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Keynote Speech: AFI National Conference

Speaker: Andrew Richards, CEO, Energy Users' Association of Australia

Title: *Powering Through Change: Challenges, Trends and Opportunities in Australia's Energy Markets*

Good morning everyone,

It's a real pleasure to be here with you at the Australian Foundry Institute National Summit. Thank you for the warm welcome.

Before we begin, I'd like to acknowledge the Traditional Owners of the land on which we meet today and pay my respects to their Elders past, present and emerging. I extend that respect to any Aboriginal and Torres Strait Islander people joining us today.

At the EUAA, we represent large commercial and industrial energy users – businesses that together employ over a million Australians and contribute billions to our economy. Our members spend anywhere between \$0.5m per year on energy right up to \$1m per day.

Our members make aluminium, steel, zinc, cement, glass, bricks, paper packaging, fertiliser, explosives, food and beer to name but a few. We also have a number of large retail and property groups along with many large miners and minerals processors within our membership.

Regardless of the size of the bill, all these organisations rely on access to reliable, affordable energy that is also progressively lower carbon, and all are being profoundly impacted by the changes sweeping through the energy system.

During times of great uncertainty, and make no mistake we are experiencing these times, we think that cooperation is important, meaning we also work collaboratively along the energy value chain. Over many years we have built productive

relationships with many on the supply side of the energy industry like generators, network companies and energy retailers along with gas producers and pipeline operators.

While energy has always been a priority for those in the energy industry, for most others it was just another input to their business. However, over the last 5 years, energy has moved from being a procurement function to a top three issue in the board room, not just for energy intensive industries like aluminium and steel, but for virtually every major business in the country.

While the Energy Users' Association of Australia and the Australian Foundry Institute may operate in different spaces, we share something important:

- We support the industries that keep Australia moving
- We have a deep connection with our members who continue to be our guiding light in developing policies and regulation that is in the long-term interest of the Australian economy
- We have a commitment to collaboration and to seek out innovation to improve competitiveness

The debate over climate change and energy policy has been bubbling along for many years, sometimes it has been hot, other times it's been a little luke-warm, but it's never really gone beyond the realm of energy nerds, climate activists and politicians....until now.

Right now the debate seems to be approaching boiling point as the unprecedented scale and cost of the energy transition is impacting almost every Australian household and business. For many this is a positive thing, but for others it is highly distressing and represents an existential crisis.

This increased heat has been brought about by rapid changes in the energy system that are colliding with a global infrastructure boom. This is resulting in an energy transition that not only coming at a much higher costs than first thought but with a slower rate of change than many would have hoped.

Make no mistake, we are living through the biggest transformation of our energy system in Australia's history.

This is messy, this is confusing, this is costly but, if you are convinced by the science of climate change and if you "follow the money" as the old saying goes, it is also unavoidable.

The scale and rate of change required is mind boggling.

This chart is from the 2024 AEMO integrated system plan and clearly demonstrates the scale of what is required but also the very different energy system we will have beyond 2040.

It's insightful to reflect that the energy system and much of our industrial base that is in place today was established over a 75-year period.

The challenge before us is to completely re-invent that energy system and deploy well in excess of \$100B in capital in a fraction of that time to achieve our 2030 emissions reduction targets. As it stands today, we are not even halfway there.

It's not just an energy policy shift. It's not just about climate. We are literally rebuilding the entire engine of our economy.

We're moving from a centralised system built around large fossil fuel generators, to a decentralised grid powered increasingly by renewables – solar, wind, batteries, electric vehicles and more.

To borrow a metaphor, it's like building the plane while we're flying it.

And while that might sound terrifying, it also means we have the chance to build something better – cleaner, smarter, and more efficient.

As Albert Einstein once said:

"In the middle of difficulty lies opportunity."

Let's take a moment to understand *why* this is happening:

