ACCC Conference Speech “The Environment for successful Infrastructure Reform: The NEM as a case study”

Introduction

Thank you for inviting me to speak with you this morning. The last time an AEMC Chair spoke at an ACCC Conference was 7 years ago and he used to work with you so I feel particularly privileged.

The organisers asked me to not be distracted by the references to economic literature in the conference blurb for this session but to focus on my own experiences particularly in relation to the National Electricity Market. So a large element of what I will share with you are personal experiences from which I draw some hopefully useful lessons.

One is actually embodied in the session’s blurb. It describes I think two separate streams in the literature – the first being that which describes what is trying to be achieved – “the bright ideas of economists and other thinkers” – which does make a significant contribution to getting reform done successfully.

The second which describes or gives a framework for the processes of reform does not. However insightful these observations are of what’s going on I don’t think they are particularly helpful when trying to implement reform.

Fundamentally we have two – not necessarily mutually exclusive options – we can either use economics to describe what's going on in reform processes or to help define the outcomes we are trying to achieve. Both are legitimate choices but in choosing the former don't be under the illusion that you are contributing to the latter.

The Story Begins

Twenty five years ago I was an economist working for the Electricity Commission of NSW having fun measuring total factor productivity and trying to get engineers to use standard financial appraisals to guide investment and maintenance decisions.

That is, I was learning to relate to people whose objective functions, thought processes, approach to decision making and problem solving was very different to mine.

One day I got called up to the General Manager's office, a gentleman named Barry Flanagan and was sat down next to two people that I had not worked with before; a Dr Brian Spalding from System Control – responsible for day to day operation of the power system and a Dr Paul Smith from Power Development – these were the guys, and they were all guys, that forecast future demand and recommended what new power stations to build and

when. Historically the answers to these questions had been – the bigger the better and do it now. But things were changing.

The expected demand growth off the back of the late 1970's and early 1980's resources boom had failed to continue. A couple of new Bayswater/Eraring sized power stations (2640 MW) that were on the drawing board had the pen put through them and Mt Piper cut in half yet excess capacity remained.

New methods and techniques for better planning of the power system recommended by the 1986 MacDonnell Inquiry were being implemented and I for one, despite having contributed to that process, was questioning whether better planning was indeed the answer. The Greiner government's commission of audit highlighted how much of the State's 'crisis' debt levels was used to fund power stations and transmission lines. Greiner's Commercial Policy Framework which was later to find its way into the 1995 Competition Principles Agreement meant that corporatisation, independent prices oversight, competitive neutrality etc. was on the horizon.

Nationally, the then Industries Assistance Commission had just released its report into the wonderfully titled 'Government non-tax charges' in which buried away in an appendix was the curious idea of a national grid and an interstate market for electricity. There was talk of a 'special' Premiers conference being held that would discuss microeconomic reforms including

setting up an Electricity Working Group to look at whether extensions of the interstate grid were justified and assess the organisational options for achieving this.

More generally there was a growing discussion of the need for the domestic economy to lift its productivity performance. I still remember Ross Gittins at the end of a conference dinner berating a table of Industries Assistance Commission – soon to become the Industry Commission people over the fact that they kept banging on about tariffs and trade protection. They had won that war and it was time to move on to reform of the nontraded goods sector.

The context was right for reform of the electricity industry and that context had many tangled legs – no single one would have been sufficient to galvanise effective action.

So lesson 1: Be wary of single dimensional arguments for reform – if you want sustained successful implementation.

It didn't matter what perspective you looked at it from:

- a sector specific or microeconomic perspective
- a financial perspective – in this case State public finance
- a broader economic performance, macroeconomic or Commonwealth perspective

- a short term political perspective due to price increases to cover the costs of excess capacity
- a management or industrial relations perspective given what was happening inside the utilities at the time
- or even an international one given what Thatcher was doing to the old CEGB and the 1989 Electricity Act

They all lead to the need for change.

If you think about some other areas of what may be considered obvious reforms – for example urban road pricing - they haven't happened because the need for change has not been made from a sufficient number of *different* perspectives. Consequently the need to change is not great enough.

One of the things that concerns me a little about the current discussions over potential privatisations of network businesses in NSW and Queensland is that the arguments are single dimensional. The argument for privatisation is primarily being presented in terms of what other infrastructure can be funded from the net sale proceeds.

While this may appeal to the beneficiaries of this expenditure the same people no doubt pay electricity bills and what we are not hearing is the benefits to the electricity consumer and through them to the wider economy, for instance.

The single dimensional argument for reform creates an unnecessary vulnerability. It leaves governments open to the accusation that they have a single objective, maximising net sale proceeds, when in my experience this is rarely if ever the case. Reality is far more complex.

