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Will Finkel Fix the NEM?

As I write, the Federal Government has adopted all but one of the recommendations on the Finkel Report. The recommendation yet to be dealt with is of course the most contentious one; adoption of the Clean Energy Target (CET) mechanism.

Taken as a whole, the Finkel recommendations represent a massive additional intervention into the National Electricity Market (NEM). When we add the announced intention to conduct a reverse auction to procure baseload power, the demise of the NEM as originally envisaged can be considered complete.

How did it come to this? At its core, the cause is the progressive degredation, through government policy or merely though government neglect, of the elementary principles behind competitive markets and the management of market externalities. This neglect is particularly sharp in complex markets such as the NEM and the related local and international markets in gas, as well as in the regulation of non-competitive entities such as networks.

One could write a text book on these topics with the NEM as a case study, but in this short article I will focus on just three:

- Emissions reduction policy
- The exercise of market power
- Market development

Emissions Reduction Policy Adrift

Like Finkel, I will take it as give the Australia intends to meet the emission reduction target it has committed to. This of course remains a matter of contention in some quarters, despite the fact that business is now firmly behind removing the current uncertainty, for their own good business reasons.

Emissions reduction policy has now gone through five iterations, either implemented or conceptual, some of which overlap.

- The carbon pricing scheme introduced by the Gillard Government in 2012 and scrapped by the Abbott Government in 2014.
- A Renewable Energy Target (RET) introduced by the Howard Government at 2%, increased by the Rudd Government in 2010 to 20% by 2020 and later adjusted by the Abbott Government.
- An Emissions Reduction Fund introduced by the Abbott Government in 2014.
- An Emissions Intensity Scheme(EIS) which gained some currency as a policy option by business and other organisations during 2016, but which was rejected by the Turnbull Government.
- The Clean Energy Target (CRT) recommended by the Finkel Review in 2017, whose future is not yet resolved.

The current RET has had the largest impact on the ground, but its future after 2020, possibly in modified form such as a CET, has yet to be resolved. Critics correctly point out that a RET is not the most efficient way to reduce emissions. Further, because it forces renewables into the system, some older plants have become less used and have been retired, also raising issues of system security and reliability. While problems in the gas sector are probably more significant for the NEM in the near term

(including in South Australia), a mechanism like the RET can be pushed too far.

So what about the EIS and CRT? They are both politically-motivated attempts to improve on the RET without being labelled a carbon price, which in the Australian context has become a taboo concept.

An EIS has the following desirable property:

- Once the emissions benchmark has been set, the system should deliver efficient emissions reductions, at least between those who are participating, and superior to a RET.

Finkel argues that a CET would have the following additional desirable property:

- The CET is an incentive only scheme – there is no "stick" as would occur in the EIS for those who have to buy certificates to comply.

In my view, Finkel's argument that a CET offers incentive without stick is disingenuous. Like a RET, a CET would act to reduce wholesale prices (in a relative sense), disadvantaging those without the support of CET certificates. This can hardly be surprising as the CET aims to advantage renewables and gas (not just renewables alone) over coal, an improvement over the RET but offering no joy to coal at all.

However, there are more fundamental problems with a CET, some but not all of which are shared by an EIS.

- Coal plants are outside the proposed CET target and therefore would face a relatively depressed wholesale price (when gas prices return to more normal levels) on an equal footing. This is not an efficient outcome if the aim is least cost emission reduction – lower emission coal plants should fare better than higher emission ones.
- Being outside the scheme, distributed resources do not receive the same encouragement as centralised ones. This leaves open the likelihood of pressure to extend the small system target.
- Like all these certificate trading schemes, they require an additional layer of trading which makes it impractical for distributed resources to participate directly, and generally adds to cost and the profits of middle men.
- Finally and most significantly, these schemes all operate with a hard target for the electricity sector based on some notion of "a fair share of the burden" of emissions reduction from the sector, which has no economic basis.

That fact that a simple emissions price along the lines of the 2012 emissions pricing scheme simply cannot be discussed is testament to the policy bankruptcy that has plagued the sector for a decade. We are prepared to countenance third, fourth and fifth best solutions or indulge in simple neglect if needs be, but never consider the simplest and best approach, an emissions price, because of its fraught political legacy.

First, let me deal with the obvious knee-jerk criticism; that it would be a tax that raises prices and bloat government. The sector is long past the point where it can feed government coffers, so we could simply require the proceeds of an emission price to stay within the sector. The obvious place to apply it is to reduce the bloated distribution network charges that have burdened customers over the last decade. The AEMC should be charged with an equitable and non-distorting way for this to happen.