- Our coal fleet that was built over many decades by state governments is ageing with many of these plants reaching the end of their design life in the coming 5-10 years. Like any old machine, the maintenance and replacement costs are rapidly heading north.
- Even including the additional network infrastructure and storage, new renewables are cheaper to build than new fossil fuels
- This chart is taken from recent study undertaken by the Centre for Applied Energy Economic & Policy Research at Griffith University where, using QLD as the example, they explored the counterfactual scenario of building and rebuilding coal compared to renewables with storage.
- They conclude that while renewables are not lower cost than legacy coal fired power stations that had largely recovered their capital they do represent the lowest cost for new build.
- It must also be recognised that not all legacy coal assets are created equal. Some are greatly impacted by commodity prices, especially in NSW where most don't own the coal mine and are subject to international coal price volatility. In Victoria we are also seeing the rapid decline in ageing, legacy fossil fuel generation that are becoming less reliable and where owners are finding it less commercially viable to keep very old plant running, especially using brown coal that tends to have significantly more unwanted and corrosive elements.
- The other key consideration is that policy and investor pressure is pushing towards emissions reduction with private equity and debt providers sending clear messages that low emissions assets are their preferred investment.
- However, we also know this new generation fleet comes with new challenges such as the highly dispersed nature requiring significant network investment, the need to replace (and price separately) essential services that were historically provided as a one-stop-shop package by thermal generation and of course storage....lots of storage!
- Technology is advancing rapidly. What was experimental a decade ago is now becoming mainstream. This rapid innovation, at both household level through rooftop PV, batteries, smart home technologies and EV's and in bulk energy supply provides new opportunities and hope that an efficient, low emissions energy system will emerge.

But that doesn't mean the path is smooth.

We've entered what we at EUAA call "the messy middle" of the energy transition.

A period where old and new systems must work together – and sometimes, clash.

Let me highlight a few major trends we're seeing in the energy market today:

- This chart demonstrates the price volatility experienced in the SA electricity market so far in 2025. SA has the highest penetration of renewable energy anywhere in the world, so you are looking at the canary in the coal mine. The most observable, and potentially most impactful is increased volatility in spot energy prices. With more weather-dependent generation, we're seeing bigger price swings – sometimes negative, sometimes sky-high – even within days.
- This volatility, driven by both large and small generation, leads to significantly increased risks for retailers and generators as hedging risk is getting more complex – and costly. For consumers, that risk often shows up on your bill.
- Rising infrastructure costs is becoming a major concern. Building the new poles, wires and systems to support decentralised energy is expensive. We have seen major transmission projects like Project Energy Connect that will connect SA and NSW, Humelink in NSW, Marinus Link that will connect Vic and Tassie all suffer cost increases of at least 150%. – and while we are yet to see these costs appear on our energy bills we can see they will rise quickly in the coming years. We call this the network cost tsunami.
- Then there is Snowy 2.0 which started life as a \$2B project (which was always optimistic) now looking to cost well in excess of \$12B. We have also seen the unit cost of wind energy surge in recent years.
- Happily the cost of solar (large and small) and batteries has begun to come down off the high prices we saw 2-3 years ago.
- One issue that has flown under the radar until recently is that renewables don't yet offer all the services the system needs: For example, they don't provide inertia, frequency control, or dispatchable capacity in the same way traditional generators did. So in addition to wind and solar we need batteries, gas peakers, and technologies like synchronous condensers to fill the technology gaps.
- We can also see that household technologies like solar PV, batteries and EV's are no longer fringe elements but a significant participant in the energy market,

currently making up around 25% of total energy supply. However, because they are operating independently of the market they are adding to market volatility and increased risk for participants, risk that is usually passed onto consumers via higher retail prices.

- We often see policy makers and others talk about the national energy market in terms of residential, SME or large industrial as if they operate in silos. This thinking is wrong, and it continues to lead to bad outcomes.
- The National Electricity Market isn't a collection of separate systems for homes, businesses, and industry.
- It's one ecosystem and often what happens in one part of the ecosystem can ricochet, causing damage to other parts of the system.
- This is the now famous "duck curve" chart, well it's famous amongst energy nerds. It clearly demonstrates the daily challenges of managing an energy grid with high penetration of wind and solar (especially solar) operating independently in the energy market.
- The influence of solar PV and other residential technologies is continuing to increase. There are many times when rooftop solar floods the grid, creating significant price volatility and destabilising the grid as we approach minimum demand thresholds. This leads to bulk energy suppliers (including large scale solar and wind) switching off generation and requires the market operator to take expensive corrective actions, all of which adds risk and cost.
- To resolve this situation, we need to move from a Laissez-faire approach (otherwise known as "just let it rip") to a more managed and orchestrated approach where households are rewarded for shifting load leading to less volatile market prices and maximising the potential of assets we have already invested in. If we do this right we could also see a reduction in the need for building less networks, batteries and gas fired power stations to meet "peak energy" needs.
- This is just one example of why coordination across the entire ecosystem is so critical. Without it, we end up with what AEMO has described as an orchestra without a conductor.
- Solutions like community batteries, dynamic pricing, and orchestration of distributed energy resources are all part of getting the NEM back in harmony.

