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Future Energy Supply
Presentation

By

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About the Major Energy Users, Inc

- ❖ The MEU comprises over 20 large energy using companies across the NEM and in WA and NT
 - ❖ Industries represented include:
 - ❖ Iron and steel
 - ❖ Cement
 - ❖ Paper, pulp and cardboard
 - ❖ Aluminium
 - ❖ Tourism & accommodation
 - ❖ Mining
 - ❖ The MEU focuses on the cost, quality, reliability and sustainability of energy supplies essential for the continuing operations of the members who have invested \$ billions to establish and maintain their facilities
 - ❖ MEU members have a major presence in regional centres throughout the Australia, e.g. Newcastle, Gladstone, Port Kembla, Mount Gambier, Westernport, Geelong, Launceston, Port Pirie, Kwinana and Darwin.
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Future Energy Prices

- ❖ Over the next 10 years, or even less, there is consensus that in “real” terms:
 - ❖ Gas prices in eastern Australia will rise by 30% or more
 - ❖ Electricity prices will rise by 100% or more
- ❖ The reasons for this are:
 - ❖ International pricing pressure from LNG and coal exports causing domestic price rises (eg WA gas and NSW coal have doubled over the past 5-10 years)
 - ❖ Increasing network costs from replacing ageing assets and adding new generation for gas and renewables
 - ❖ Carbon pricing
 - ❖ Renewable energy pricing (eg SRES might add \$7/MWh in 2011 alone)

What can you do about this for your business?

- ❖ There are some cost elements that we cannot affect, but there are some that we can
- ❖ But to do this we need to understand:
 - ❖ The make up for the costs and what drives them
 - ❖ How your business interacts with the energy markets
 - ❖ Where, what, how and with whom to take action for the maximum benefit
- ❖ What will not reduce our energy costs to any significant extent is relying on assuming better prices will come from energy retailers or complaining to government
- ❖ **There is no magic bullet** – some solutions are unique to each business and others need cooperation with other consumers

The history behind the energy supply structure

- ❖ In the past, energy supplies were either owned or controlled by state governments in vertically integrated businesses
- ❖ Governments either set prices for energy delivered to each consumer or controlled the process by which they were set
- ❖ In the early 1990s Prof Hilmer was commissioned by CoAG to develop a report on the benefits of national competition
- ❖ Concurrently Special Premiers Conferences in 1990 and 1991 initiated the National Grid Management Council looking at tying the various state electricity networks together
- ❖ Out of these was generated the current structure for gas and electricity supplies governed by the National Electricity Code and the national gas code
- ❖ We saw the first implementation (NEM1) in 1995 and NEM in 1999
- ❖ The outcome of the changes means that governments no longer have direct control of energy prices

The energy supply structure

- ❖ **The energy supply structure comprises two basic elements**
 - ❖ **Competitive (generation, gas production, retailing)**
 - ❖ **Regulated (transmission, distribution)**
- ❖ **There are four bodies that control the energy markets:**
 - ❖ **AEMO (operates markets in electricity in the NEM and gas in Vic, SA and NSW)**
 - ❖ **AER (market regulator applies the rules, sets regulated revenues, reviews market performance)**
 - ❖ **AEMC (sets the rules, reviews performance of the rules)**
 - ❖ **MCE (sets energy policies)**
- ❖ **This means that no government can set energy prices any more except in NT and to a lesser extent in Tasmania**
- ❖ **Whilst you only appear to have a contract with your retailer, you have notional contracts with the distribution and transmission elements as well**

What comprises energy costs(1)

❖ In electricity currently the six elements are:

- ❖ Generation is about 25% of the delivered price
- ❖ Transmission is about 10% of the delivered price
- ❖ Distribution is about 45% of the delivered price
- ❖ Retail margin is about 5% of the delivered price
- ❖ Risk management is about 5% of the delivered price shared between generation and retail
- ❖ Renewable energy charge is up to 5% of the delivered price
- ❖ Increased renewable and adding carbon will add to the delivered price

❖ In gas the elements are:

- ❖ Gas production is about 60% of the delivered price
- ❖ Transmission is about 10% of the delivered price
- ❖ Distribution is about 25% of the delivered price
- ❖ Retail is about 5% of the delivered price

❖ These percentages vary considerably between consumers but these provide an indication as where to put an effort

What comprises energy costs(2)

