Future of energy in Australia

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This week the Tasmanian Liberal government has promised to bail from the National Electricity Market if re-elected.

Last week the Victorian government publicly tested the idea of renationalising the grid.

The Opposition leader Bill Shorten was invited to reject the idea of renationalisation but he declined.

In response, the Federal Minister for Energy, the Hon. Josh Frydenberg, wrote an Op Ed piece published in The Australian newspaper yesterday. The piece condemned Bill Shorten for saying renationalisation was "worthy of consideration".

Indeed, the Minister accused Shorten of developing policy based on the Jeremy Corbyn and Bernie Sanders "populist playbook". And without a hint of irony the Minister then went on to explain the Coalition's policy for rectifying the mess the NEM has become under his stewardship.

In a stunning example of rank hypocrisy, Frydenberg boasted that the centrepiece of his government's energy policy involved their government spending billions of taxpayer dollars building Snowy 2.0, a power station purpose built to compete with the private sector.

Frydenberg went on to proudly explain that the other key plank in the Turnbull government's energy policy was the extinguishment of the rights of network investors to challenge the revenue determinations of the Australian Energy Regulator. This is a regulator that the Federal Courts have found on over 30 occasions to have set revenues materially below the efficient costs of network companies. That is, the AER are unlawfully appropriating private property.

To be clear about this, the Turnbull government supports a regulator that destroys the incentives of private investors to build the very power industry capacity that the government says is required to help customers.

While Bill Shorten may consider renationalisation "worthy of consideration" the Turnbull government is actually doing it and the results are going to be catastrophic.

Instead of rectifying the problems of the power sector, the Turnbull government's nationalisation of the power sector by stealth is doing irreparable harm to the National Electricity Market, a market that was only until recently considered the jewel in Australia's Hilmer-era micro-economic reforms.

How did it all go wrong and what now needs to happen to fix it up?

There are three main reasons why the NEM went awry.

Network pricing

The first problem had its origins in 2005.

EnergyAustralia, the then government owned electricity distribution network for Sydney, suffered a series of embarrassing substation fires, most notably in the CBD.

There were criticisms that the government had used EnergyAustralia as a dividend cash cow instead of reinvesting in network maintenance into an ageing network. You may remember that at the time there was a lot of talk about Australia's crumbling infrastructure.

In an attempt to get these bad news stories off the front page the then Minister for Energy, the Hon. Frank Sartor, announced tough new reliability standards to take effect from 1 August 2005. Other States soon followed NSW's lead.

About the same time this happened the newly establishment Australian Energy Markets Commission was undertaking a review of network revenue regulation. The AEMC substantial changed to the way network revenues were regulated.

The AEMC fundamentally changed the risk profile of the network investment to encourage more expenditure in the networks by de-risking investment.

It is important to remember that at the time demand was growing like topsy with high income growth resulting in consumers investing in energy hungry homes. Indeed, there were concerns at the time that the lack of network investment might cause blackouts because of the rapidly growing load on the system could not be served by this so-called crumbling system.

The AEMC de-risked network investment through two main means. The first, and most important mechanism, involved rule changes that prevented the regulator from restricting the ability of the network businesses to recover the costs of their approved investments.

The new arrangements meant that once investors convinced the regulator that their planned expenditure was worthwhile the regulator could not come back at a later stage and "optimise" the investments.

This change was known as the "lock in and roll forward" approach.

This was not a change that was foisted upon the ACCC/AER. In fact, the ACCC advocated for this change. They wanted this change so they could argue that the

low investment risk profile meant that the return the network companies earned would be low.

To ensure this outcome the AEMC also set the parameters used in the calculation of the weighted average cost of capital for a period of five years. This was designed to give investors greater investment certainty and to give the ACCC what it wanted.

So we had three things happening at the same time:

- demand was growing quickly which required significant investment to meet,
- the NSW Government's new reliability standards could only be met with additional investment; and
- the investment environment was substantially de-risked in order to encourage greater expenditure on the network.

And the outcome? There was an explosion in investment in our power networks.

It turns out that it costs a lot to improve reliability from a high standard to a very high standard.

Inevitably, these costs resulted in higher network prices…. much higher prices.

What the AEMC and the ACCC did not foresee what that the growth in demand that had fuelled this network spending boom was about to come to a screeching halt.

By 2008/09 demand had either levelled out or was falling in all NEM jurisdictions.

