

## **AFR Energy & Climate Summit**

It is a pleasure to be here at the Australian Financial Review's 2022 Energy and Climate Summit, and I thank the Fin and acknowledge the extraordinary focus and demonstrable expertise it brings to the issues before this summit.

Much of the debate about climate change and energy in Australia centres around the target of reaching net-zero by 2050.

And this makes 2050 a good starting point for my remarks today.

Let me pose this question – what sort of Australia do we want to be, in 2050, mid-century?

I'm a Dad to a four year old boy and a 10 year old girl. So, for me, I think about the type of Australia I want them to be living in, in 2050 - when my son will be 32 years old and my daughter, 38.

My hope is that they and their peers will be living in an Australia that's every bit as good as it is today, if not better – a 2050 Australia that's a successful, independent liberal democracy that provides safety and security for its citizens, each enjoying the freedom and opportunity to pursue their own course, and with their Australian way of life well protected.

Is this do-able? Absolutely it is, but it won't just happen.

The future is to be fought for, if it's to be got.

And we can't rely on vision alone.

We require a map - a clearly defined pathway – one that is optimistic and aspirational, but also practical and achievable.

A pathway built on a platform to achieve three objectives:

- One – that Australia be rich, not poor;
- Two –that Australia be strong, not weak; and
- Three – that Australia be free, not captive.

What, you may ask, has this to do with climate change and energy?

My answer - everything.

As a nation, we have committed to reaching the destination of net-zero emissions by 2050.

That destination is set, but “how” we get there is the most fundamental question we must now address.

We can venture on a number of different pathways to reach that 2050 destination.

But if we take the wrong one, we make Australia poorer, weaker and captive to the interests of nations other than our own.

If we take the right pathway, we make Australia richer, stronger and free to determine our own destiny.

In my assessment, Australia is venturing down the wrong pathway.

While I'll restrict my comments today to the electricity sector, since it's at the centre of efforts to reduce emissions, please assume I've drawn similar conclusions more broadly.

Take recent announcements by AGL, Origin Energy and the Queensland Government which will result in approximately 19GW of coal-fired generator capacity being shut down by 2035.

The loss from these premature closures account for around three quarters of baseload generation in the National Electricity Market. That's 40 percent of total generation lost, from the system as a whole.

I acknowledge that many of these decisions are commercial ones and I also appreciate that they can be motivated by the best of intentions, including with an eye to transitioning to cleaner energy sources.

But, when you look at the system as a whole, the removal of so much supply is a risk, especially set against a backdrop of exponential increases in demand over coming years due to population growth and electrification; but what heightens this risk to a level of extreme danger is the fact that there is no guarantee that the supply lost will be replaced, in time.

My views on this are strongly informed by the pragmatism of a background in business and economics. It's clear that Labor's approach to the transition has not been properly planned for and it's simply not going to work.

Venturing down the wrong pathway to decarbonization and failing to properly plan for the transition is a problem of gigantic and growing proportions; with dire consequences for everything from our energy security to our food security, from our industries to the local communities they support and the jobs they provide.

As the global energy crisis has deepened over recent times, a criticism has emerged in some quarters that Australia is unwittingly following the German model of decarbonization with a rush to renewables and quick closure of baseload power stations, noting Germany is now reopening mothballed power stations to combat an energy crisis.

Such comparisons to Germany, I find offensive ... not to us, but to Germany.

Germany had the common sense to mothball the very plants that they now reopen, allowing them to be turned back on, if and when needed.

Here in Australia, much of the fleet we're closing down isn't to be mothballed, but entirely demolished – gone. They won't be there to turn back on, if and when they're needed.

In short, Germany had a Plan B, and we don't.

And as for us following Germany into a hasty 'rush to renewables': as a proportion of Germany's total energy, renewables constitute around 29 percent - compare that to Labor's goal of 82 percent renewables by 2030.

Also, our grid, unlike Germany's and that of other European nations, sits on a vast island unconnected to other electricity networks and absent of electricity imports.

So when the going gets tough, not only will we be unable to flick the switch on mothballed plants, but there'll be no extension cord allowing us to take power from elsewhere.

Whatever risks people think Germany has been taking, it pales in comparison to Australia.

In government, you must hope for the best, but plan for the worst.

Labor is failing that basic principle.

You may expect me to say this, but you only need to look at comments from industry experts like Alinta CEO Jeff Dimery who told the Fin Review the current trajectory for the energy transition is a trainwreck.

As we venture down this preferred pathway of Labor's, we have to ask ourselves. What if it doesn't work? Then what?

Labor's accelerated rollout of renewables will continue to undermine the business model of baseload power stations and encourage their premature closure.

I appreciate from a climate perspective that there are points to be scored here for reducing emissions sooner. But Labor is putting far too much at stake by failing to plan for a gap in baseload power generation.

