



CLIMATE ENERGY FINANCE

# Winterbourne Wind Farm

**Submission on State Significant Development SSD-10471  
to NSW Department of Planning & Environment**

**23 January 2023**

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# About Climate Energy Finance

**Climate Energy Finance (CEF) is an Australian based, Australian funded think tank established at the start of 2022 that works pro-bono in the public interest on mobilising capital at the scale needed to accelerate decarbonisation and the energy transition consistent with the climate science.**

We conduct research and analyses on global financial issues related to the global energy transition from fossil fuels to clean energy, as well as the implications for the Australian economy, with a key focus on the threats and opportunities for Australian investments, regional employment and value-added exports. Beyond Australia, CEF's geographic focus is the greater Asian region as the priority destination for Australian exports, particularly India and China. CEF also examines convergence of technology trends in power, transport, mining and industry in accelerating decarbonisation.

CEF is independent, non-partisan, works with partners in the corporate and finance sector, NGOs, government, and progressive social and climate movement organisations in Australia, and is philanthropically funded.

## About the Author

### Tim Buckley

Tim Buckley, CEF's founder and director, has 35 years of financial market experience covering the Australian, Asian and global equity markets from both a buy and sell side perspective. Before founding CEF as a public interest thinktank in 2022, Tim founded the Australia and Asian arms of IEEFA in 2013 and worked as the Australasian Director on the global energy transition for eight years till the start of 2022.

Prior to this, Tim was a top-rated Equity Research Analyst and has covered many sectors of the Australian economy over 2 decades, including spending two years as Head of Equity Research in Singapore at Deutsche Bank covering Asian markets in 1996-1998. Tim was a Managing Director, Head of Equity Research at Citigroup for 17 years till 2008, then spent two years as Head of Institutional Equities at Shaw & Partners and subsequently in 2010-2013 was co-Managing Director of Arkx Investment Management P/L, a global listed clean energy investment start-up that was jointly owned by management and Westpac Banking Group.

Tim started his career as a lecturer in Finance and Market Regulation at the University of Technology, Sydney before moving to Macquarie Group in 1988 to work in equity research. Tim has a Bachelor of Business majoring in Accounting and Finance from UTS Sydney (1985-87), has received the US SEC Series 7 (General Securities Representative Qualification Examination) and Series 24 (General Securities Principal Qualification Examination) qualifications.

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# Introduction

The global energy sector is in the midst of a massive, ongoing transition, driven by the confluence of what CEF considers to be a powerful grouping of policy, financial, economic, technological and environmental forces. NSW urgently needs significant new zero emissions electricity capacity of the scale of the Winterbourne Wind Farm (detailed in the Appendix), and we are particularly impressed by the comprehensive, transparent community consultation and involvement undertaken over more than a decade.

***We recommend approval of this investment proposal.***

A key point of our analysis is that the energy transition is accelerating rapidly - well beyond the financial markets or most energy experts' expectations, most notably the International Energy Agency (IEA). What was considered unlikely even 1-2 years ago by respected energy leaders like the Australian Energy Market Operator (AEMO) is now considered their central scenario. This is highly relevant to the positive consideration of the critical need at scale and speed of new projects such as the Winterbourne Wind Farm.

The rapid transition is due to the confluence of five factors:

1. **Global Policy Developments**: The global policy framework relating to energy and climate has seen enormous change in the last two years, underpinned by the growing global awareness that the climate scientists were right, and that urgent action to limit the growth in carbon emissions is needed, given the corresponding growth in economic costs of extreme weather events.
2. **Technology Driven Deflation**: The technology development in the energy sector relating to renewables, batteries and grid systems has been massive and is ongoing, with the learning curve resulting in double-digit percentage annual reductions in unit costs of wind, solar and batteries, with green hydrogen starting down the same trajectory.
3. **Global Finance Zero Emissions Pledges**: Global financial institutions have responded to the growing threat of litigation and policy actions by regulators, the growing evidence on climate science as well as the extreme volatility in fossil fuel commodities, as well as the growing tens of trillions of investment opportunities emerging in funding the low emission solutions.
4. **Transport, Mining and Energy Sector Convergence**: The technology improvements combined with massive cost deflation in batteries has seen the convergence of the energy, critical minerals mining and transport sectors, with the rapid rise of electric vehicles (EV) resulting in the now likely terminal trajectory for internal combustion engines in the passenger vehicle sector.
5. **Carbon Emissions Pricing**: The global rise of carbon dioxide (CO<sub>2</sub>) emissions pricing has moved dramatically in 2021, and momentum accelerated in 2022. Momentum in the Australian domestic market into 2023 is building significantly with the completion and implementation of the Chubb Review of the Australian Carbon Credit Units (ACCU) and the pending introduction of a strongly enhanced Safeguard Mechanism. As one of the largest sources of CO<sub>2</sub> emissions, the burning of coal in the power and steel sectors is economically terminally challenged by the growing global trend to internalise the cost of this CO<sub>2</sub> pollution.

