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CLIMATE AND ENERGY SUMMIT 2025

CEDA Speech 1 May 2025 **Climate and Energy Summit, Melbourne**

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Opening address: **Australia's energy transition opportunity in the current geopolitical environment**

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Transformational Change Takes Australians by Surprise

CEDA has been contributing ideas for Australian economic development and policy for 65 years. I have been actively engaged in the CEDA discussion for more than three quarters of that time. It's good to be with you again.

Looking back, I am struck by how far-reaching change always takes most of us by surprise. The Australian economy has been through three profound transformations over these past six and a half decades. The Menzies Government established the Vernon Committee after the 1963 election, to suggest ways of lifting Australia's economic performance. It comprised distinguished Australians and drew on the best Australian economists. But its 1965 Report missed the Japan mining boom that was already under way, and which became the main force behind lifting Australian productivity and output growth in the 1960s to well above the previous decade.

The Australian reform era began in 1983 with the election of the Hawke Government. It lifted Australian productivity growth in the 1990s to the top of the developed world for the first time since Federation. It led into three successive decades of economic expansion unbroken by recession until COVID in 2020—the longest continuous expansion ever in a developed country. Yet its effects were not widely recognised until the late 1990s, after they had been appearing in the statistics for several years.

The China resources boom underpinned strong Australian incomes growth from the beginning of this century until we entered the Dog Days of stagnant living standards in 2013. The China boom was anticipated but underestimated in my Report in 1989, "Australia and the Northeast Asian Ascendancy". But it was ignored for many years in most Australian business—to the extent that Andrew Forrest built a great fortune from iron ore tenements made valuable by developments in China but passed over by the established mining companies.

So it's no surprise that most Australian business and most Australians are not yet looking forward to the next great Australian economic transformation. This is the long expansion of investments and exports using Australia's renewable energy and sustainably harvested biomass resources to export zero-carbon goods for countries that lack the resources to make them themselves. This is Australia's Superpower transformation. The Superpower transformation can lift Australia out of the Dog Days into a new era of sustained increases in living standards if we allow sound economic principles to guide energy and industry policies.

The first and third transformations of the Australian economy over CEDA's life were driven by developments in other countries—economic development in Japan in the 1960s and China in the early twentieth century. The second was built on domestic economic reform.

Change Abroad Supports Superpower Exports

The Superpower transformation requires change in other countries as well as economic policy reform at home.

We need other countries to be reducing emissions. We can make a good start in building profitable Superpower export industries if other countries are making a good start with reducing the emissions-intensity of economic activity. Other countries are making that start and continuing despite the Trump administration's assertion that the science of atmospheric physics is fake news. The Superpower Institute's paper, "The New Energy Trade", shows that the countries that matter most to Australian opportunity have high incomes and levels of industrial activity, and low per capita endowments of the resources necessary to make zero-carbon goods. For the time being, these are the economies of Northeast Asia and Europe. They are all committed to and making progress towards net zero emissions.

The United States was always going to be broadly self-sufficient in zero-carbon goods, as it has always been in the high-carbon goods of the old economy. Trump protectionism and withdrawal from international climate cooperation does not directly damage Australia's Superpower opportunity. It would be damaging if it turned European and Northeast Asian economies, or Australia, away from open trade and to net zero emissions. There is no sign of Europe or Northeast Asia turning away. Assertion of European (including British and Scandinavian) policy independence from the Trump United States has confirmed commitment both to open trade and to net zero emissions. Japan, Korea and Taiwan, while understandably nervous about where the Trump disruption will go next, have not moved towards Trump positions on climate. China, already having accelerated its own decarbonisation as the economy moved out of its COVID slump, has seen geo-political as well as economic opportunity in strengthening commitment to international cooperation beyond the US on both trade and climate.

Two important international developments over the past two weeks have reinforced commitment to achieving agreed global climate goals.