This is exacerbated by Labor's continuing demonisation of gas and its failure to support the unlocking of basins for further development in Queensland, New South Wales, Victoria and the Northern Territory, even though gas is cleaner than coal, is plentiful in Australia, and can be readily dispatched into the grid. For the foreseeable future, we need gas and more of it.

But Labor wants neither coal nor gas in the 'capacity mechanism' and it has dumped its promise to land a nationally consistent approach by, instead, allowing each state to go its own way.

Meanwhile, despite some of our oldest manufacturers and energy-intensive businesses already on their knees due to sky rocketing power prices – prices Labor promised would go down, not up – the Government now wants to saddle them with an even greater burden by reshaping the 'safeguard mechanism'.

The challenge is finding a responsible balance, as part of a transition that is properly planned. Failure to do so risks our competitiveness, with clear and direct implications for industry, workers and households, especially in regional areas.

As Australian manufacturers close their doors and workers lose their jobs, because power prices get too high and supply too unreliable, guess who will step-in to fill the void in those markets? Higher-emitting operations in countries like China and India.

How does that help tackle climate change?

Labor's pathway is more likely to decapitate the economy, than decarbonize it.

We need to map a different pathway to 2050; one that's practical and achievable, and will make us richer, stronger and freer as a nation.

2050 is 28 years into the future. But before we look forward to that horizon, let's first cast our minds back 28 years, to 1994.

What were you doing in 1994?

For me, at the age of 20, I was off to live and work in Taiwan, armed with traveler's cheques, a list of numbers – some for landlines and others for facsimiles – a dodgy camera and rolls of film, a few books and videos, and my Walkman and favourite cassette tapes.

If a 20 year-old Australian were to relocate to Taiwan today, all those things would be redundant because he'd have one of these: a smart phone, on which he could do his finances, send his documents, write emails, make calls, read books, watch movies, listen to music and control a host of home appliances.

Technological development over the last 28 years has been extraordinary. We cannot fathom, therefore, the technological developments that lie ahead over the next 28 years.

And herein lies the key to decarbonizing the Australian economy.

It's technology that will get us there.

It's entrepreneurship, enterprise and industry that'll get Australia to carbon neutrality by mid-century.

It won't be bureaucracy, it won't be central planning, it won't be taxes.

There is of course a role for government, an important one, and primarily it's to create the right environment for technology to be embraced and for entrepreneurship, enterprise and industry to flourish.

This is the only way to pave a successful pathway to 2050.

An obvious implication of this is the need for an open mind on all possible solutions, and there's one in particular that requires a national conversation.

We need to talk about nuclear.

Australians have held strong views on nuclear energy over the years, but now is the time for a mature conversation about whether nuclear should be part of our future energy mix.

Let me offer three reasons for why now is the time: climate change, energy security and technology development.

Firstly, climate change. The majority of Australians agree on the need to tackle climate change front on, with real and tangible action.

It follows, therefore, that we cannot ignore the cleanest, industrial-scale source of energy generation that the world has ever seen.

Nuclear energy is clean energy.

Its energy density is unparalleled and the fact it produces no greenhouse gas emissions during operation explains why so many like-minded nations see it playing such a big role in their efforts to decarbonize.

In France alone, where nuclear constitutes around 70 percent of its energy mix, they are planning to build another six large reactors starting in 2028 with an option for a further eight before 2050.

The United Kingdom is planning for nuclear to represent about 25 percent of its energy mix by 2050, to enable its net-zero target.

In the United States, nuclear already constitutes 20 percent of its energy mix and there's bipartisan agreement in Congress about the importance of nuclear energy to help the US achieve its climate ambitions.

And the Canadians have recently announced a lifetime extension for one of its largest nuclear power plants and 18 months ago it decided to build the western world's first commercial small modular reactor in Darlington, Ontario.

For some years now, the International Panel on Climate Change – the IPCC – has considered nuclear energy a “mitigating technology” to address climate change.

Indeed, all four IPCC pathways include nuclear energy.



Last year, the United Nation's Envoy on Climate Action and Finance told an audience he had never seen a credible transition strategy that did not include nuclear.

And I don't think anyone was surprised to see nuclear energy on the agenda at last year's COP26 in Glasgow, playing such a positive role.

Energy security is the second reason it's time to talk nuclear.

I have already outlined my key concerns about Australia's energy security with the premature closure of baseload power stations without guaranteed replacement, together with the accelerated rollout of renewables.

As coal-fired power stations exit the network over coming decades, one option is for them to be replaced by nuclear power plants.

This is not the only 'market entry' scenario for nuclear energy in Australia, but it's certainly one we should consider because a nuclear power plant is as good a substitute as you get for a coal-fired power station.

Both offer the system services needed to operate a synchronous grid and both require similar infrastructure to connect to the network. If they were to transition to nuclear, coal-fired power plant sites have existing infrastructure that nuclear power plants could utilize. Jobs could also be transitioned and industries created.

