

THE NEW ZEALAND GAS STORY – SUPPLYING THE DOMESTIC MARKET

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Gas Industry Company

- Co-regulation of downstream gas sector - modelled on former NSW regime
- Industry/Government partnership
- Overall NZ strategic view

Optimising gas's contribution to NZ



What I'll be covering...

- Key features of the NZ market
- Markets and issues – a closer look at:
 - role of gas-fired electricity generation
 - price trends
 - transmission access
- How NZ's gas future is shaping

Key features of the NZ market

...we're an isolated island nation



New Zealand is totally self-reliant for natural gas – no LNG import capability or cross-border pipelines

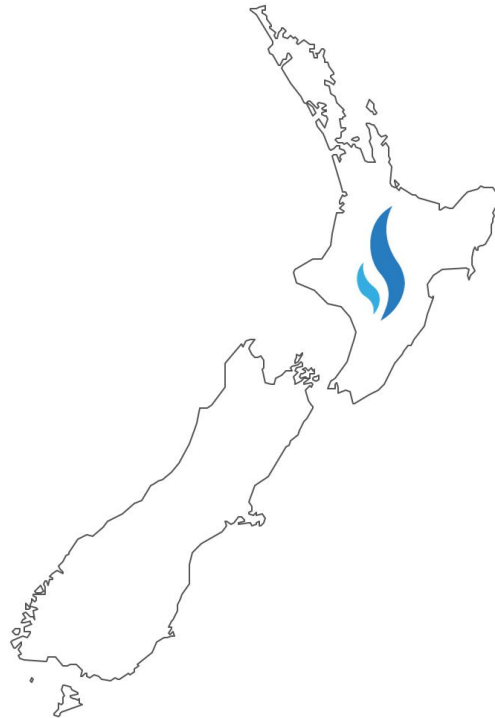
Significant features of the NZ gas market

...we effectively export more than half of our gas as methanol and other export commodities



Significant features of the NZ gas market

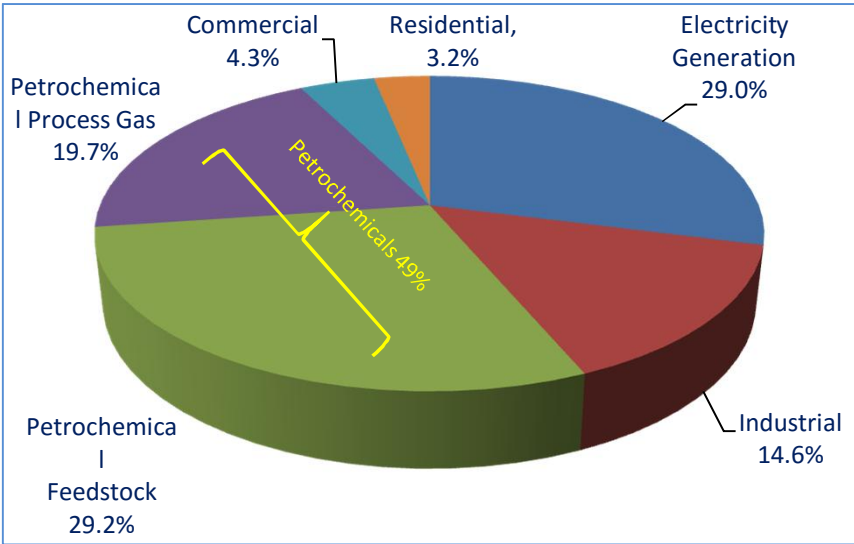
...natural gas is available only in the North Island



