

Managing Demand – a fulcrum for change

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SLIDE No. 1





Sectoral Monitoring:

- beyond energy /GDP

Decomposition to factor out:

- Activity change
- Structural change
- Technical change

Top down + Bottom up

Draft stage – checking

- a richer picture emerging
- some trends are apparent





Electricity intensity

| | energy | electricity | |
|-------------|--------|-------------|------|
| Residential | 60 | 42 | 0.7 |
| Commercial | 44 | 25 | 0.56 |
| Industrial | 108 | 48 | 0.4 |
| Transport | 188 | - | - |





Sectoral Commentary

Industry

Transport

Primary Production

- Some EE
- International drivers
- Some decoupling
- Low electricity use
- Can sustain

Residential

Commercial

- No EE (lost?)
- Island market
- Lo EE incentive
- High electricity use
- Market change reqd





Why?

- Scale and energy to total cost ratios
- Prices that encourage response
- International market drivers and technologies
- Diverse energy sources
- Substitutability





Barriers to Commercial Sector EE

No international pressure

domestic market and building industry

Low energy / total costs

but, Hi electricity / total energy

Blunt energy price signals

only some variable pricing

only some smart network pricing

ex post price doesn't enable predictable response

Other institutional barriers



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Barriers to Residential EE

No international pressure

Blunt energy price signals

averaged energy

bundled network

Pay premium – others manage price risk

No inclination to manage price response

Simply change energy source

What if they all went to Gas?





Electricity

In both cases, ability to react to pricing will drive change in all barrier areas

- Forward price will drive response
- Contracts with spot exposure
- Systems for measuring and managing electricity use

dynamic pricing drives smart behaviour





Solutions: Commercial Users

Take control:

- Already use financial hedges
- Physical responses a hidden opportunity

Assume that price risk on an essential factor can't be altered - less likely to manage demand

Take control – develop a market for demand response that ensures most cost effective response happens first





Managing Price Risk: Some Positive Signs

‘platforms’ that customers can respond to

- Demand Response
- Delta red light district
- Orion variable lines charges
- Meridian demand exchange
- Total Metering & NGC tou systems
- Transpower dispatch price forecast
- NZEM demand bidding & forecasting





NZ consumers are blessed with a low cost electricity resource

Use it carefully to avoid new higher cost supply

- Smart consumers can and do save
- Demand is elastic
- Start learning to respond now.





Smart Consumers:

Are attractive to retailers;

- they are responsive
- they develop a mix of energy efficiency and energy alternative options that compete with grid
- they get their share of the DSM savings





Demand response critical for improvement

- Sectors with high proportion of electricity appear to have low EE improvement
- They have low substitutability and information poor price signals
- Information rich electricity pricing critical for system efficiency and energy efficiency
- Shift in pricing will drive a culture of long term energy efficiency gains

