

2 June 2017

Energy Supply Disruption - Understand the Customer Drivers

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The energy supply industry is now a case study of major disruption and this is causing chaos.

We are now witnessing the simultaneous high prices in electricity and gas - importantly at the commodity level - not network driven this time - although that just changed with the AER loss - more petrol on the fire.

This is causing a major economic restructuring of energy intensive industries and even those where these uncontrollable cost increases are sufficient to deplete competitiveness. Because of this, no business is spared and even relatively small energy users such as tourism are being heavily effected, and even the less visible energy intensive industries like the food processing sector are seeing major restructuring. And there is it seems no relief in sight. Historically once the tipping point is reached in business competitiveness the restructuring is very rapid - often within a 2-year timeframe, with high levels of redundancies involved. We are well into that process.

Therefore, the energy supply industry is seeing decline in energy demand as it is taken away by these customer demand responses, by the rapid take up of alternatives such as solar PV - both embedded and grid connected (an accelerating trend). And now more disruption from embedded network development, which is rapacious and taking out any semblance of growth, and energy storage options that extend the use and effectiveness of renewables.

The supply system is also facing a new challenge with serious concerns about the security of grid based supply at peak times - from the potential for gas shortages through to the impacts of the renewables free riding on the existing supply infrastructure.

And, what should be a national concern, the forecasting methodologies that continue to be stubbornly used, despite being shown to be clearly failing for the last decade, are in need of simple but effective reform. It is clear that using any form of regression analysis for forecasting in such a disrupted environment is has no credibility at all - forecasting reform needs to be entirely customer focused (a subject for a future blog).

So, what is at the core of this massive disruption - how has this become possible? There are two answers - one involves the customers and the other policy.

Policy - States in the driving seat

On the policy side, we should make no mistake there is an **underlying ideological battle** over sustainability of energy supply and use that is driving energy policy - it is as simple as that.

This is at every level of Government but is particularly dominated at the State level. Every State has some form of emission reduction target in the next 13 to 33 years - from 50% reduction through to zero emissions, and have many other schemes that support solar and energy storage or discriminate against carbon based fuels.

Price and even reliability are seen in the short terms as acceptable collateral damage to ensure the eradication of fossil fuels from the energy supply in this ideological battle. The economic restructuring impacts are part of the cost of the solutions to proponents, there is more at stake for those that want to see emissions reduced - the downside from failing will be catastrophic to mankind. And they have tacit community support.

State energy policy is a serious driver on where the energy industry is going. Yes, we have national policy that plays a significant part as well but the really sharp end of change seems to be driven at the state level right now - where it seems to normally retreat to when national policy is seen to be lagging. A good indicator is the moratoria or severe curtailment on gas drilling across nearly all states - only Queensland is free of such constraints. Gas is not wanted as a transition fuel - as "*it just delays the inevitable conversions*".

The coal war for power production (until recently) had largely been won and the proponents have been moving on to the export coal industry. The key here is that States control the natural resources such as coal and gas in the ground, and can (and do) set policies for emission outcomes in their state. Reliability of supply is also seen as a State issue now - it is the state Premier in the gun when a state blacks out. National cohesion is evaporating as States look after their own - and this is understandable.

Customers driving disruption

When considering customer responses, the key question to ask is my favourite; one that I have been asking the existing supply industry for some 5 years, and the attempts at answering this question tend to give an indication why it is so.

Why are consumers electing to invest their own savings or cash flow into self-generation and turning their back on an electricity supply industry that has been servicing them well for a century - making large parts of it stranded/redundant?

The answer lies in consumer (and behavioural) economics:

- Customers initially were confronted with **significant and unpredictable prices rises** and so a **demand elasticity response** was inevitable - the idea that electricity (and even gas) use was inelastic was a nonsense and proved to be the case,
- Then along came **very well subsidised alternatives** - policy driven kick starts to the renewables industry - rooftop PV that did reduce customers' bills at their meters, and continue to do so every day, and
- These alternatives are **more sustainable supply** - the customer is contributing to reducing their own emissions while avoiding unpredictable costs - happy days!

But even more subliminal was that customers installing solar PV were taking **a long-term hedge** for part of their usage against the existing industry. Why - because they could get a reasonably well known cost for their solar power over a long term, with a virtual zero short run costs once the initial investment had been made - a product that the energy sector could not supply.

Certainty and sustainability - and this came as customers were looking for stability in their household costs. Baby boomers retiring, mortgage stressed families, new home buyers, volatile job markets with higher levels of part time jobs - who of these wants unpredictable price rises?

So, the industry response was customers may want sustainable, affordable and reliable energy - the energy trilemma - but can only pick two - not have all three. Smugness then ensues - the existing industry has been validated - you will be sorry you tuned your back on us...when the supply fails who are you going to call?

But it is important at this junction to ask:

- Do they want affordable, reliable **but unsustainable** energy - business may be keen right now but consumers/voters are showing little interest?
- Or will they **pay more** for reliable, sustainable energy - they are certainly paying (a lot) more for the sustainable energy - cash plus subsidies?
- Or are we in reality **close to getting all three** but the transition path is about costs - and that consumers have learnt from solar PV - prices will come down

The issue is that the more failure ensues and costs have to increase to manage this the more this alienates the existing supply industry and validates the ideologues.

And while the ideological battle rages along comes more disruptive but attractive options for customers - innovation occurring at great pace - and not from the existing industry. For example:

- Right now, corporate customers are signing up for **solar grid farm PPA's** for bundled LGC's and black power - as they **are much cheaper** but also act as a portfolio based hedge
- Growth in **commercial and industrial** site based **solar and energy storage plant** is also staggering with sophisticated modelling and control to minimise energy costs - amazing developments in this space.
- **Embedded networks**, and microgrids are **growing at pace** - taking market share from **networks, generators and retailers**
 - They can supply the customer's energy, water and waste water needs and reticulated broadband using fibre to the premise - as well as many other bundled services - at scale
 - Developers and body corporates are establishing this model as **a true alternative for customers** with stand-alone systems or options that are co-optimised with the network, with the network having a very different role
 - Highly **competent new businesses** are being established - and many will move on to take full retail licences
 - **Viral consumer battery based trading** - e.g. grid credits by Reposit Power, AGL trials, in house energy apps - could we see 1 GWh/year added - Vic and SA Battery grid projects - distributed asset management - customer latent demand - demand response from controllable devices?

So, if the current supply is expensive, unreliable and infrastructure solutions to this are even more expensive - it is no wonder the disrupters are winning - after all they are the only ones who will visit you in your home and sell you the sustainable solution package - when was the last time your retailer spoke to you about savings, sustainable supply, solutions - let alone in your home?

The industry needs to relearn how to engage with and deal with customers, how to intelligently use channels to market and how to develop and supply real (competitive) options with maximum speed to market - get out of commodity and infrastructure mode - rediscover "customers" - we knew a lot more about them in the 1990's when there was fuel on fuel competition than we do today. Networks and the traditional Retailers have serious competition that is disrupting at pace - it is time to respond even if that means totally refocusing the business models.

And for every one's sake fix the forecasting debacle as it goes hand in hand with understanding customers.....