Significant features of the NZ gas market

78% of gas is used as a transition energy for electricity and petrochemicals

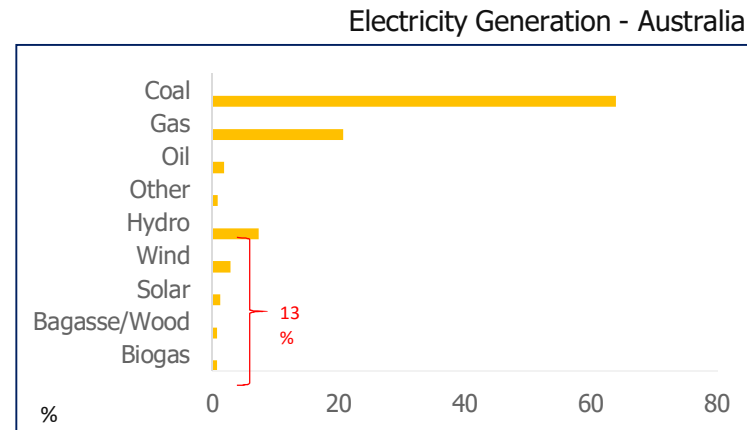
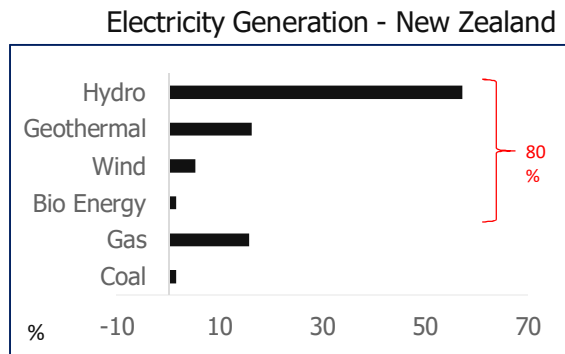
250,000 households use just 3.2%



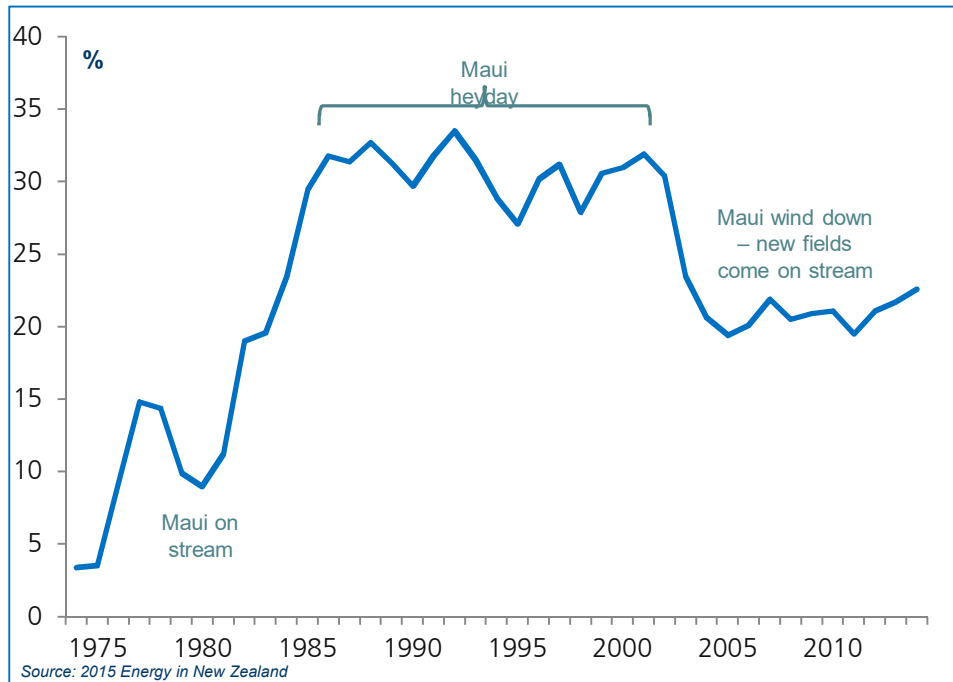
Source: 2015 Energy in New Zealand

Significant features of the NZ electricity market

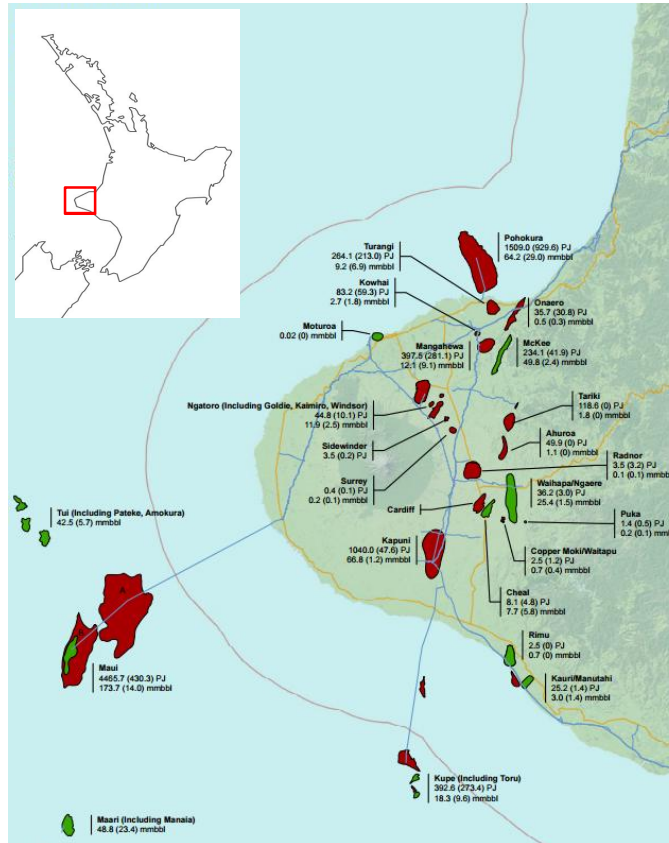
...and we have 80% renewable electricity generation, aiming for 90%



