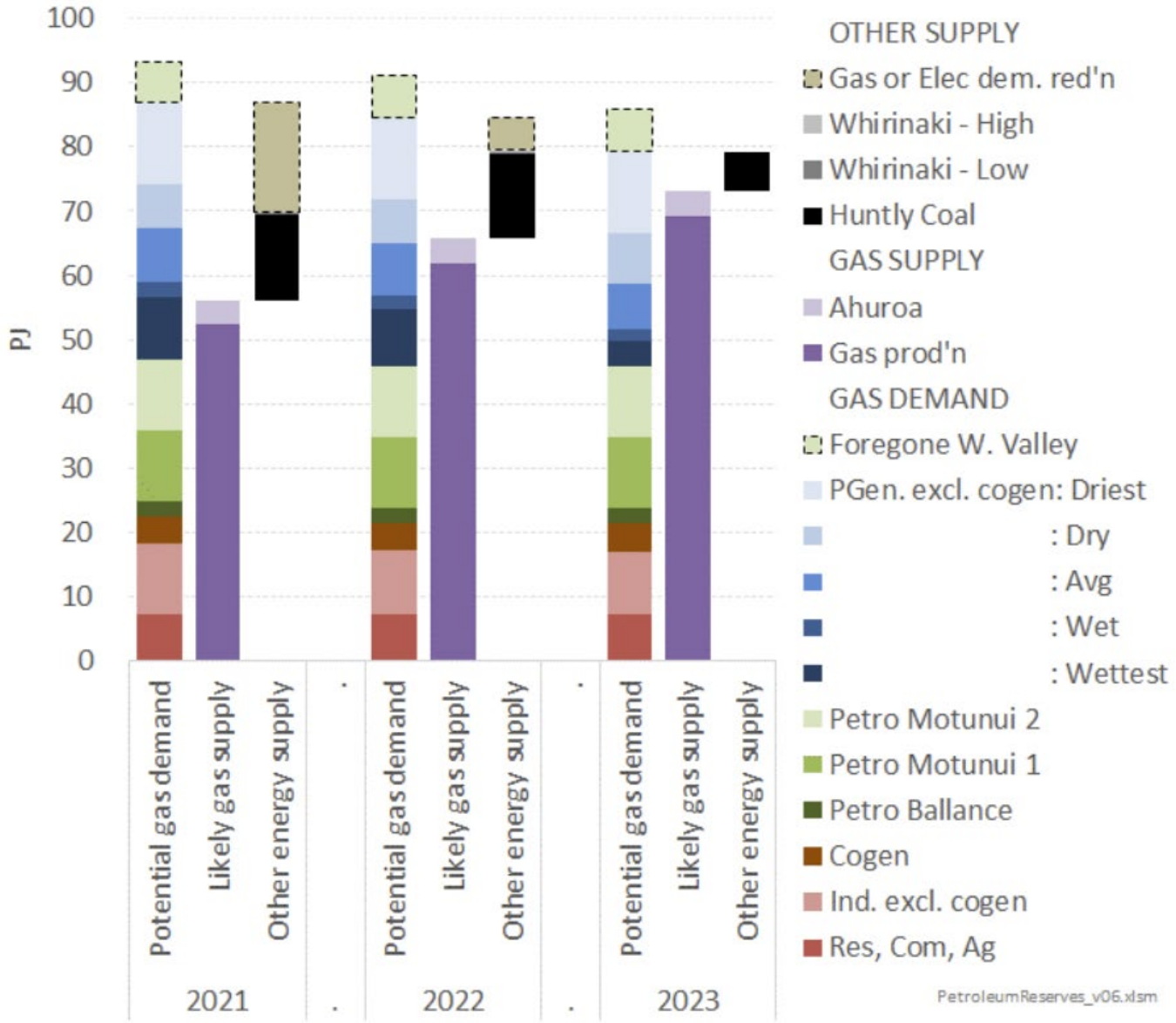
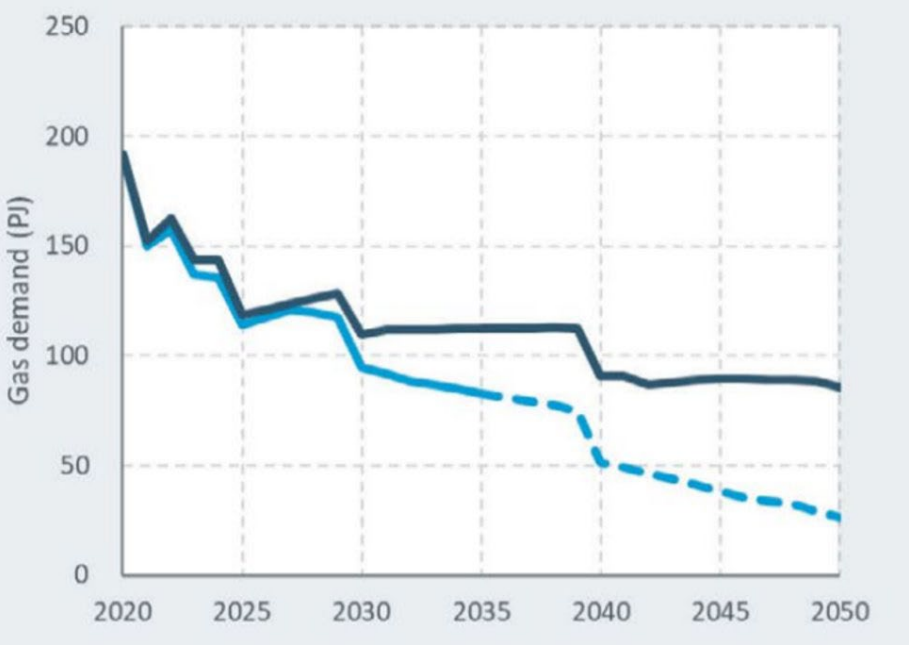


*Figure 6 from Gas supply and demand projections 2022 update

The road to net zero: What will change?

Climate Change Commission demonstration pathway



Demand for natural gas will significantly reduce as the transition progresses.

Gas is significant in 2035 and remains in energy mix in net zero.

Emissions reduction pathway implies 50 - 110 PJ annual demand in 2035 and 26 - 50 PJ in 2050.

Gas Transition Plan

- Transition pathways for natural gas, with focus on first 3 carbon budgets.
- Set out uncertainties and decisions that need to be made around infrastructure (pipelines) and costs.

Pillar one

- Develop a cohesive view on renewable gas market developments.
- Consider the role for green hydrogen, biomethane, renewable Liquid Petroleum Gas, and CCUS.

Pillar two