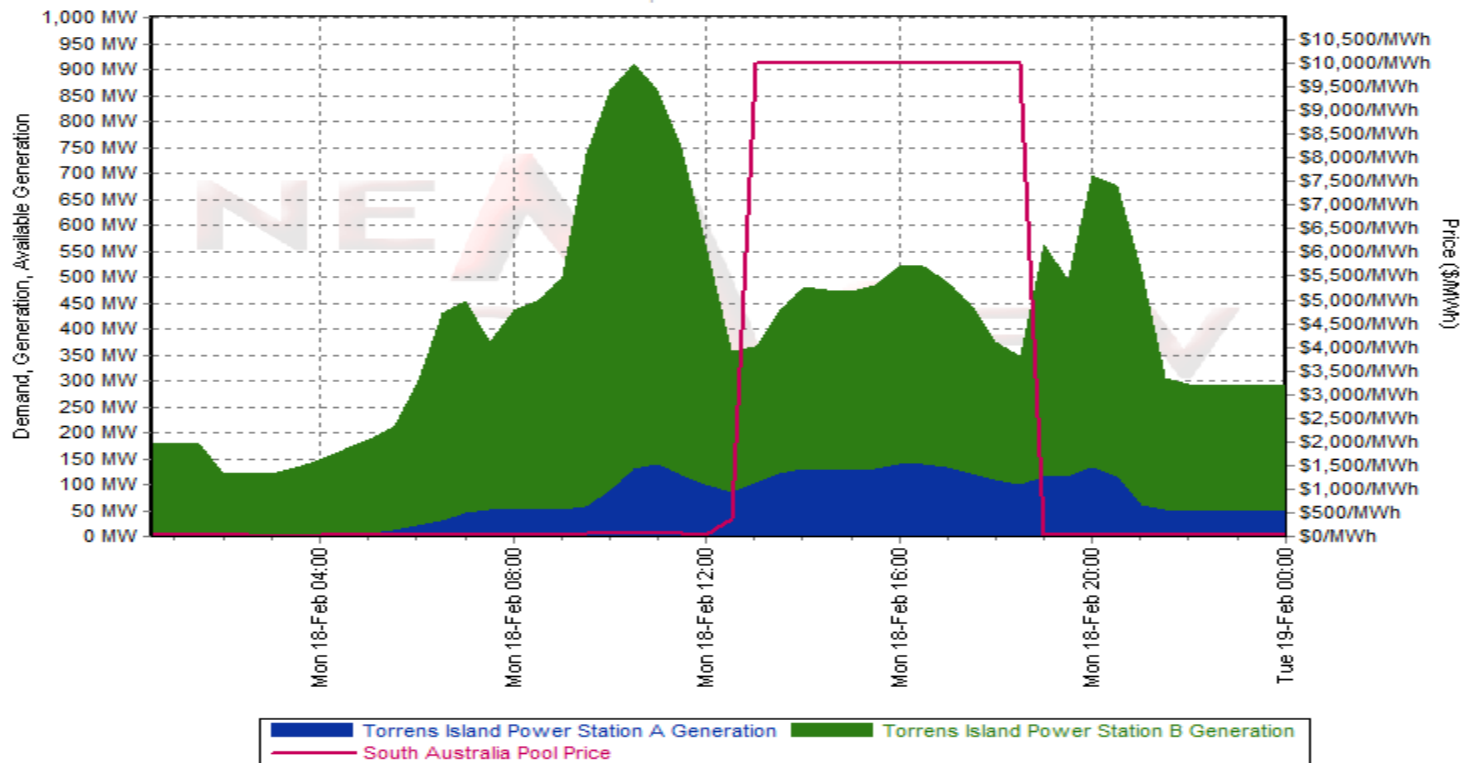
- ❖ Putting these charges in another format we see that:
- ❖ Regulated charges are:
 - ❖ 55% of electricity prices
 - ❖ 35% of gas prices
- ❖ Competitive costs are:
 - ❖ 45% of electricity prices of which most is generation and driven by the fuel price
 - ❖ 65% of gas prices of which most is gas production
 - ❖ Carbon and renewables pricing are relatively small now but will become significant in the future. These are classed as competitive because they are managed in competition
- ❖ Yet most of our efforts are focused on getting the best retail deal. This means we are focusing in the wrong area

Examples of actions consumers have taken

- ❖ Increasing energy efficiency – this is often the most effective way of reducing energy costs
- ❖ Providing our own generation – eg self or cogeneration increases energy efficiency and reduces network costs
- ❖ Modifying our demand to miss the high spot prices. Practitioners have reduced their electricity prices by 30+%
- ❖ Modifying our connection arrangements to networks
- ❖ Establishing an organisation to address issues affecting a number of consumers. This group addresses issues of wider concern, eg:
 - ❖ Generator market power
 - ❖ Network pricing reviews
 - ❖ Rules impacting the energy markets
 - ❖ Setting of market parameters (eg price caps, reliability)

