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## **ViewPoint**

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### **Will it take Blackouts to see the Light?**

The rain has been falling, but the lakes have been dropping. Should we be concerned?

Do we want to live like this? Lurching from one crisis to the next, hoping that the rain and snow fall, the snow melts and that the new generation at Huntly finally comes on line to take the pressure off for a while. What happens after that is a reasonable question.

International experience indicates that a country heavily reliant on hydro electricity should maintain an reserve capacity margin above peak load of 25%. The reforms in the New Zealand electricity system have taken the reserve capacity from 37% to an alarming 9% today.

At present the electricity market is not encouraging sufficient long term investment in base load generation and transmission capacity that will lower prices and protect supply that was promised by past reforms.

To cover an average annual increase in electricity demand of 2.34%, and giving due consideration to transmission and distribution losses, load factors, and replacement of old thermal plant, New Zealand needs to commission an average of 310MW of additional generation plant each year. The emphasis here is on plant that has been planned, consented, installed, linked to adequate transmission lines, and commissioned. Not just the virtual plant that we tend to hear about.

Although vigorously advocated at significant expense from many government departments, energy efficiency programs have not been successful. The inelasticity associated with electricity consumption (or inability to change behaviours due to necessity), combined with a lack of accurate and timely price signalling, does not allow consumer to effectively respond.

As reducing demand is difficult all we can to keep the lights on is increase supply. In recent years the rhetoric and efforts have been around distributed generation, or small scale generation plants situated closer to the load. Even the idea that consumers might be self sufficient through renewable sources such as micro wind turbines or solar panels has been floated. More broadly, we hear of wind turbines and even tidal generation. The reality is that these forms of generation are more expensive, particularly tidal, than electricity generated on large scale.

We can fool others and ourselves as much as we like, the small or micro scale methods will never deliver the electricity that we need at a low price. At best they will help maintain a balance or delay a requirement for substantial generation for a short time. Secure supply at low price requires large scale base load generation planned and installed, to come on line before we need it, each and every year. Large scale generation plant will not be installed where the energy is required so we must install a solid reliable robust nation wide transmission system building on what was done 20 odd years ago.

The longer we fool ourselves that energy efficiency and small scale generation will satisfy our needs the bigger the problem will become. When problems happen, the more acute they will be and the more costly it will be to fix them. Without action now the system will progressively deteriorate and electricity costs will skyrocket. A politically driven (no government can stand the lights being out for long) panicked, just too late, fix it now response which installs small generation plant that has a cost of generation several times that of base load hydro generation will keep on pushing the price up. The response is fast; the lights stay on, but at a price. High costs may satisfy generation company commercial profit objectives, but is not in the best interests of the wider economy. We either plan to restore electricity a comparative advantage or we can continue to hose it away.

The market reforms attempted to incentivise investment in generation and keep prices down by creating competition. Since the split of ECNZ not a single new company has entered the generation market. New Zealand is simply too small. The myth of an electricity market is clear to anyone who cares to look, and the attempts to make it so have a huge cost that makes no contribution to keeping the lights on at the lowest price.

Despite huge profits, generation companies argue continuously that wholesale electricity prices are not sufficient enough to justify investment. Yet they are the only industry I know that is guaranteed never to fail by returning the long run marginal cost through their pricing. This matter alone makes nonsense of any talk of a market. The key flaw in this argument is that all investments are justified over a 20 to 25 year commercial amortisation periods. This is ludicrous. The information produced from the Ministry of Economic Development shows that a hydro station constructed today would produce an output of 8 to 12 cents/kWh – if costed over 20 years maybe. The power station at Lake Coleridge has been running for almost 100 years, and could possibly do a lot more. The output from this station is somewhere from a fifth to a quarter of the 8 to 12 cents/kWh quoted. Knowing the real costs with a reasonable amortisation period will drive different decisions, we simply cannot afford not to use the energy in our rivers.

More complexity in capacity requirement provisioning schemes such as tickets and payments used overseas to encourage investment are another economist's invention to allocate resources by providing an incentive to the generators to want to supply. Once again the generators gain by having all their risk removed and receiving a guaranteed price. Consumers just pay.

One way to ensure that the generating companies carry their own risk of investment, and install plant that will produce electricity at a reasonable price is to remove the vertical integration link between generator and retail companies. Splitting them apart and ensuring that they sign long term forward contracts between each other. If a generating company knew what price they were going to get at some future date for their output, then they would make every effort to ensure that they would lower the cost of production. This method is currently frowned on by the regulators because the knock on effect would remove a contracted consumer's choice to change retail companies. What

is it that we want – reliable affordable electricity or the right to change retailers, who clip the ticket for another 15% (over a full third of the generation cost). It is hard to see any difference between electricity retailers, where is the added value for their 15%?

We must stop talking about what we should be doing, and start discussing when we are going to do it. We are running out of time.

The CMA is holding a public presentation this Saturday at 10.00am, at Mancan House on the findings from our recent project on electricity issues. You are welcome to attend this presentation, and join in the debate to create change.

*Written but John Walley, Paul Guy and Andrew Young*