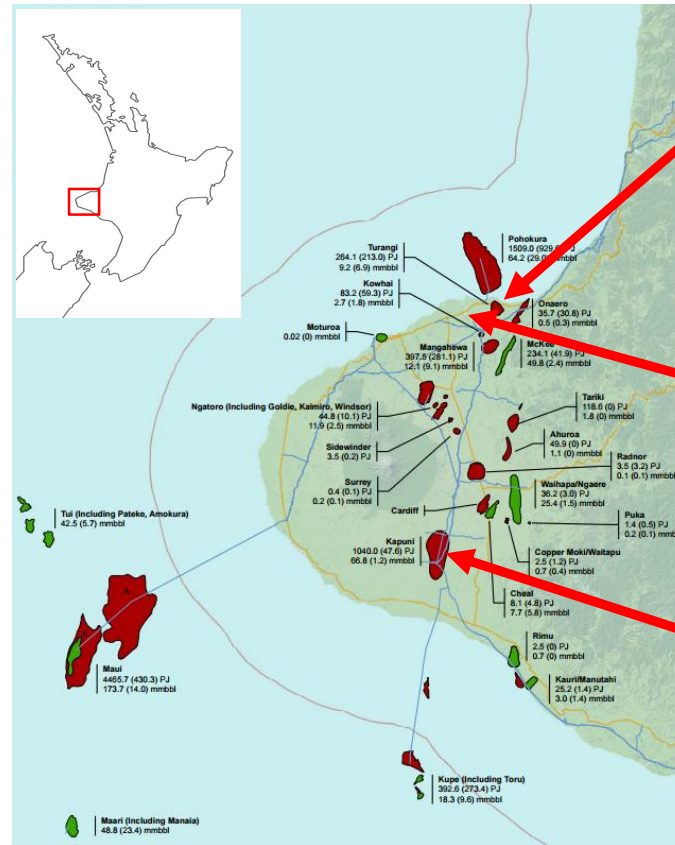
Gas's contribution to NZ primary energy supply around 23%



15 fields produce gas – all in Taranaki



Gas has enabled development of a substantial petrochemical industry



Natural gas underpins electricity supply...



and a nationwide LPG industry..



NZ has a healthy downstream consumer market

Customer choice

- 99% of customers have a ***choice of at least 8 retailers***

Competition

- Customer ***churn rate robust at around 19% p.a.***
- Average ***switching time down around 6 business days***
- Market ***concentration has reduced in all regions***

Efficiency

- Annual ***unaccounted-for gas (UFG) reduced by 60%*** to 1% of injected volumes