A simple emissions price deals with all the EIS and CET shortcomings previously described. Specifically:

- ALL types of plant are treated in accordance with their emissions profiles, including embedded plant.
- Wholesale prices are generally higher, even though costs to consumers would be relatively unchanged due to the application of emissions pricing revenue to reduce network charges, thus reducing the pressure to retire plant prematurely.
- No additional trading layer is required.
- An emissions price would not force in technologies beyond the economic level at that price. Specifically, new renewable builds would be restrained until such time as low cost storage technology came along or gas prices reduced significantly. This would reduce the pressure on security and reliability that a RET, EIS or CET would apply.

The last point is important. The electricity sector can likely achieve very large emission reductions in the long run, but less so in the shorter run. Over the next few years, it may be wisest to concentrate on emissions reduction that can be achieved at a modest price, say, $15/tonne, not just in

electricity, but elsewhere. This would allow time for electricity technology and, critically, market arrangements, to catch up. A sector-specific hard target implicit in a RET, EIS or CET does not support such flexibility.

The Silent Killer – Market Power

When I was working on the Victorian Electricity Reform in 1993 and 1994, we were faced with a challenge. This was pre-NEM. How does one get enough competition in a small market such as Victoria to guarantee the interests of customers? The answer – break up generation and retailing into small pieces.

This we did. Generation was broken up down to the power station level before sale. No party could own more than 20% of the market for at least 5years, after which the NEM and further interconnection would be likely be in place. Sale prices were still handsome despite this pro-competitive stance, and Victoria has been the most competitive region in the NEM since inception.

Generation break-up was never pursued as vigorously in other states and, where generation and network assets have been sold off, State focus has been on maximising sale value rather than taking care of customers by promoting competition or keeping regulated prices down.

More recently, horizontal and vertical integration has proceeded apace, with the active support of the Competition Tribunal (rather inaptly named) and with Governments of all stripes looking benignly on.

In the Finkel report and in most other analyses of the recent market travails, you don't see much mention of the significance of these developments. We debate renewable and gas policy, network regulation and governance arrangements back and forth, but no mention of the growing dominance of the "Big 3" so-called gentailers. Here's a quiz for you:

When ENGIE management was considering whether to close down Hazelwood, it was:

a. *motivated by its desire to save the planet;*
b. *spooked by greenie and Victorian Government hostility to brown coal power;*
c. *keen to be a model citizen by providing the local community with a recreational lake;*
d. *short of cash to undertake a refurbishment*
e. *mindful of how Hazelwood's closure might increase the profitability and value of its Loy Yang B plant (currently up for sale) and its gas peaking plant assets in South Australia.*

It's not hard to see unfortunate incentives at work with the current degree of vertical integration. While wholesale prices are high, the retailing arm of a gentailer feels free to hike prices to cover input costs, including its own generation costs as expressed in the wholesale energy price, plus a healthy margin. Meanwhile, its generation arm is enjoying windfall profits. That's business you might say, and so it is. But that cosy outcome is possible because the competitive tension between wholesale buyers and sellers is absent, courtesy of the Competition Tribunal and government indifference.

There are many other areas where market dominance can lead to ordinary outcomes. Another example is the extent of load management evident in the market. Load management can act to reduce wholesale market volatility, but there is very little of it in the NEM compared to many overseas markets, as Finkel notes. One reason is the dominance of the big gentailers, whose motivation lies in the direction of increasing volatility rather than reducing it. So while some load management contracts may be in place, the incentive to exercise them can be muted.

None of these observations is intended to criticise any market participant. Businesses do what they are required to do in the interests of their shareholders. The failure to create and maintain a sufficiently competitive environment in the NEM lies squarely at the feet of governments.

I have called this issue a silent killer because it seems to be unobserved in the current policy debates. So we see the concept of giving Snowy Hydro another 2,000 MW of subsidised peaking market power raises not one eyebrow in the circle of a policymakers. OK, if the feds take it over they can direct good behaviour. So much for a clean market where private investment can flourish.

More immediately, nothing in the Finkel report's layers of rules and bureaucracy will do anything for retail prices until this issue is addressed head on.

Market Innovation Gone Missing

In 1993 and 1994 I had the privilege to project manage the development of the Victorian wholesale electricity market. At the same time, the National Grid Management Council (NGMC) was experimenting with a paper trial and, burned by the poor outcome of that, eventually came up with a very clean and robust market design. While in Victoria we were initially wary of the NGMC efforts, with the new NEM design we were comfortable to join the national effort.