These all make the development of zero emissions infrastructure proposals such as the Winterbourne Wind Farm key to the successful, sustained growth and transformation of our economy.

**Climate Energy Finance recommends the NSW Department of Planning & Environment (DPE) approve the Winterbourne Wind farm near Walcha. Beyond the direct employment, investment and development gains to the local community, we see five key reasons underpinning our conclusion:**

1. As one of the largest private investment proposals for zero emissions electricity generation in NSW, the Winterbourne Wind Farm is entirely consistent with and in fact key to the NSW Government's target to cut total state carbon emissions by 70% by 2035. It is also entirely consistent with the NSW Government policy priorities of Renewable Energy Zones (REZ), accelerated decarbonisation, facilitating the building of low cost, zero emissions, domestic replacement generation capacity to offset the rapidly approaching end-of-life coal fired power plants NSW has historically relied upon.
2. As one of the largest private investment proposals for new zero emissions electricity generation in Australia, the Winterbourne Wind Farm is entirely consistent with delivering on the objectives of the Federal Government's Climate Change Act 2022. The Winterbourne Wind farm is clearly aligned with the investment, employment, reindustrialisation of manufacturing, decarbonisation and energy security objectives of the Federal Government to deliver on its objective of rapidly expanding investment in renewable energy so as to permanently improve energy security and affordability in east Australia.
3. As one of the largest wind farm proposals in Australia today, the Winterbourne Wind farm is clearly aligned with the Australian Energy Market Operator's Integrated System Plan (ISP) objective for 82% renewables by 2030, and a near full decarbonisation of electricity soon thereafter.
4. The climate science is clear, the direction needed for the Australian economy is set, and we need to accelerate the deployment of investment capital at an unprecedented scale and speed. The Winterbourne Wind Farm is one such key investment proposal. The cost of continued delay will be catastrophic for Australia, and the world. The \$8 billion flood cost of 2021/22 alone is a taste of the rising costs of failure to act decisively on the climate science, with estimates the cost to Australia could rise to \$100 billion annually within two decades.
5. As one of the largest wind farm developments in NSW, and one of the largest such developments in planning in the Southern Hemisphere, the Winterbourne Wind Farm proposal is of key national strategic interest to help Australia deliver on our international treaty obligations, the Paris Agreement and ensure Australia delivers our fair share of the decarbonisation efforts as illustrated by the modelling by the IEA.

# Section 1: Winterbourne Wind Farm is Strategically Aligned with the Investment and Policy Objectives of the NSW Government

The NSW Government has made the energy transformation and alignment with the climate science a long standing core part of their policy objectives. Given budgetary constraints, the NSW government has invested heavily in creating the right legal, regulatory and policy framework to crowd-in private investment, both from domestic and international sources, particularly from the best in global class operators like Vestas and CIP.

## NSW to cut carbon emissions by 70% by 2035

*As one of the largest private investment proposals for zero emissions electricity generation in NSW, the Winterbourne Wind Farm is entirely consistent with and in fact key to the NSW Government's target to cut carbon emissions by 70% by 2035.*

December 2022 saw NSW Energy and Climate Minister Matt Kean announce an Australia-leading target to cut NSW whole-of-economy carbon emissions by 70% by 2035, with the stated objective of putting our state at the forefront of the low-carbon economy. This received overwhelming public endorsement.<sup>1 2 3</sup> NSW is already on track to meet its current target of halving emissions by 2030, based on 2005 levels but Minister Kean wants to go further, arguing action on climate change will determine the prosperity of future generations, stating: "There is no bigger fight that we as a nation must face, than the fight against climate change."