The death of Pope Francis reminded much of humanity of the ethical imperatives of action on climate change. Rector of Melbourne University's Newman College Frank Brennan recalled last week my own praise of the late Pope's work on climate in my 2015 book *Superpower*:

I said in *Superpower*: 'The most rigorous, comprehensive and influential treatment of the ethics of climate change is Pope Francis's 2015 encyclical *Laudato Si*'. In this work he applies Catholic, Christian and general ethical teachings and intellectual traditions to climate change". In the book, I drew attention to the "clearer understanding of the

importance of the non-economic values affected by climate changeHere the leading contribution has been by Pope Francis's *Laudato Si'*.'

Celebration of Francis' work since his death on Easter Monday reminds us that a US or Australian election does not change the ethics of climate change, any more than it changes the physics or the economics.

The second big recent international development is the election victory of the Canadian Liberal Party led by Mark Carney. The Canadian Prime Minister is deeply knowledgeable about the climate change challenge to human prosperity and security. He is deeply knowledgeable about the economics of climate change and its mitigation. His victory has reinforced Canadian commitment to international cooperation on climate change. Prime Minister Carney has emphasised the importance of countries other than the US remaining open to and cooperative with each other on trade and climate change, while encouraging but not waiting for eventual US re-engagement.

Contemporary and emerging international conditions allow Australia to make a strong start in exporting zero-carbon goods. Australian diplomacy and policy can help to preserve and expand those conditions.

Building the Australian Superpower also requires the application of sound economic principles to climate and energy policy. I'll come to that, after discussing the rumours of the death of green hydrogen.

Rumours of Hydrogen's Death are Exaggerated

Several of the most important potential Superpower industries use hydrogen made with renewable energy. Recent announcements that many prominent hydrogen projects have been closed or shelved has generated talk that hydrogen is dead, or too underdeveloped for independent life. Like Mark Twain's death, those rumours are exaggerated.

Let's be clear from the start that hydrogen's main role in Australia's economic future was always going to be as an input into industry, and not as an export in liquid form like LNG.

In the fossil carbon economy, Japan, Korea and China import huge quantities of Australian iron ore and coal and put them together to make iron metal, releasing greenhouse gases as a waste. Conversion of Australian iron ore into iron and steel produces three times the carbon emissions as everything we do in Australia.

Why didn't we make iron at home in the fossil carbon economy? That's partly transport economics. It costs less to use Australian metallurgical coal in Kobe, Pusan or Shanghai than in Whyalla. And it's partly because, unlike other large exporters of methane gas, we choose not to make gas available cheaply for industrial use at home.

Hydrogen is much harder and more expensive to convert into a liquid than methane gas and much harder and more expensive to ship across the ocean. Unlike Australian gas and

coal, hydrogen for industry would be several times as expensive in importing countries as in Australia. As Reuben Finighan set out in the Superpower Institute's paper "The New Energy Trade" last November, only a few small and rich economies would ever carry and justify those costs. The high costs of international transport for hydrogen mean that its main economic value is in producing here in Australia many of the products that are currently made overseas with Australian coal and gas. Foremost amongst these is the reduction of iron and some other mineral ores into metals, and the use of hydrogen with sustainably harvested biomass in production of green transport fuels and some other chemical manufactures.

Although it was peripheral to the Superpower narrative, direct export of hydrogen and its carriers dominated the hydrogen hype that emerged a few years ago. That was a mistake and a pity. The bursting of that hydrogen bubble was inevitable and necessary. The bursting of the bubble returns the emphasis to the use of hydrogen in zero-carbon industrial production.

Apply sound economic principles to policy and the first hydrogen-based investments in new export industries are ready to go now. Hydrogen-based iron-making is ready for investment now in the Upper Spencer Gulf of South Australia. Production of green transport fuels using renewable hydrogen and sustainably harvested biomass is ready for investment now in northern Tasmania.

Whyalla will have a sustainable future in iron-making based on green hydrogen, or it will have no sustainable future at all. Manufacturing in Tasmania will have a sustainable future based on its renewable energy and biomass resources, or it will have no sustainable future at all.