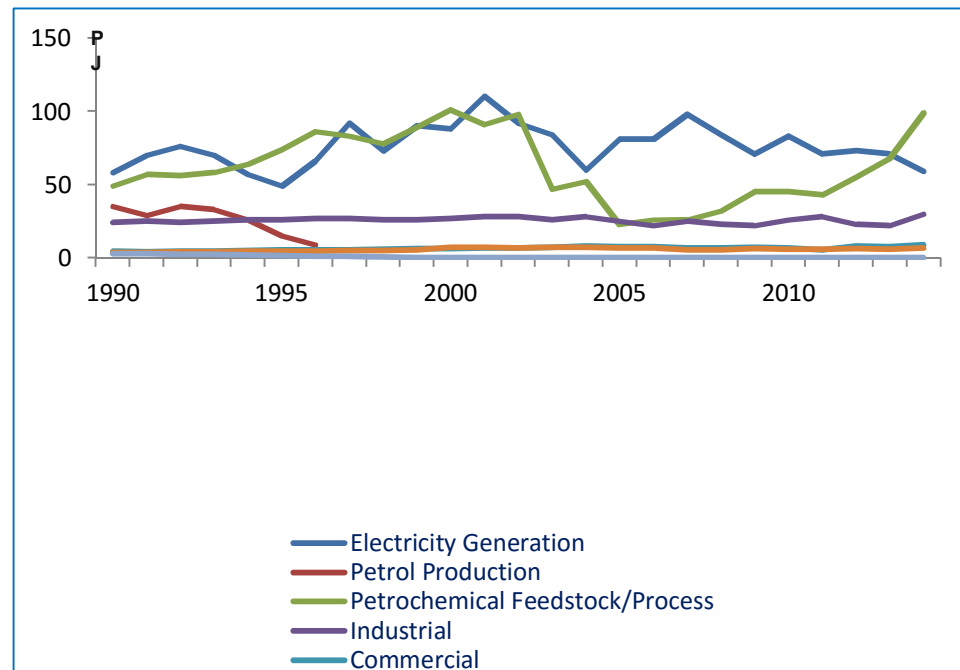
Compliance/Standards

- ***High level compliance*** across all rules/regulations; 'substantial' alignment with retail contract benchmarks and distribution contract principles

Transparency

- Key market ***data published and reported*** widely

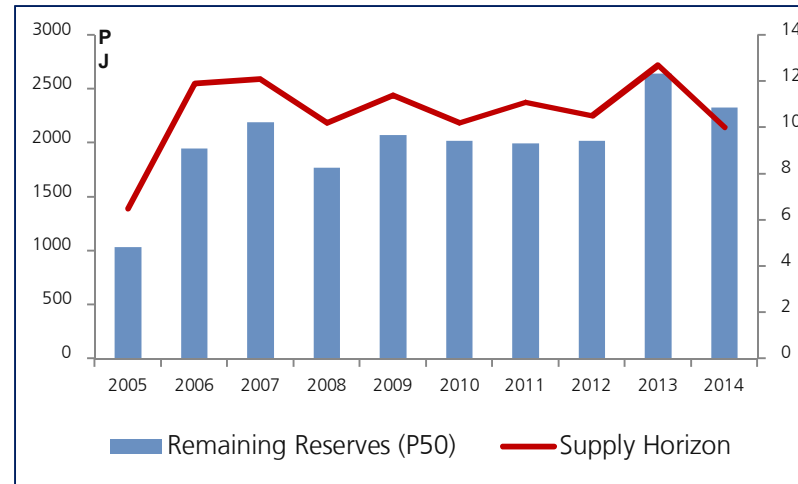
Gas use trends are changing over time



Source: 2015 Energy in New Zealand

Gas reserves are relatively stable

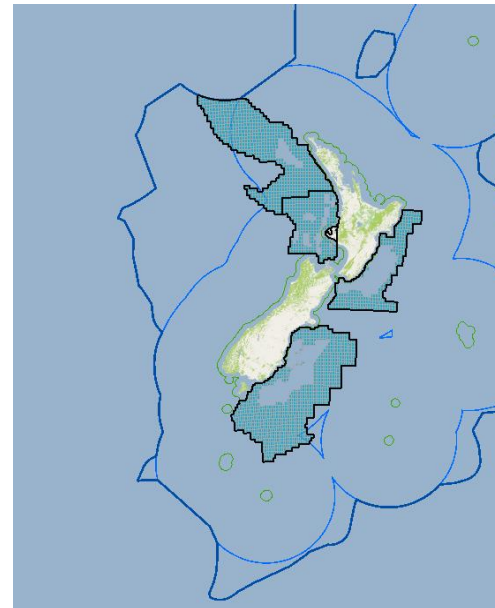
- 1,036PJ - 2,642PJ range since 2005
- Currently 2,328PJ – supply horizon around 10 years
- Unconventional gas reserves not firm enough to be included