Generator Market Power

- ❖ This is where a single generator can set the spot price
- ❖ In SA for instance annual average volume weighted spot prices went from ~\$40/MWh ('05,'06) to \$90/MWh ('08,'09)
- ❖ The SA government can't stop this so a rule change is needed



Network price increases

- ❖ Under defined rules the regulator sets the allowed revenue for a network – but many government owners are beneficiaries.
- ❖ In NSW for instance annual average network prices in EA region will increase by ~50% over three years c/f 20% previously
- ❖ A rule change is needed to stop these massive increases

		2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Transmission	Powerlink ⁴	7%	7%	5%	11%	11%	11%	11%	-	-	-
(nominal \$)	Transgrid	1%	1%	1%	1%	0%	4%	4%	4%	4%	-
	ElectraNet	3%	4%	4%	22%	5%	5%	5%	5%	-	-
	Powernet	3%	3%	3%	3%	4%	4%	4%	4%	4%	-
Distribution	Real \$										
NSW	EA	2%	2%	2%	2%	18%	12%	12%	12%	8%	-
	Integral	2%	2%	2%	2%	13%	7%	7%	2%	0%	-
	CE	3%	3%	3%	3%	13%	12%	12%	12%	0%	-
Qld	Energex ⁵	4%	4%	4%	4%	4%	18%	8%	8%	8%	8%
	Ergon ⁶	~15%	5%	5%	5%	5%	30%	5%	5%	5%	5%
SA	ETSA	-2%	0%	0%	0%	0%	12%	6%	6%	6%	6%
						2010	2011	2012	2013	2014	2015
Vic	Citipower	-6%	0%	0%	0%	0%	-6%	4%	4%	5%	5%
	Jemena	-2%	0%	0%	0%	0%	5%	3%	3%	3%	3%
	Powercor	-15%	0%	0%	0%	0%	0%	3%	3%	3%	3%
	SP Ausnet	-7%	0%	0%	0%	0%	10%	4%	4%	5%	5%
	United	-12%	0%	0%	0%	0%	0%	1%	2%	6%	6%



The cause of these network quantum changes

- ❖ **New rules were introduced in 2006 and 2007 where:**
 - ❖ **There is now no ability to optimise the network so that consumers only pay for what is needed**
 - ❖ **The regulator can no longer assess whether actual capex was prudent or efficient**
 - ❖ **Capex is now allowed on an ex ante basis which means that once allowed, capex can be spent on anything or nothing**
 - ❖ **Actual capex must now be included into the regulatory asset base even if it is imprudent or inefficient**
 - ❖ **Even if out performance is the result of the opex or capex allowed, bonuses must still be paid**
 - ❖ **Even though 80% of all electricity networks are government owned, they must be assumed to be privately owned**
 - ❖ **Even though networks have a guaranteed income, they are assumed to have the risk of the average business on the ASX**
 - ❖ **These incentivise network businesses so they want to over invest in their networks**
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Typical issues that can be addressed

- ❖ Earlier this year, there was a review to assess whether the spot market price cap should be increased from \$12,500/MWh to \$16,000/MWh and then to \$20,000/MWh
 - ❖ An increase to \$16,000/MWh would increase the market price by \$3-4/MWh or nearly 10%.
 - ❖ This proposal was defeated
 - ❖ In June, a rule change was proposed to make consumers responsible for costs to extend the transmission network so new renewable generators could cheaply connect
 - ❖ There will be little benefit for consumers but there will be significant costs
 - ❖ For example the Green Grid idea in SA might cost consumers about \$10/MWh in network costs so the Eyre Peninsula could house 2000 MW of wind farms. My assessment is that SA consumers would also pay higher electricity prices as well
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Conclusions

- ❖ The energy markets are very different from 10 years ago
- ❖ Government controls are now much weaker especially in retail and generation, and they have little control over regulated costs
- ❖ Carbon pricing and renewable energy will increase costs and so will international claims on our coal and gas reserves
- ❖ As consumers we need to think laterally about our energy costs and focus on the aspects we can influence
- ❖ How we structure our energy usage has a major impact on our energy costs
- ❖ Working with other consumers can cause a difference in those areas we cannot influence by ourselves
- ❖ I advise companies directly and also work for Major Energy Users
- ❖ If you think you need help you reduce your energy costs, my email is davidheadberry@bigpond.com