As for the Government's plan for an accelerated rollout of renewables, my concern is that it's setting renewables up for failure, not success.

It's taking a bet on wind and solar that defies economics and engineering. And its plan will increase our reliance on China, the manufacturer and, in many cases, the miner and owner, of the raw materials required to make the panels and turbines.

We can't afford for renewables to fail and we need to give them every chance of success, by ensuring they are rolled out sensibly and partnered with complementary technologies. And one of those technologies could be nuclear.

Nuclear has the capacity to be renewables' best friend.

For starters, they share a common set of values in that they are emissions-free sources of energy and they are both recognized as key technologies for helping the world decarbonise.

Technologically, they are also highly compatible.

Nuclear doesn't just offer consistent 24/7 electricity, but it also has the capability to be load following, with an ability to ramp up and ramp down to accommodate the weather-driven volatility of renewables. And new designs are being developed with even faster ramp rates to accommodate wind and solar.

Nuclear can also assist the economic case for a system that's incorporating more and more renewables.

The problem the government has had in explaining away its broken promise of a \$275 reduction in household power bills is that the prices people pay for electricity reflect the costs and profits of the entire system that transports electricity into homes and business, including the poles, the wires, the services and so forth.

These system costs will increase enormously as Labor drives towards 82 percent renewables, by 2030.

According to Australia's market operator, network investments alone for such a system will cost an estimated \$320 billion. Ultimately, it will be users and taxpayers who'll foot the bill.

What therefore counts in the real economy is ‘whole of system costs’.

And this is where striking a balance of complementary technologies is key because if it’s the only way to optimize the system – to keep the lights on and people’s power bills affordable.

When considered on a ‘whole of system’ basis, nuclear has proven to stack up time and again. This partly explains why 32 nations operate nuclear power plants today and another 50 are actively implementing new nuclear programs or are on the way to doing so, leveraging a well recognised international framework.

This brings me to the third reason why now is the time to talk nuclear – technology development.

It doesn’t take long when you’re speaking to someone about nuclear energy before the issues of health and safety are raised, and people query incidents from Three Mile Island to Chernobyl and Fukushima.

And so they should, by the way. These issues are critical, and I say that as a parent of little ones, first and foremost.

As we examine the prospect of nuclear energy in Australia, we need to explore all such issues with dispassionate independence.

Keep in mind, however, that for Australia, we’re not considering old nuclear technologies that were involved in those incidents.

No one wants old Soviet era technology in our grid, which is why we’ll be considering only new and emerging nuclear technologies – principally, Generation III+ and Generation IV – including small modular reactors (SMRs).

SMRs turn the business model of nuclear power on its head.

They are designed to require shorter construction times and lower capital costs than large scale reactors. They have passive cooling systems, fewer mechanical parts and auto fail safe to enhance safety, and they're relatively easy to configure due to being factory made and transportable. And since they're modules, you can start small and add modules as needed.

Should nuclear be part of Australia's pathway to net-zero?

Maybe – but we need to do the hard work to find out.

And it should come as no surprise that Australia is talking nuclear.

Australia is, after all, already a nuclear nation.

We possess the world's largest reserves of uranium and we're the world's 3rd largest supplier – we already power the world's nuclear power plants, yet we have none of our own.

We have been operating a nuclear reactor at Lucas Heights for over 60 years - only 40 kilometers from where we are today. That reactor provides invaluable radio medical isotopes that Australians benefit from every day.

We are active participants in the Generation IV International Forum.

We are working closely with the United States and United Kingdom under the AUKUS arrangement on introducing nuclear-propelled submarines, as part of our own fleet.

Nevertheless, if we were to introduce nuclear technology as part of our future energy mix, we must get it right.

Three threshold questions must be answered in the Australian context: Is it feasible?  
Is it achievable? Is it acceptable?

Under each of these questions lie an exhaustive number of issues on which due diligence is required and shall be done.

Nuclear energy optionality needs to be created in Australia.

If we continue to do nothing on the topic, we will always be 8 to 10 years away from being able to procure the technology if, one day, we realise we need it.

And as we move forward to examine this topic, we will be putting the Australian community at the centre.

It's why we're encouraging a national conversation.

To that end, over coming months, I plan to hold a series of nuclear energy policy forums across Australia, together with my parliamentary colleagues.

A social-license is, after all, the most important pre-requisite for not just nuclear, but all major energy projects that might impact local communities or have a material impact on our future as a nation.

And when that future arrives – when we reach 2050 – it will be our generation that's answerable to the next.

Our generation may well have its imperfections, but I want to look my children in the eye - and maybe one day, their children – knowing that, as a nation, we got the big calls right: that we decarbonized our economy while also making Australia richer, stronger and more free.

**Ted O'Brien**

**Shadow Minister for Climate Change and Energy**

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