Although you could be forgiven for thinking otherwise, this is not a crisis – it's a transition and there are answers to all of these problems.

But to achieve better outcomes we do need to be honest about the scale and complexity of the challenge, the costs involved and the rate of change that we can reasonably sustain within the whole apparatus falling down around us.

One of the big questions we're grappling with right now revolves around who should lead the energy transition — government, or the market?

Let's be clear: governments have always played a role in shaping our energy system. Feed-in tariffs, renewable energy targets, subsidies for rooftop solar — all of these helped kickstart the clean energy transition.

But as government involvement deepens – from underwriting new capacity to planning transmission lines – we need to ask: Are we empowering markets to function? Or are we distorting them to the point from which there is no return?

For example, consider the introduction of a capacity market where you pay a premium to keep certain market assets in reserve for when the wind doesn't blow, the sun doesn't shine and when batteries are all discharged. In other words, it's effectively an insurance policy for energy supply so the question is who should pay the premium? Consumers through higher bills? Or taxpayers through government schemes and a diversion of tax resources?

As with any insurance, it may seem like a waste until you really need it.

We're not suggesting one approach is better than the other or that we can transition from a high level of government intervention at some point – but we do need to have a clear-eyed discussion about the trade-offs.

At the EUAA, our members care deeply about emissions and sustainability — but also affordability and reliability. If the energy service is not fit for purpose then the energy industry and government policy has failed its fundamental objective of providing consumers with the essential service they require.

When we talk to our members we find they really don't care if power comes from a wind turbine, a battery, or a peaking gas plant or some other form of power generation. What matters is that:

- It works when they need it
- It doesn't unreasonably increase their cost base
- And it helps them hit their sustainability goals

Too often, policy debates focus on the inputs — the technology providers, the subsidies, the financing structures. But we need to focus on outputs that consumers value

As the National Electricity Objective reminds us, the system exists to serve the long-term interests of consumers.

The EUAA work tirelessly to make sure that stays front and centre.

You may have heard about the NEM wholesale market review? Don't worry if you haven't as it really is the realm of energy nerds like the EUAA. Happily, this review is seeking to resolve some of these issues with a goal of minimising the long-term influence of government once the messy middle of the energy transition is a thing of the past.

Looking ahead, we need to make smart decisions about future market design, for example:

- If we're heading toward 80–85% renewables, what's the backup plan if the build-out doesn't keep pace? If we can't keep the lights on or if energy bills soar to even greater heights then consumers will start to reject the energy transition and politicians will be forced to flinch, potentially causing even more pain on investors and consumers alike as knee jerk solutions rarely end up in a happy ending.
- It is reasonable to think that with transition to renewables proving to be much slower and harder than expected, that a number of legacy coal fired power stations will be around for many years to come, in fact QLD have just announced that they will.

- This raises further questions such as how do we ensure dispatchable resources — such as gas, hydro and some legacy coal, can survive commercially when they may only run a few times a year?
- How do we avoid building a market that is permanently reliant on subsidies?

We support programs like the Federal Governments Capacity Investment Scheme to accelerate change — but we also want to see a clear roadmap to wean the system off government support over time.

Subsidies can help markets develop. But permanent subsidies distort them.

Our long-term focus must be to build a market that works on its own — where investment risk sits with the investors, not always with consumers.

Look — this isn't easy. We're rebuilding a system that took over 70 years to create, and we're trying to do reimagine and rebuild it in 10 or 15 years.

There will be missteps. There will be costs. There will be pressure.

But, we can see a light on the hill and we are sure it's not our house that has caught fire.

We have the technology, skills and capital we need to get there, although it might take longer than some would have hoped.

We also see significant opportunities for all energy users to participate in the energy transition in ways that benefit them and the broader community.

We are seeing many EUAA members invest in new technologies like medium scale solar PV on factory and supermarket roofs. We see batteries being installed to soak up extra energy when it's cheap to be used to offset energy when its expensive.

We see energy efficiency being pursued and new fuels such as bio-methane staring to evolve into real potential.

We also see governments committed to a future made in Australia and who are looking to help industry to innovate and invest.

I will leave you with this thought:

“The future is not something we enter. The future is something we create.”

So let's create it — together.

Let's build an energy system that delivers affordable, reliable and sustainable outcomes for all Australians. A system that supports our industries, empowers our communities, and secures our economy.

Thank you — I look forward to the conversation ahead.

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