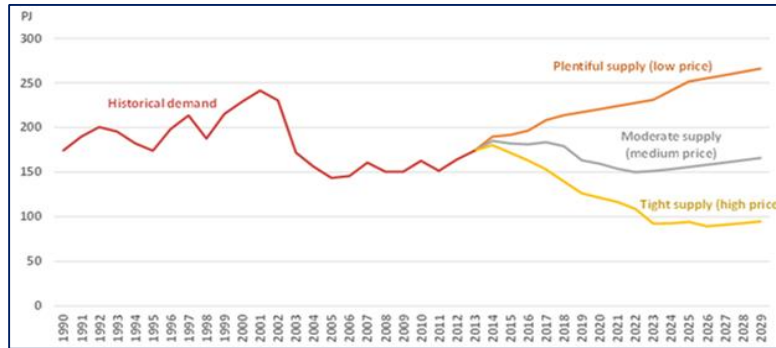
Source: Energy in New Zealand

Maintaining/growing upstream investment in the current oil price environment

- NZ operates a Block offers regime
- Recent grantees include Shell, OMV, Anadarko, Chevron, India Oil & Natural Gas Corporation, Statoil (Norway)
- Low oil price affecting investment
- 2015 round still attracts major players but terms/commitments reduced



Range of Supply and Demand Scenarios



Markets and issues

Common issues for Australia and NZ

- Adapting to market change
- Addressing natural monopolies
- Consumer protection
- Role of gas-fired generation
- Step changes in prices
- Fair and efficient access to transmission services

But have common issues

- Adapting to market change
- Controlling natural monopoly behaviour
- Consumer protection
- Role of gas-fired generation
- Step changes in prices
- Fair and efficient access to transmission services

A closer look at – the role of gas-fired generation

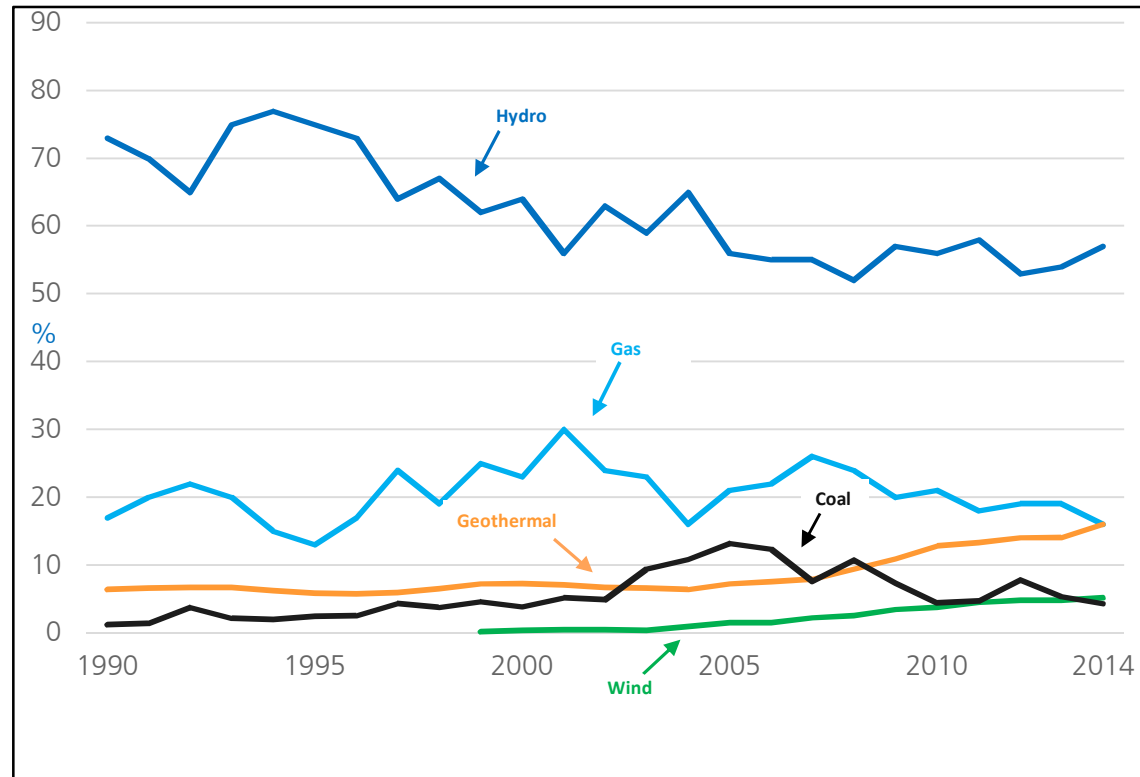
Electricity generation market is finding its own path



- 90% renewable goal
- Low Government intervention, direction or subsidies
- Independent Crown Entity (Electricity Authority) runs electricity market



