

MC Energy Week Keynote June 2024

Good morning everyone. It's great to be back at Energy Week, as always there's plenty to talk about.

Let me recap where Australia is at.

Big picture challenges for energy

Australia's energy transition is an enormous endeavour, the biggest engineering project in our nation's history. It will take decades and cost an estimated \$320B according to AEMO, more even than the AUKUS submarine project. It will require new technologies and pose new, ongoing technical challenges.

As I flagged two years ago at this conference, early progress on renewables in the energy transition was the easy part. It was straightforward to add wind and solar to the existing grid and turn down coal output in response.

The decarbonisation of Australia's energy systems was always going to get progressively harder. The phase Australia is in now is demonstrably more challenging.

The AEMO's system planning estimates the NEM must almost triple generation capacity by 2050 to replace coal and to meet increased electricity demand from transport and electrification of other sectors. To deliver this will require more than 10,000 km of new transmission. This requires a rapid acceleration in transmission building capacity.

Australians are starting to understand the physical and technical challenges that confront us. Australia must sort out supply chain constraints, planning challenges and community support.

To be clear, Australia has no option but to work through all these issues. The coal-based 20th century power system is coming to the end of its operating life. It needs to be replaced. Australia must build a new, replacement energy system. The only way to go is forward.

Australia continues to take big steps. Australia is around the top of the table per capita in renewables investment. Australia is the world leader in rooftop solar. This is the most dynamic renewables-based grid in the world. With more and more renewables, Australia's grid still works. We have reason for optimism.

And let's not forget how grim things were. In 2022 markets were indicating 40- 50% price rises as a result of domestic and international supply shocks.

2 years on, the results are better. Prices are up, but less than anticipated. Government interventions on fuel price caps helped – the temporary and targeted interventions on fuel prices were a win for customers.

If we stand a little further back though – Australia is not building the new system fast enough. Transmission projects are delayed. The rate of new renewable projects has not accelerated enough to meet the Commonwealth's 2030 targets. The rate of investment and delivery required to meet national energy targets by 2030 is getting steeper and steeper.

Without the new system accelerating, inevitably more is asked of the old system. The recent Eraring extension is a case in point. This deal with the NSW Government absolutely makes sense in the absence of enough progress in the new system.

But let's be clear, while it continues to work effectively, the existing coal fired electricity system is aging. It is increasingly fragile. Investment cases to maintain coal power stations in the face of policy pushing rapid transition are tough. There is a limit to extending the life of old power stations, particularly at short notice.

So if the transition needs to happen faster, why isn't there more investment into the new system? Why isn't it being built faster?

Part of the reason I have covered – planning, transmission connections and similar.

But this isn't the whole story. I'll talk now to three areas where I see opportunities to accelerate, to get better outcomes for customers in the years ahead. These areas are:

1. Rethinking what good looks like for Australian energy customers
2. Accelerating investment; and
3. Protecting reliability.

1. Rethinking what good looks like for Australian energy customers

Let's go back to basics. I'm an aerospace engineer and an economist, and I live and breathe the energy sector. I am driven by finding solutions to the engineering and economic challenges in front of us – but Australian energy consumers by and large are not interested in these details.

A recent KPMG study noted only 1 in 4 Australians have heard of the energy transition. Other research I have seen over decades indicates that customers don't want to spend their time thinking about energy. Of course they want and need energy, the point I am making though is that they want their energy supply to work without a lot of time and effort by them. This relationship is even more price sensitive in the current cost of living challenges.

EnergyAustralia is one of the nation's biggest retailers with 1.6M customers. I watch our customer feedback closely and one big lesson is clear.

Customers want predictability in energy prices and bills.

Just about all the customer complaints I see in the industry are about unpredictability.

Customers expect prices to move something in the range of flat to inflation levels and when this does not happen they are unhappy.

Customers expect when they reduce usage that their bills will go down and feel trapped when this does not happen.

Australia leads the world in penetration of rooftop solar at about 1 in 3 households. Solar is an investment for the next 20 years. Customers invest in solar because they expect it will reduce their energy usage and value the predictability they see from this action.

Predictability is not a feature of Australia's energy system today.

Australia's national energy objectives start with efficiency, with words like "to promote efficient investment in, and efficient operation and use of, energy services for the long-term interests of consumers of energy".