Demand was in decline for a combination of reasons. Of course demand was responding to higher network prices but also because other government policies were driving demand down. For example, governments were heavily subsidising customers to install solar panels on their roofs and to install energy efficient appliances and lighting. At great cost these subsidies had the effect of reducing demand on the centralised power system.

This decline in demand resulted in even greater network price rises as the largely fixed costs of the network had to be recovered from fewer customers. This created what is referred to as the electricity death spiral. And this death spiral continues. Even if governments stopped subsidising these 'behind the meter' technologies, customers would continue to install these facilities because the costs keep falling and because some consumers are just sick of paying ever increasing electricity bills and they want to take control of their household expenses.

Renewable Energy Target

The second factor contributing to our current woes is the operation of the Renewable Energy Target or the RET.

The RET has been hugely successful in reducing emissions. In fact, together with declining demand the RET is main reason why our electricity emissions have fallen.

The problem with the RET is that it was never properly integrated with the NEM pricing mechanism and this lack of harmony has created significant investor risk. I'll go to explain this a bit later.

For the uninitiated, the RET involves an obligation on electricity retailers to purchase a regulated quantity of qualifying renewable generation output for their customer base.

A penalty is set so that it is cheaper to comply than not to comply. In practice the RET works by the retailer meeting all the, largely fixed, costs of the renewable generator. This means that renewable generators are largely quarantined from wholesale price fluctuations. Their incentive is to produce as much as they can. Given the avoidable costs of renewable generators is negligible, they can out compete any conventional generator once their fixed costs are met by a retailer. While this is a sweet deal for renewables, it is financially devastating for conventional power stations who do not enjoy direct financial subsidies while competing in the same market. It is the same concern Australian farmers complain about with respect to the difficulties of competing with heavily subsidised European and American farmers.

When the RET was originally set in 2001 by the Howard Government the total quantity of renewable energy was set at 9,500 GWh or about 2% of expected demand. This scheme had broad political support and the scheme was expanded in 2009 to achieve a market share of 45,000 GWh, or 20% by 2020. Again, this expanded scheme had broad political support.

But then things turned bad as electricity demand started to fall, for the reasons explained before. Falling demand meant that 45,000 GWh of renewable output was looking a lot more than the 20% envisaged when this revised target was set. This bigger share of the market being taken by renewable output created a substantial risk for thermal generators who were already facing serious financial difficulties with the collapse in prices from falling demand.

Carbon wars

This brings me to the third major cause of our current NEM policy debacle.

To deepen the financial crisis enveloping the conventional generation sector from the operation of the RET, the Gillard government introduced a carbon tax in July 2012 specifically designed to drive thermal generators out of business. This started the real battle in what has become known as our 10 year old Carbon War.

In one sense the carbon tax worked in that consideration in any new conventional generation simply stopped once the tax was introduced.

The carbon tax created a powerful political platform for Tony Abbott to win government from Kevin Rudd 2.0. Tony Abbott won government in 2013 promising to scrap the carbon tax and to restore confidence in the investment

environment for new generators. The carbon tax was repealed on 1 July 2014, having been in operation for just two years.

Abbott and some of his colleagues believed, and continue to do so, that it is sufficient for the government of the day to reject any carbon pricing scheme to restore investor confidence in assets that cost billions and take 20 years or more to recover costs. Unfortunately for Tony the carbon cat is out of the bag.

It now doesn't matter what Tony Abbott or, for that matter, any other politician of any persuasion thinks ought to be the right carbon policy settings for Australia. Investors will only invest in long lived assets if they are confident their investments are viable under a wide range of conditions.

Investors will only commit to generation investments if it is viable both with and without a carbon price, or more precisely a carbon price sufficient to achieve Australia's Paris commitments. And every investor I know expects that some form of carbon pricing is highly likely to apply at some point over the life of an investment. Presently, there is no conventional generation investment that is viable with and without a Paris consistent carbon price. This does not bode well for efficient investment in new generation.

In the face of such investment uncertainty bad things happen. Firstly, the power system begins to suffer reliability and security issues as investors decide in such an uncertain environment to shut existing generators, perhaps prematurely, because they want to avoid large and ongoing expenditures to keep them in safe running order.

We have seen thousands of megawatts of older plant shut down over the past 5 years. For example, Northern power station in South Australia and Hazelwood power station in Victoria. These power stations simply could not remain economic in a market oversupplied by ever increasing renewable generators and falling demand.