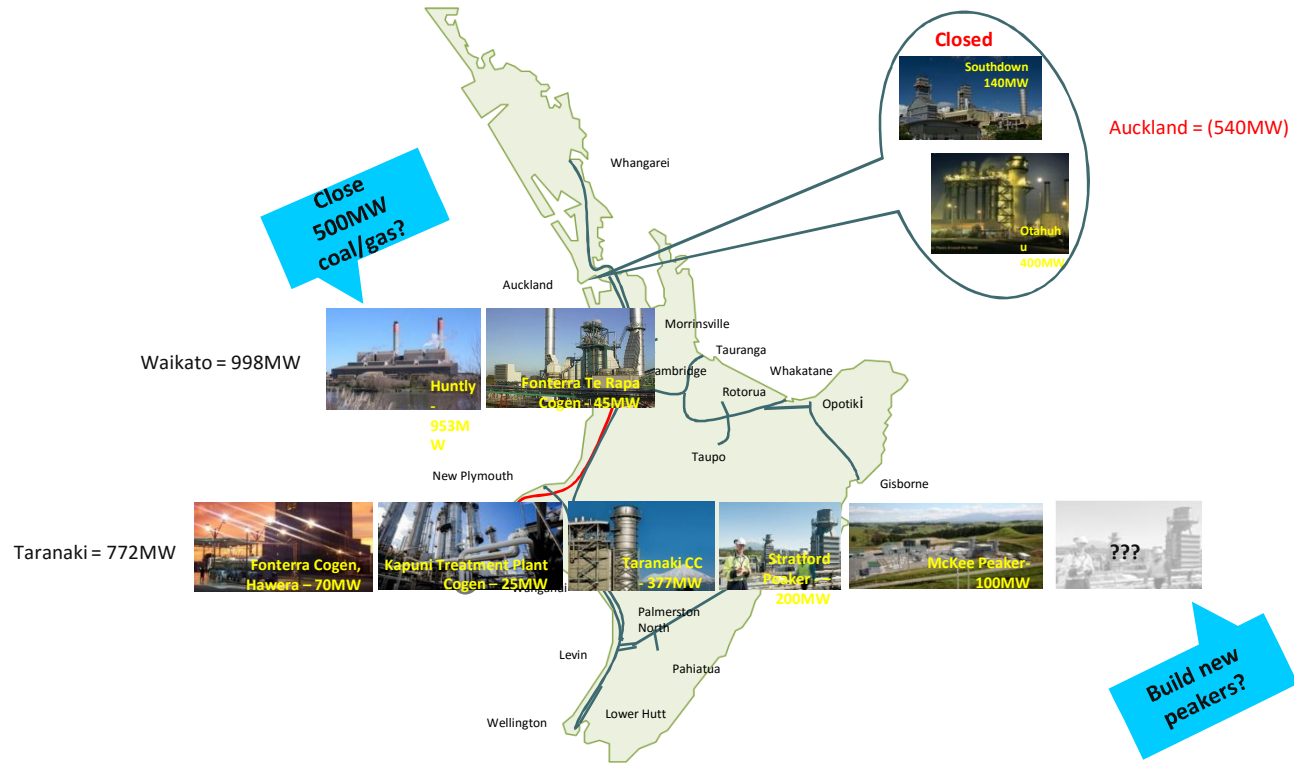
The overall generation mix is changing



Moving away from baseload thermal generation



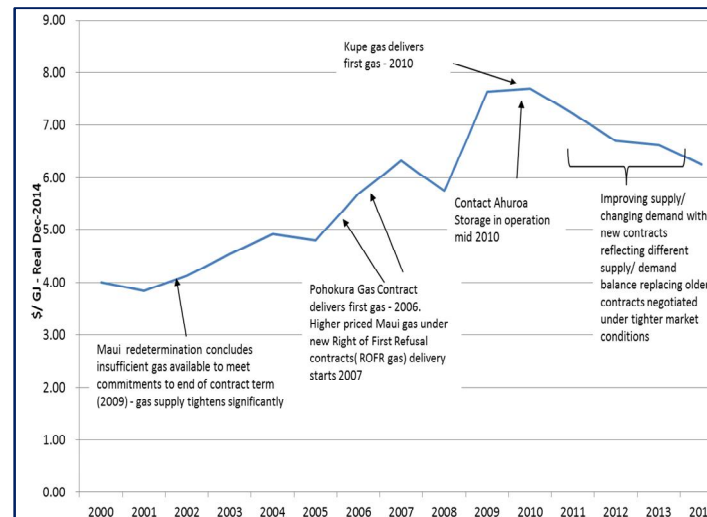
... towards efficient, modern peaker plants