I argue we have reached a point where the long-term interests of consumers of energy are not being met. Consumers want efficiency to deliver predictability not volatility.

Let's explore a bit what more focus on predictability might mean.

Let's start with what drives every bill – network and transmission costs, those are predictable – albeit rising fast. The wholesale part is less predictable. The reason is that the wholesale market is fundamentally designed around volatility, around scarcity driving investment. And to be fair – in a stable world from the 1990s to the early 2010s the NEM was a fantastically (and brutally) efficient and pretty predictable market which had some of the lowest energy costs anywhere.

But as Australia embarks on transforming its energy supply - the biggest engineering project the country has ever seen – Australia is seeing insufficient investment in the new system on top of a rapidly aging installed system. This is a market primed for unpredictability.

Of course, there are solutions. The challenges are exacerbated by policy, regulatory and commercial decisions and these can be changed.

For example, today's regulated prices – the Victorian Default Offer and Default Market Offer – are set and based on retailers buying energy for next year. Imagine if instead, the VDO and DMO were recast as multi-year price paths which effectively required that retailers secure energy today over multiple years, seeking predictability in the process.

Is this feasible? Absolutely.

At EnergyAustralia we have already gone a step further. We offer one product –the Solar Home Bundle – which comes with solar and a battery. It's based on a seven year fixed energy price contract. This product is one that we have found challenging to fit within the regulatory framework, but we are working it though.

We are also working with Essential Energy and SAPN through the Energy Charter on network tariff design. Our ambition is that we can recast the way tariffs work so they are simple and predictable for customers while having the right economic and engineering framework for retailers and networks behind the scenes.

And of course we already offer multi-year contracts to commercial and industrial customers.

We think it's time for more predictability for all energy consumers.

Part of how we get there, of course, is more investment.

2. Accelerating investment

Australia must work through planning, community support and supply chain issues. But we need to do more than this. Let's talk economics.

One of the exciting aspects of the energy transition is that it is a massive investment opportunity; remember the \$320B?

Now, some capital intensive businesses like Tesla or Google have no trouble attracting capital and making investments. Why? The potential returns investors see are big.

The energy transition is different. Energy is one of the basic foundations of Australia's economy and governments and consumers seek the lowest possible returns on investment to keep prices as low as possible.

Today, as published by the ACCC last December, retail margins are around 2%.

Renewable project developers typically have returns of 5-7%.

Investors can get higher returns from private debt at the moment.

This is not an industry with returns that will drive investment today at the scale needed. And in many cases prevailing wholesale prices are not even enough to deliver these return levels.

Over the past two decades, returns from wholesale markets have been augmented by a progression of climate-based schemes – including the NSW Greenhouse Gas Abatement Scheme, Queensland's Gas Electricity Certificate scheme and the Renewable Energy Target, supporting renewable investment since 2001. The practical effect of these schemes was to kick enough money in to each energy project to keep delivering new investment.

Government's directly or indirectly funding energy infrastructure, particularly generation, has become the new normal in the 21st century.

You can count on one hand the energy projects built this century without any government support. This is a second-best policy outcome, made necessary by Australia's inability to land enduring national climate policy.

After years of turbulent political debate, government is shifting from market-based schemes to project-based schemes. The Capacity Investment Scheme and the NSW Electricity

Industry Roadmap de-risk new investment, by government picking renewable and battery projects from a tender process. The CIS seeks to bring on more than 30GW of new capacity, many tens of billions of new investment.

Clearly, governments are taking these actions to accelerate investment and I applaud both the Commonwealth and NSW for this.

The risk is these schemes are too focused on efficiency at the expense of predictability and speed.

The basic premise of these schemes is that government will pick winners from a series of bespoke tenders. Every tenderer bids a subsidy package for a different project, they all look different and are not directly comparable. It's a difficult job to decide what the best ones are and inevitably things will take time. It's a process that has brakes inbuilt.

Beyond the process, one downside of similar schemes internationally is that the winners do not always commit to the projects promised. To win a project, bids often require very aggressive assumptions such that sometimes the final investment decision cannot later be achieved, meaning no new generation is built.

Not building projects slows the transition, meaning coal generators are more likely to be required to run longer to fill the gap – the exact opposite of what these policies are intending to achieve. The good intent of efficiency can land in unpredictability.