The investment and regional employment merits were front and centre of the NSW Government policy announcement. The government highlighted that the move to 70% emissions reduction would also attract more than \$39 billion in private investment and support more than 13,000 jobs, mostly in regional NSW. Minister Kean said: "NSW can be a first mover attracting international capital, industry and talent, if it seizes its opportunity to be the engine room of the low carbon global economy."

Energy security and freedom from fossil fuel hyperinflation were also key benefits of this move. Minister Kean said: "We need to reduce our reliance on energy sources that can be taken hostage by authoritarian regimes. By switching to locally made renewable energy, we can not only build a cleaner future, we can also protect our energy security."

NSW continues to have an overall emissions reduction target of net zero emissions (NZE) by 2050. It was one of the first jurisdictions in the world to commit to a NZE target by 2050 and was recently ranked Australia's most progressive renewables state in a report by the World Wildlife Foundation.<sup>4</sup>

January 2023 saw the NSW Environmental Protection Authority unveil its Climate Change Policy and Action Plan and its decision to classify greenhouse gas emissions as pollutants.<sup>5</sup>

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<sup>1</sup> The Guardian, [Matt Kean announces NSW target to cut carbon emissions by 70% by 2035](#), 23 December 2022

<sup>2</sup> The Sydney Morning Herald, [NSW to turbocharge transition to net zero greenhouse gas emissions](#), 23 December 2022

<sup>3</sup> ABC, [NSW sets new emissions target to become 'engine room' of low carbon global economy](#), 23 December 2022

<sup>4</sup> World Wildlife Fund, [Australian jurisdictions see major progress in race to become a renewable superpower](#), 5 Dec 2022

<sup>5</sup> Renew Economy, [EPA details its carbon crackdown on industry, and fossil fuel generators are not happy](#), 20 January 2023

The Climate Council's Head of Advocacy Dr Jennifer Rayner said Australia's most populous state is on a promising path to meet and beat the targets, stating: "We are particularly pleased to see the projection that NSW will meet its target of halving emissions by 2030. This is very promising and sets the state up to drive even deeper cuts to emissions. There is a real sense of momentum towards a clean future in Australia this year. We've seen much stronger targets for renewable energy and emissions reduction announced in Queensland, Victoria and now NSW. It's great to see states jostling to be at the front of the pack in the race to net zero and Australians will reap the benefits. The further and faster states go on reducing emissions, investing in clean energy technologies like renewables, storage and energy efficiency and phasing out fossil fuels, the more benefits they'll unlock. That's why it's essential we keep pushing towards deep cuts in emissions this decade."<sup>6</sup>

Three years ago, it was estimated that NSW would reduce emissions by only 13% on 2005 levels by 2030 but the state is now projected to hit 70% by 2035. Decarbonising the electricity sector is key to delivering on this whole-of-economy decarbonisation objective, and as one of the largest renewable energy infrastructure proposals in NSW, the Winterbourne Wind Farm is a key enabler of this world-leading NSW policy ambition.

## NSW Fast Tracks Renewable Energy Zones

***As one of the largest private investment proposals for zero emissions electricity generation in NSW, the Winterbourne Wind Farm is entirely consistent with the NSW Government policy priorities of REZs, accelerated decarbonisation, and facilitating the building of low cost, zero emissions, domestic replacement generation capacity to replace the end of life coal fired power plants NSW has historically relied upon.***

June 2022 saw the NSW 2022/23 budget allocate \$1.2 billion to the Transmission Acceleration Facility to fast-track the Renewable Energy Zones needed to replace existing end-of-life coal-fired power stations as they continue to announce their accelerated closure programs. The Facility will fund the development stages of transmission and other infrastructure. NSW Treasurer Matt Kean said: "Renewable Energy Zones are modern day power stations, providing cheap and clean power for the homes and businesses of NSW. This is the State's largest ever investment in infrastructure for renewable energy and is expected to help create 2,700 direct construction jobs across the State. We estimate the Facility will drive at least \$14 billion in private transmission infrastructure investment with all government contributions to be fully recovered."<sup>7</sup>

The Facility will be delivered by the Government's EnergyCo of NSW and will fund development activities for new transmission projects to deliver the Electricity Infrastructure Roadmap.