Domestic Economic Policies to Build the Superpower

Why hasn't the economics driven early development of green iron, green chemicals and other zero-carbon industrial production using hydrogen?

The answer is in simple, uncontested economics. Economics that has been in good textbooks for a hundred years. This economics has been accepted by economists like Friedman and Hayek at the extreme free market end of the debates about the role of Government in economic development.

We haven't yet seen much investment in the industries of the future despite Australia's advantages, because the policy foundations have not been laid. That is because we have not had financial incentives for innovation in line with the benefits to society. And we have not had the green premium on zero-carbon production that recognises the advantages to us all from reducing greenhouse gas emissions.

Markets work wonders for economic development whenever and wherever trade brings benefits to society similar to the benefits accruing to the contracting parties. But they don't work for economic development if and when business transactions confer large

benefits to firms or people who are not parties to the market exchange, or impose large costs on parties outside the exchange.

These are “externalities”—benefits or costs not captured by the parties to the exchange. Two large externalities are important in the transition from the fossil carbon to the zero-carbon economy. There is a positive externality associated with innovation—the development of new technologies, business institutions and products. There is a negative externality from emission of greenhouse gases into the atmosphere.

Innovation generates benefits that the investing firms cannot capture for themselves. Pioneer investors in new ways of doing things show others what works and what is not worth trying. They make costly mistakes that followers avoid. They generate knowledge from which followers benefit.

Investments that embody “First-of-a-Kind” use of a technology can cost many times as much as applications when the technology is well established. So sound economics has taught for a hundred years that we don’t get enough innovation unless governments provide financial support for it.

Markets won’t work for economic development unless governments block economic transactions that impose large costs on others, or apply taxes that recoup for society the damage done to others, or subsidise competing activities. There is a negative externality—a cost imposed on others--when a firm releases carbon dioxide into the atmosphere.

Australia has recently returned to progress in laying the policy foundations for the Superpower. The economic principles are set out clearly and well in the National Interest Framework for A Future Made in Australia released by the Commonwealth Treasury with the 2024 budget. But we won’t make large progress until the principles are turned into policies that provide the right level of support for innovation in zero-carbon production, and a green premium equal to the social benefits from replacing emissions-intensive with zero-carbon activity. The uncertainty and instability of policy over the past twelve years have increased the damage to investment and innovation.

Incentives are more likely to unlock the magic of the market in expanding investment and innovation if they are provided in general form with stability over long periods, with conditions known in advance by all market participants. General grants for innovation that are available to all firms that meet specified conditions are better than those that depend on officials’ discretion and artificial “auctions”. Green premia are most cost-effective if they are available to all market players who meet specified conditions. The emissions trading scheme applied from mid-2012 to mid-2014 and to be linked to Europe from 1 July 2014, worked exactly as anticipated in promoting economic efficiency and reducing emissions. After that, the Renewable Energy Target established by Prime Minister John Howard in 2001, and strengthened by Prime Minister Kevin Rudd in 2011, and the hydrogen tax credit introduced by Prime Minister Anthony Albanese in 2024, are examples of market-enhancing general incentives for low-carbon production.

Some other countries have done better than Australia. The European Union, the UK and other European countries are closest to getting it right, with carbon pricing closer to the social cost of carbon, and large financial support for innovation. Australia's major trading partners in Northeast Asia—China, Japan and Korea—were always strong on support for innovation. They were once laggards on green premia, but are edging towards economically rational policies.

Saturday's election results will not change in any way the physics, economics or ethics of climate change. I hope that the Government that emerges from the election will respect the physics, economics and ethics. I hope that the new Commonwealth Government will act consistently with Australia's interest in a stable climate, its interests in return to rising living standards and the ethical interests of most of its citizens. As always, it is the job of CEDA to increase the chances that policy will serve Australians' interests, by illuminating the consequences of policy choice.