I think there could be tweaks to these schemes. How could alternate mechanisms increase deliverability and speed, noting that the costs of inaction are significant?

Blunt market signals have a habit of catalysing fast action and rewarding those who deliver.

So what might this mean in practice?

Let's say a government wants 1000 MW of wind and is willing to subsidise its entry, why not directly reward the first 1000 MW onto the grid on a \$/MW basis, rather than take a bespoke project-by-project approach? Governments can always adjust the subsidy to manage speed and efficiency. This would be a fast mechanism that rewarded delivery.

Couple the reward with a requirement that customers or retailers buy the output and this could start to look more predictable for customers.

Avoiding delays – and the costs of potential future of multiple Earing-style deals – is valuable. Blunt market signals are the most effective tool of all to catalyse speedy whole of system investment.

3. Protecting reliability

Let's talk reliability.

A renewables-based energy system will consist of lots of solar, lots of wind, lots of storage. But these pieces alone will not be enough to deliver reliability.

Consider the postcard from the future Australia we saw in April/May. Solar output was diminished as summer ended and there were a few weeks where wind dropped to an average of 5-10% production versus capacity.

We all know that storage is one way to deal with no wind or sun. However, there still needs to be enough wind and sun to charge the batteries and hydro. A low-sun, low-wind week just does not have enough energy to charge the batteries or pumped hydro.

This is why Australia's renewables-based energy system needs lots of solar, lots of wind, lots of storage and gas fired generation in reserve.

Gas generation will predominantly play a reserve role. While gas generation will run infrequently, gas generation will be essential for reliability in those days and weeks when it does run.

Without the gas, there is no way through other than coal. So that's the choice, gas or coal to backup the system for the foreseeable future.

This is why we at EnergyAustralia have just invested in Tallawarra B, a 315 MW gas turbine near Wollongong in NSW – as well as underpinning batteries and pumped hydro. We need both. We were able to invest in Tallawarra B because of project support from NSW and the Commonwealth.

Returning to my remarks about investment, given gas is required for reliability, I hope to see current policies extend to provide the support required for investment.

Of course, there needs to be a path to a zero-carbon future and this technology gap needs solving. The basic problem to solve is to develop a zero-carbon form of energy that can provide weeks' worth of electricity on short notice with effectively no limitation on volume.

Hydrogen is one potential solution to this problem and I applaud South Australia for committing AUD\$593 million for the development of a hydrogen production, generation and storage facility in the Whyalla region. Demonstrating this technology will show the industry the feasibility of this technology and open doors that are currently closed. I look forward to seeing progress here, this is world significant.

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I have made the case for more predictability for customers, accelerating investment and protecting reliability. While I advocate for policy changes in all of these areas – perhaps through the upcoming 2030 market review – we at EnergyAustralia are taking action on all three fronts to progress as much as possible no matter the backdrop.

EnergyAustralia has worked hard to support and protect our customers. We are making the energy transition simple for our customers, combining customers assets into our portfolio to deliver the most predictable and economic outcomes.

We are working to deliver more predictable customer outcomes both through innovative products like Solar Home Bundle and careful responses to regulatory change that keeps energy predictable for customers. As I mentioned earlier, we are working with Essential Energy and SAPN on network tariffs that improve outcomes for customers and industry.

We have invested \$400M in recent years at Yallourn, our brown coal power station, to get the best possible performance through the transition to retirement. We have invested in all our assets to keep them effective in the roles they will play to support a more renewables dominated system.

We have supported and accelerated investments in batteries with Edify Energy at Darlington Point and Riverina and in pumped hydro with Genex at Kidston. We have invested in Tallawarra B as a reliability asset. We have contracted with Genex for wind.

We are not done. Our developments on batteries at Wooreen, Mt Piper and Hallett continue apace, the same is true for our proposed pumped hydro at Lake Lyell. We continue to work with partners on supporting renewable development.

Closing

So while we are in the hard phase of the energy transition where the road ahead looks uphill, I'm optimistic that there are ways to accelerate investment and protect reliability.

I'm optimistic that we can deliver more predictable outcomes for customers, evolving regulation away from single year volatile price resets.

EnergyAustralia will continue to work with customers, industry and governments on changes to accelerate investment in the energy transition and predictability for customers.

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