Another example relates to the role of national competition payments. These were an essential ingredient of the original competition policy reforms. When these intergovernmental agreements ran their course and there were discussions about what would replace them - the refrain was “States should not need to be bribed to do what they benefit from anyway”. Usually said with a superior, self-righteous tone.

Leave aside the arguments about how economic growth shows up in State Budgets as compared to the Commonwealth’s, due to the differences in tax bases and expenditure responsibilities. Such single dimensional, wooden headed attitudes revealed a naivety about how major reforms actually happen and the role that these payments played in delivery reform outcomes. I can’t tell you the number of arguments in support of specific reforms – often around a Cabinet Committee table – that were won with the statement “Unless we do X we will lose our national competition policy payments”. In this case, single dimensional perspectives resulted in lost opportunities.

Tell me and I forget…….Involve me and I learn

But back to Barry's office. His message was characteristically direct. Governments were thinking about having an interstate electricity market. If they were going to have one he wanted one that worked. Our job for the next 9-12 months was to run trails of different types of markets within NSW to find out which one worked best.

I was stunned. This guy was wanting us to restructure the whole organisation and actually run the power system for real just to find out how markets work. Typical bonehead engineer I thought recalling some of the rugby prop forwards I had played with.

If he wants to know what a market would do give me a couple of people, enough computing grunt and I'll tell him in a few weeks. Why allow us to disrupt thousands of employees, let us loose to play with billions of dollars' worth of power stations – oh and there was the little issue of experimenting with the State's power supply.

My approach – even if it gave correct answers which of course it would have – would have been wrong. It would have denied the business unit managers, their finance staff, the production and maintenance engineers and the control room operators the opportunity not just to learn how to work in a market

environment, but how it was supposed to work and to learn how their role fitted in with others.

One particularly interesting phase was the development of what we would now recognise as the NEM's wholesale spot market. Given things like the nature of electricity demand, its production function, the technical inability to hold inventories and its fungibility, it is perhaps not surprising that to some of us this was going to be a commodity style market with both prices and supply offers able to be adjusted more or less continuously. Contracts would be financial derivatives rather than physical supply contracts. Power station engineers, at least at the time thought differently.

In their view the mechanisms in the output market needed to reflect the contract structures in the input markets – primarily coal. Coal contracts were typically long term with the ability to vary volumes within a band – say ±20% around a base level with 3 months' notice.

So in the days before you could give people a sense of what equilibrium *felt* like by showing them the YouTube video of the bar scene from the movie Beautiful Mind we said "ok let's run the power system that way and see what happens".

We gave the “competing” generators a demand forecast for a three month period, they submitted offer prices that we ran through a mathematical programming model and we fed back to them production volumes and market prices. Armed with this information we allowed them to submit new offers and around we went again…. and again. And you guessed it; the fourth round offers did not vary much from the third round. It took three rounds to reach equilibrium…. at least ex ante.

We then ran the power system based on these offer prices – as the monthly financial results were published, actual demand varied from forecast, boiler tubes leaked, conveyor belts broke, wet coal got stuck in bunkers etc., the comfort and satisfaction each competitor felt with their average revenue, volume combinations disappeared.

At a review meeting with all the plant managers the clear consensus was “this won’t work”. However they were not yet willing to accept the sort of market I was proposing. It was too busy and variable. They wanted something that was more ‘set and forget’ so they could go back to doing what plant operators do.

That is until one of *their own* pointed out the similarities between what I was talking about and the control theory principles that as electrical engineers they were all pretty familiar with. At this point the lights went on so to speak.

So the next trial involved offer and market prices that varied every thirty minutes and in the process they discovered they could make those units do things that they would never have dreamed of before.

It doesn't matter how well reform implementation is planned in policy or regulatory world – something will fall between the cracks and then you are relying on the people on the ground to know how to fill them.

One of the greatest attributes of the people who drive successful reform is the knowledge that they don't do anything that is real. That the success of the reform largely depends on how the people who operate the system and its many parts respond when something happens that we could not have anticipated.

One of the reasons we knew that the lights would stay on when the market became a reality was that there were hundreds of people across NSW and Victoria who because of the trials that had been run in both States knew what they were doing and knew what other people - in what were now different organisations - were supposed to be doing.

I contrast this with rail reform in NSW where a perfectly good reform model fell into disrepute on implementation - largely because new institutions were

established without the people working within them being given the opportunity to learn how to work in a different structure.

So lesson 2: Give the people who have to work in the new structures and under different rules and policies the opportunity to learn. And who knows you may actually learn something from their experiences.

"Good Policy must be Marinated"

Back to Barry's Office again.

Having issued us our brief Barry's next instruction was to go into the room next door and decide who of the three of us was going to lead the team so he could make the necessary announcement. He would be back in 20 minutes. That's when things got really interesting. To understand why a team leader was necessary you probably need to have worked in a public sector agency….or worked with engineers.