A closer look at – price trends

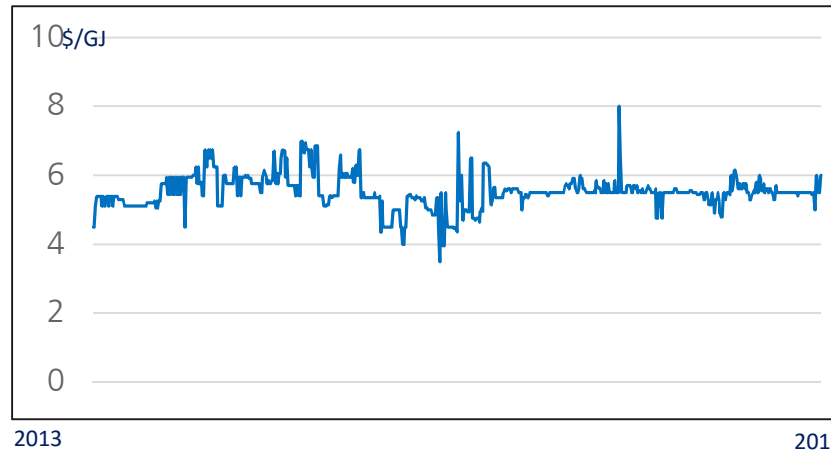
NZ has survived a steep rise in gas prices

- Driven by transition to new fields
- Comparison with CSG/LNG experience for domestic Australian market



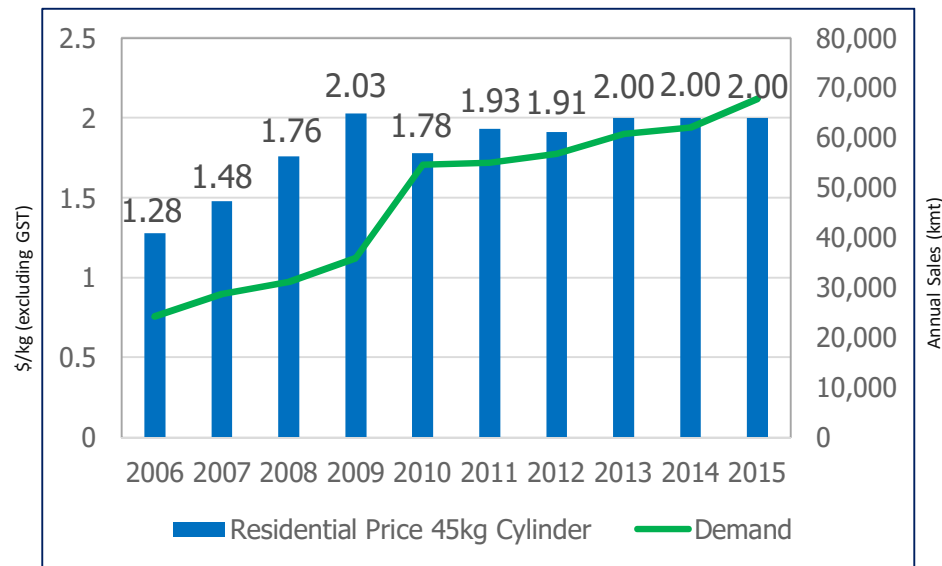
A new wholesale gas platform has improved price transparency and prices have fallen back to \$5-6/GJ

