Changing dynamics in the downstream gas market

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Downstream gas, it’s all about competition

• The current state of gas retail competition
  – How does NZ compare with the rest of the world?
  – What challenges do we face?

• Who is making waves in the New Zealand gas retail market?

• What is happening in the competition between *fuels*?
But first, how does New Zealand’s overall gas position look?
New Zealand is starting to enjoy a time of relative gas plenty

Generally, a positive gas supply outlook for NZ consumers

Source: Concept analysis using MBIE data
And now, time for a quick retail competition health check.

Ready, Mr Bielby?
Customers have a growing number of retailers to choose from.

Connections served at multiple retailer gas gates

Source: Gas Industry Company
Switching and competition is growing

Churn of 19% for 2014

New Zealand’s gas market is getting progressively more competitive

Source: Gas Industry Company
A spot market is starting to develop

Promising developments:
- Becoming useful means to manage wholesale position.
- More-so if daily balancing introduced
  - Increasing ‘products’ including strips
- But...
  - Low liquidity
  - Only physical trades
  - Inadequate to underpin new retailer entrant

On-going developments (e.g. ASX gas future) will help progress development

Source: ems Tradepoint
Powerswitch for gas is now freely available – revealing sizeable savings for those who shop around

<table>
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<tr>
<th>Company, Plan Name &amp; Details</th>
<th>Customer Rating</th>
<th>Special Conditions</th>
<th>Price Last Changed</th>
<th>Estimated Annual Savings</th>
<th>Estimated Annual Cost</th>
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<td>65%</td>
<td>Additional benefit: Fixed term contract, price freeze</td>
<td>Feb 2015</td>
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Our energy markets are world-leading for switching rates

We are basking in a “hot active market”

Source: VaasaETT with Concept analysis
But is it enough?

- Can we rely on competition for the engaged minority to drive good outcomes for the dis-engaged majority?
- Should governments intervene in retail markets to help people who don’t help themselves?

Probably ...
- Retail competition, if it is strong enough, is best for driving long-term innovation in retail cost-to-serve, and consumer energy technologies.

Possibly ...
- Fuel poverty a concern
- Behavioural economics revealing how consumers engage is v. important

Primarily tackled via welfare and housing policy. Some scope for targeted energy market initiatives?
Scope for some regulatory involvement

Source: Gas Industry Company
Beware unintended effects

- UK regulator, Ofgem, introduced rules:
  - to prohibit price ‘discrimination’ between incumbent and outside areas
  - to limit the number of tariffs suppliers could offer to four

- However, measures may have weakened competition and increased prices
So who have been the gas market movers and shakers?
Three different types of gas retailer

- Residential
- Small commercial
- Large commercial
- Large industrial

Source: Gas Industry Company
Trustpower appears to have grown the most

Active gas ICPs by retailer

Trustpower purchased Energy Direct in mid-2013

... and have also started to grow significantly under their own brand

*Nova ICPs include ex-Auckland Gas, Bay of Plenty Energy and E-Gas customers

Source: Gas Industry Company
Gas is forming an important part of many retailers ‘bundled’ multi-utility offerings

• Dual energy (electricity + gas or LPG) attractive to many customers:
  – Discounts from retailers sharing savings in cost-to-serve
    • E.g. Genesis give a $95/year
  – Enjoying one bill instead of two

• Trustpower appears to be one of the most active in multi-utility offerings
Trustpower credits its multi-utility proposition with helping grow its electricity customer base.

Active electricity ICPs by retailer

Trustpower’s growth in electricity customers appears similar to its gas growth.

Source: Electricity Authority
Dual energy now appears to be a core part of most of the main retailers’ strategies.

ICP market shares

- **Genesis**: 40.2% (Elec), 26% (Gas)
- **Contact**: 22% (Elec), 22.9% (Gas)
- **Mercury / MRP**: 19% (Elec), 16.3% (Gas)
- **Todd / Nova**: 5% (Elec), 11.7% (Gas)
- **TrustPower**: 12% (Elec), 8.5% (Gas)
- **Pulse**: 3% (Elec), 0.3% (Gas)
- **Meridian**: 14% (Elec), 0% (Gas)
- **Others**: 0% (Elec), 0.1% (Gas)

Source: Concept analysis using GIC & EA data
And now Pulse is joining the gas fray

- It’s relationship with Grey Power has helped it win over 50,000 electricity customers within three years

- Recently launched its own dual energy offering for gas and LPG

- Joined forces with Vector
  - Strategic fit which leverages their respective strengths
    - Vector (which isn’t a mass-market retailer) manages Pulse’s wholesale and network position
    - Pulse manages the customer-facing interactions (billing, call-centres, etc.)
- Have already acquired over 1,000 customers
What about *fuel* competition between gas and electricity?