I was personally only a bit player in getting the NEM going. I take my hat off to Neville Henderson and Brian Spalding, both now AEMC commissioners, for pushing through a sound market design and actually making it all happen. It's hard to maintain this when one surveys the current wreckage that is the NEM, but that was an era of progress and innovation.

One can see evidence in the Finkel report recommendations and in current AEMC activities of a systemic decline in market innovation, a decline sufficient to threaten the viability of the current market as new technology comes to the fore.

To give one example, Recommendation 1.1 of the Finkel Report basically urges AEMO to prepare for next summer – fair enough but AEMO hardly needs prompting to do that.

The first part of Finkel Recommendation 2.1 would:

Require transmission network service providers to provide and maintain a sufficient level of inertia for each region or sub-region, including a portion that could be substituted by fast frequency response services

One might well wonder why networks should be responsible for providing inertia and fast frequency response services. It comes from an AEMO system security discussion paper, which looks at various options including a market option, and recommends the network option because they had no clear concept of how a market approach might work. Clearly, AEMO and Finkel (who has clearly directly followed the AEMO line) have a technology solution in mind for providing inertia, fast frequency response and system strength; synchronous condensers scattered about the network.

One might accept this is an emergency approach in the absence of AEMO having nothing on the bottom drawer for a market approach, but it gets worse. Recommendation 2.2 says:

A future move towards a market-based mechanism for procuring fast frequency response (as proposed as a subsequent measure in the System Security Market Frameworks Review) should only occur if there is a demonstrated benefit.

Where did all this come from? One of the NEM golden rules is technology neutrality, clearly not evident here. Another, pushed time and again in AEMC papers and speeches by its Chairman, is that market solutions are to be preferred over regulated solutions (which I read to include solutions managed by regulated entities) wherever possible. The above recommendation clearly says that the network approach is to be pursued regardless (because the Finkel panel said so) and that any competitive approach has to justify itself against that status quo. So much for NEM principles and AEMC's fine words, which are revealed as so much hot air.

If that is seen as being harsh on AEMO and the AEMC, I give another related example. The AEMC is currently working on a rule change to implement 5 minute settlement. It seems inclined in its discussion papers to go down a very expensive implementation path without prototyping or consideration of any system security issues that might arise.

One risk arises from rapid response options destabilising the system at the boundaries where prices change. In a recent submission to AEMC[1], AEMO recognises this as an operational issue but recommends that it be dealt with by a regulation that prevents any party from ramping at more than 20% of its capacity every minute. In short, you cannot provide any FCAS unless, presumably, you are big enough to play as a full blown market participant.

Now move to another AEMC review exercise called "Distribution Market Model"[2]. In this paper, AEMC considers at great length how distributed resources might be able to access all possible income streams, including FCAS. Implicit in AEMO's approach is that you cannot do

[1] http://www.aemc.gov.au/getattachment/76db4236-c0d1-4f2a-88d5-bd301abe412a/AEMO-%E2%80%93-received-25-May-2017.aspx

[2] http://www.aemc.gov.au/Markets-Reviews-Advice/Distribution-Market-Model

anything with FCAS, even under a carefully designed dynamic pricing arrangement, unless some big guy like your retailer does it for you. The paper appears to be heading in the direction that retailers be the agents that implement what they call an "optimising function" to extract the most value from distributed resources. This is not empowering the customer.

There is another element in the AEMC Distribution Market Model paper that is disturbing. It seems to assume that a distributed resource that can relieve a distribution network constraint can only be activated by some party doing a deal with the distribution network owner. This is a bit like having to do a deal that gives Gerry Harvey a nice margin when you would prefer to shop through the internet rather than help him expand his stores.

It is possible to have prices do useful things to relieve constraints in a distribution network. One should not have to ask nicely in order to not use a network asset as much as the network owner might like you to use and pay for. It just needs a little thought and, dare I say it, imagination.

Conclusion

The NEM is undergoing convulsive changes. A multitude of past and current sins have come to the fore and it's not clear that everything will turn out well. As a long term advocate of and adviser to markets in electricity, it pains me to have to face this.

Given where we are, which is not a happy place, one cannot see retail electricity prices receding any time soon, even if government and AEMO intervention action staves off the immediate security and reliability problems. As for the great market experiment we embarked on two decades ago, it needs radical surgery, well beyond the tinkering that Finkel has recommended.

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