- Price range of \$3.50 - \$8.00/GJ
- VWAP of \$5.50/GJ
- ASX futures contract



LPG pricing went through a similar transition

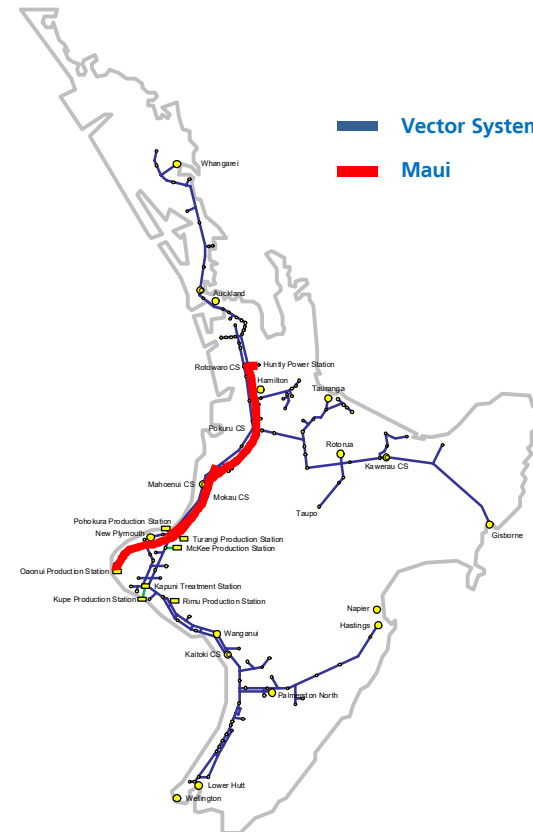
- Driven by import link to Saudi Aramco Contract Price
- Market absorbed and has continued to grow
- Now driven by export link for new LPG supplies



A closer look at – transmission access

Two pipelines, two different access codes

- Maui = common carriage
- Vector = contract carriage
- 'Evolutionary convergence' of the two codes sought
- Industry given the first opportunity to lead change
- In parallel GIC developing regulatory counterfactual



Lessons from Gas Industry Co's transmission code work

- Situations can quickly change – eg: Auckland gas-fired power station closures free up pipeline capacity
- Reinforces logic of principles-based approach, rather than trying to pick winners or market swings
- Readiness for future step change in supply/demand



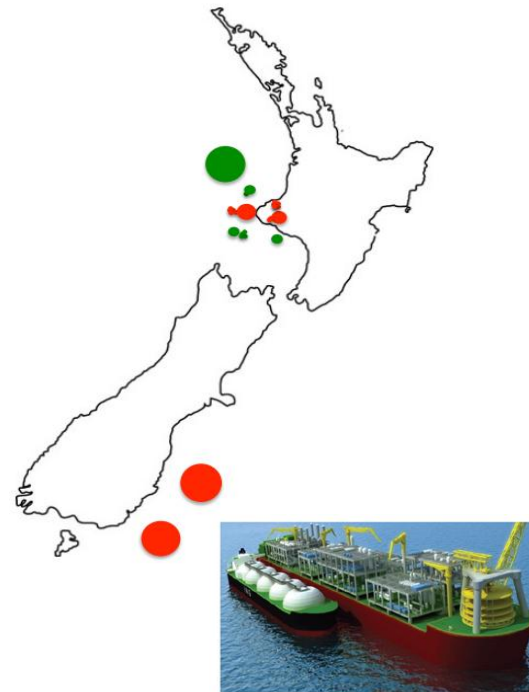
How NZ's gas future is shaping

Future gas scenarios/challenges a key GIC focus



How exploration success might unfold

- North and South Islands are different worlds
- South Island a blank slate
 - no natural gas
 - no infrastructure
 - transformational market development opportunities
- North Island market is mature
 - infrastructure well established, highly reliable
 - substantial recent demand growth attributable to one player (Methanex)
 - but market concentration, reduced demand
- Possible LNG exports vs overall benefits to NZ. Floating production technologies may mean gas won't land in NZ
- LNG carries price shock risk through move to export price parity



Demand options for new gas discoveries

- New gas discoveries may exceed the current domestic market's ability to absorb them, but there are options:



LNG exports for discoveries
3,000 - 4,000PJ and over



Methanol and ammonia/urea manufacture for fields not
large enough for LNG export



Transport fuels –
LNG, methanol
blends



Electricity generation
using modern peaker
technologies



Direct use – industrial,
commercial, residential

NZ is also facing headwinds



- Oil price downturn affecting investment
- Gas in strong competition with electricity and other fuels
- 90% renewable generation goal
- Gas networks affected by new distributed generation
- Energy demand has been flat in NZ, but showing signs of uplift
- Dealing with the carbon challenge

But the NZ gas market is healthy and prospects are good...

- Gas still making a major contribution to the New Zealand economy and energy mix
- Providing consumers with a competitive energy choice
- Healthy downstream NZ market underpinned by co-regulation
- Its role is changing, but it remains a good story
- New Zealand is an attractive exploration destination
- Homes will be found for new gas



Read all about it – *The NZ Gas Story*



Available at www.gasindustry.co.nz