- For industrial and commercial process heat, gas is a clear winner in most situations.

- For space and water heating, the answer is not so clear cut...

- ... and considering which is the best option reveals some of the biggest challenges currently facing the industry.
Gas appears to be recognised as good for hot water, but is losing out to heat pumps for space heating

Heat pumps are a rational choice for consumers, given the price signals (and advertising!) they are seeing

But is it right for New Zealand?
Development of recent “Low Carbon Auckland” plan a case study of the consumer energy debate

• During the consultation, some stakeholders argued Auckland should quickly transition away from gas because it is a fossil fuel → move to ‘renewable’ electricity, biomass, & solar

• Appears misguided on two fronts
  – Cost
    • Should we be shutting off access to the most cost-effective form of water heating for those in fuel poverty?
    • Do we want our businesses to face significantly higher energy costs?
  – Environment
    • The implied CO$_2$ cost for these alternative options to be genuinely cheaper is > $100/tCO$_2$ in many cases. There are more cost-effective ways to spend our limited money to tackle global warming.
    • Electricity for heating is not ‘renewable’ but actually fossil intensive
In the **long-term**, an increase in demand...

... at night times \(\rightarrow\) increase in *baseload* demand (and gen)

More renewables 
(in NZ)

... in winter mornings & evenings \(\rightarrow\) increase in *peak* demand (and gen)

More fossil 
(in every country)

Which means...

**EVs are really green (in NZ)**

**Electric heating is CO\(_2\) intensive**

Resistance heaters 
\(\approx 2.5\times CO\(_2\) of gas\)

Heat pumps 
\(\approx 0.75\times CO\(_2\) of gas\)
Plus, are heat pumps really that cheap?

- There is potentially a disconnect between the price consumers pay, and the cost to New Zealand
Consumers are seeing skewed price signals

• Peak electricity costs much more to supply than off-peak
  – High cost generation
  – Incremental network cost of increased peak demand can be multiples of increased night-time demand (which can be close to zero)

• But tariffs are generally flat
  – Legacy of historical meters and billing systems

• Historically, consequences not too bad because limited opportunities for consumers to invest in alternative technologies
  – Hot water tariffs sent good signals for the main opportunity for controllable load
Disruptive technologies are starting to expose problems with flat tariffs

- Over-investment in some technologies
  - PVs over-rewarded for avoiding network & retail costs
  - Peak appliances (e.g. heaters, air conditioners) not facing full system cost implications

- Under-investment in others
  - EVs paying too much overnight
  - Load management technologies under-rewarded for reducing peak load

- Cost-shifting between consumers
  - E.g. consumers who can afford rooftop PV being cross-subsidised by those who can’t

- Australia is a useful case study
Australian consumers are not facing the consequences of consuming peak power.

Cost to customer versus cost to network associated with an air conditioner in Melbourne.

Current tariff structure means consumer does not face ‘true’ cost of installing an air conditioner.

Source: NERA
Similar outcomes are likely in New Zealand – although for electric space heating, not air conditioning.

Consumers are not facing the full cost of electric space heating. This could change evaluation of best space heating option.

Price signals for water heating seem more appropriate.

- This could change evaluation of best space heating option.

Source: Concept analysis
“The democratisation of energy”

Decision making is moving from the boardroom... ... to the living room

• But if consumers are receiving the ‘wrong’ signals
  – Opportunities missed
  – Higher cost outcomes
• Billions of dollars at stake
It is important to get underlying price signals right

- Network pricing (and regulation)
  - Fuel switching dynamic requires appropriate tariff structures for both electricity and gas
  - Network regulation needs to address disruptive technologies in a way that aligns networks’ incentives with consumers

- Retail and ancillary services
But it won’t be easy

• Altering tariff structures → some ‘winners’ but rate shocks for the ‘losers’
  – High political interest, and risk of political intervention
  – Risk of adverse social outcomes
    • Interestingly, some overseas research indicates that current flat tariff structures are worse for low-income consumers

• Gradual transition may help. But...

• ... too slow a transition will see continued investment by consumers in the ‘wrong’ technology
  – A constituency of wealthy middle class rooftop PV owners has proved a formidable obstacle to correcting price signals in Australia, UK, US, Europe, etc.
Thank you
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