If this task was going to be about setting up a market then as the only economist there was no way I was going to let an engineer run the show. Brian, quite sensibly, was not going to let an economist run his power system and Paul? Well Power Development Division had always lead the big things that happened so why wouldn't he lead?

We were still arguing about this when after 20 minutes Barry stuck his head in the room and asked "Well....?" The three of us looked at one another and in unison said "We will all lead". Barry huffed, rolled his eyes and left.

Thus begun one of the most productive professional relationships of my career. One that in the case of my fellow Commissioner Brian Spalding continues to his day. One based on having a common purpose, mutual respect for and recognition of the legitimacy of the other's viewpoint and trust. Ingredients that while not often explicitly spoken about are an essential element of the environment necessary for successful reform. Successful reform won't happen without it.

From a circumstance where different perspectives and viewpoints needed to and could be heard and issues debated on their merits – not decided on the basis of whose mouth they came out of - and where we each recognised that we needed the others, developed a decision making criteria.

Any proposal had to pass a three part test – somewhat similar to the prominent economist who said he would never publish something unless he could express it mathematically, graphically and in prose.

Proposals had to stack up from an

- economic and policy viewpoint
- an operational and engineering viewpoint
- a commercial and financial sustainability perspective

E.P.F - it had to conform to the laws of economics, physics and finance before it got to first base. It may sound obvious but all too often our processes don't make sufficient room for this to be done. There was no point fixing an operational issue in a manner that created a financial or policy problem – or a policy issue in a manner that creates unmanageable financial problems – such an approach does not lead to sustainable solutions.

This way of working – giving the different perspectives on what works a chance to be heard on an equal footing - indeed demanding that they be expressed, was continued when the NSW team and the equivalent Victorian team combined to integrate their two markets; into the COAG working groups we were involved in; into the National Grid Management Council and its processes and into institutional design. It is reflected in the AEMC's culture, processes and governance arrangements.

Once the NEM was going to be more than just NSW and Victoria and its development came under the auspices of COAG, a handful of Commonwealth Officials played a critical role in creating the right

environment for reform at least when it came to the NEM – mainly by what they didn't do. What they didn't do is develop proposals for how this market would work and go through the motions of 'consulting' with the States. They didn't listen politely to proposals from the States, then walk out and seek to have the Commonwealth impose their solution politically.

They operated a 'College of Cardinals' like process. Their role was to book the venue, make sure the right people from the States and industry were in the room. Then keep the door locked while the State and industry people worked out what this market would look like and how it was going to work. They knew what they didn't know and confined their role to assessing whether what the others came up with satisfied the policy objectives. We spent a lot of time in various locked rooms across the country.

Even if the Commonwealth officials did know all the answers – knowing them was not the point. It was the other people in the room who by and large had to walk out and implement the reforms, work with the outcomes and lead others, so they needed to understand them and own them.

So lesson 3: **Culture and good process matters and needs to be explicitly considered if the right environment for successful reform is to be created.** If reform is to be ongoing and responsibility for managing it given

to institutions it needs to be designed into how they are lead, governed and operate.

The Story Continues……..

The NEM passed its 15th Anniversary late last year and to mark the occasion, the AEMC with the assistance of KPMG published a case study of the associated reform process. I have discussed three particular lessons that relate to creating the right environment for reform.

1. That the right context will have many strands
2. Give the people that have to work in the new structures the opportunity to learn
3. Culture and processes that have integrity matter.

By drawing on the experiences of over 30 other people who were involved during the 1990's this publication identifies out eight lessons for successful, enduring microeconomic reform.

Lessons that are hard wired into the AEMC and we will need to draw on as we deal with the current and future phases of the market's evolution.

When we started the market we knew we were changing the way the industry would develop due to the changes in risk allocation, incentives and price signals. The drivers of how the sector developed would shift from generators to retailers. Changes in technology, relative prices, business models and

government policies – often from areas other than the energy portfolios – are continuing that trend with a shift in ‘power’ from retailers and regulated network businesses to consumers.

Consumer representatives, industry participants, governments and market institutions all have a role in facilitating the transition. The Commission for its part is in the process of making rule changes that came out of our Power of Choice review which sought to put consumers in a better position to recognise when the value of energy services to them was greater than the costs to the system of providing it.

Many of these rule changes relate to how network businesses are regulated, and recognise opportunities or to redefine where the boundaries are drawn between competitive and regulated sectors.

Another important ingredient is the lessons learnt from our reviews of retail competition. Nothing will bring the reform process unstuck like consumers that have negative experiences.

In thinking about how to manage this on-going reform process so the outcomes are sustainable it is useful from time to time to remind ourselves of the circumstances and objectives that started this story and the ingredients that delivered previous successes.

Thank you.