Inevitably, the price shot up upon their exit from the market. Now this is where the real criticism of the NEM begins. In any normal market a sharp price rise resulting from a relative shortage of supply would stimulate investment response. In the past the NEM had delivered an impressive quantity of new private generation investment in a timely manner. Why not now?

Of course the incumbent generators are enjoying a rare purple patch of healthy returns in the current environment and this has raised suspicions that market power is causing a lack of investment. The Chair of the ACCC, Rod Sims, loves to blame vertical integration on everything he thinks is bad in the NEM. Vertical integration is a competitive response to the incentives, it is not the cause of the NEM's problems. In fact, without vertical integration consumers would be much worse off.

While the remaining generators are currently doing well financially, politically the rise in wholesale prices after years of low to negative generator returns comes on the back of years of network price rises.

The question is why has the NEM not worked like it did in the past in response to higher prices?

The answer is obvious.

No generation investment in viable in the face of such uncertainty about carbon pricing. Investors are being totally rational. They are sitting on their hands until there is some political resolution to carbon pricing.

Don't expect this any time soon.

The Federal Government cannot move forward on this point because key parliamentarians believe that accepting the need for some form of carbon pricing necessarily means that they have to accept that climate change is real. They cannot divorce these two concepts and therefore cannot deliver a policy outcome that allows the NEM to work as designed. In the meantime, the calls to "fix" the broken NEM opens opportunities for those who hate markets.

Politically, the States, who are beholden to the Commonwealth government's inability to move forward on this issue inevitably look to solutions they can put in place to correct the problems raised by the lack of generation investment. The States are constitutionally responsible for the energy sector so they can't sit on their hands.

The result of individual State action results in a worsening in the operation of the NEM as the States are not coordinating their actions and in any case they have limited, usually suboptimal, options they can pursue.

How to fix this mess

The Commonwealth government will not be able to fix this mess.

The States do not need the Commonwealth to have a NEM. The Commonwealth is totally unnecessary to operate the NEM. The only reason they have a role in the NEM was because they bought their way into the development of the NEM in the 90s. They have now lost their social license to have any say in the NEM.

The States must, as matter of urgency, ditch the NEM and form a new multi-state accord and develop an alternate market – NEM 2.0. This new market should include a proper carbon pricing scheme. The scheme that has the widest support is an emissions intensity scheme.

There are other changes that are necessary. The Australian Energy Market Operator poses a clear and present danger for investors. Recently, the Chair of AEMO boasted that she could achieve bigger reductions in emissions than either the government or the opposition policies contemplate. While this boast delighted

the Greens, given it was made in the context of AEMO complaining about the restrictions of the National Electricity Rules on their power, it ought to alarm any right thinking policy makers that may be left in government about what is happening to a key NEM institution.

Aside from the cancerous effect lack of public accountability has on policy making generally, the fact that one of the key NEM organisations feels it appropriate to make such an audacious, public grab for power is nothing short of alarming for investors. In freeing AEMO of accountability all Australians will be enslaved to their goals.

One of the great strengths of the NEM for investors was that there was a rigorous process for changing the rules. The Commonwealth has fundamentally undermined this important foundation of the NEM. On the back of advice from Alan Finkel, the government has created the environment where there is a blurring of roles and responsibilities of the different institutions and created opportunities for AEMO to empire build.

AEMO is using the lack of any policy leadership to grab more political power. More political power for AEMO means greater costs for consumers. AEMO is trying to take us back to the dark old days of the 70s and 80s when the centralised power authorities told people what they could or could not invest in.

In NEM 2.0 the industry participant run AEMO needs to be abolished and replaced with a statutory authority the government has proper control over. The focus of this statutory authority should be on operating the power system in a secure state and not allowing them to have unfettered right to expand their role and create further investor risks.

NEM 2.0 would also restore the accountability of the regulator for setting economically efficient network prices. This is crucial to restore investor confidence so we can have a network system that supports all the technologies that will deliver efficient, reliable and secure energy into the future.

The States should abandon support for Snowy 2.0. If it is economic then let a real investor make that decision. Australia simply cannot afford another NBN.

If NEM 2.0 is not pursued as a matter of urgency the country will suffer an ever-deteriorating electricity system that will be increasingly characterised by inefficient Balkanised State based power systems. The States cannot afford to dither on energy policy like the Turnbull government. They must act now.