Australia's first renewable energy zones will be established in the Central West<sup>8</sup> and New England regions by 2030, with three others to follow in the south-west, Hunter-Central Coast and Illawarra regions, unlocking a wall of global capital keen to deliver on this investment opportunity.<sup>9</sup>

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<sup>6</sup> The Climate Council, [NSW Makes Gains in Race to Zero with new targets](#), 23 December 2022

<sup>7</sup> NSW Government, [\\$1.2 billion to fast track renewable energy zones](#), 10 June 2022

<sup>8</sup> Renew Economy, [NSW formally declares Australia's first Renewable Energy Zone](#), 11 November 2021

<sup>9</sup> Renew Economy, [NSW flooded with \\$100bn in renewable and storage projects for Hunter REZ](#), 16 February 2022



## NSW Climate and Energy Action

***As one of the largest private investment proposals for zero emissions electricity generation in NSW, the Winterbourne Wind Farm is entirely consistent with the NSW Government's Electricity Infrastructure Roadmap.***

The NSW Climate and Energy Action Plan<sup>10</sup> is entirely centred around the benefits of the sustained shift to renewable energy, firmed by demand response management tools, pumped hydro storage (including the Federal Government Snowy Hydro's Snowy 2.0, as well as private initiatives like Oven Mountain)<sup>11</sup>, green hydrogen<sup>12</sup>, electric vehicle-to-grid charging and utility scale batteries (including the NSW government's own 850MW/1,680MWh Waratah Super Battery at Colongra operated by Transgrid, overseen by the NSW EnergyCo, and utilising Akaysha Energy as the SIPS Service Provider)<sup>13</sup>.

The energy sector is undergoing a transformation. Renewable energy in our electricity supply mix is continuing to grow and plays a critical role in reducing emissions. NSW now has 13,500 megawatts (MW) of renewable energy generation capacity, which is around 53% of total generation capacity in our state. The NSW Government's Electricity Infrastructure Roadmap<sup>14</sup> makes REZs central to the plan to transform the NSW electricity system into one that is cheap, clean and reliable.

## Keeping the Lights on in NSW

***As one of the largest private investment proposals for new zero emissions electricity generation in NSW, the Winterbourne Wind Farm is entirely consistent with the need for new capacity at speed to be commissioned in NSW.***

With AGL Energy's decision to close its increasingly unreliable, ultra-high emissions, expensive end-of-life Liddell coal fired power plant by 2023,<sup>15</sup> the Bayswater coal fired power plant by 2030-2033 and Victoria's Loy Yang A coal plant by 2035<sup>16</sup> (noting NSW imports significant low cost but high emissions lignite powered electricity from Victoria), the need for replacement with NSW sited zero emissions low cost generation capacity at world scale is critically time sensitive.

February 2022 saw the surprise announcement by Origin Energy of the closure of the Eraring coal fired power plant in 2025, seven years ahead of the previously slated closure date. The NSW government's focus on replacing this key generation asset with NSW sited zero emissions alternatives, along with all the investment and employment opportunities this would bring, and energy affordability and reliability issues, are all abundantly clear.<sup>17</sup>

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<sup>10</sup> NSW Government, [NSW Climate and Energy Plan: The Shift to Renewables](#), accessed 22 January 2023

<sup>11</sup> Renew Economy, [NSW fast-tracks \\$1B Oven Mountain pumped-hydro project](#), 12 October 2020

<sup>12</sup> NSW Government, [Hydrogen in NSW](#), accessed 22 January 2023

<sup>13</sup> NSW Government, [Waratah Super Battery](#), accessed 22 January 2023

<sup>14</sup> NSW Government, [Electricity Infrastructure Roadmap](#), accessed 22 January 2023

<sup>15</sup> AGL Energy press release, [Liddell's first unit closure marks another major step in AGL's energy transition](#), 1 April 2022

<sup>16</sup> AFR, [AGL bows to shareholders and hastens coal exit](#), 29 September 2022

<sup>17</sup> NSW Government, [NSW response to closure of Eraring Power Station](#), 19 February 2022



## Section 2: Winterbourne Wind Farm is Strategically Aligned with the Investment and Policy Objectives of the Federal Government

*As one of the largest private investment proposals for new zero emissions electricity generation in Australia, the Winterbourne Wind Farm is entirely consistent with delivering on the objectives of the Federal Government's Climate Change Act 2022.*

August 2022 saw the Federal Government pass the Climate Change Act 2022,<sup>18</sup> a landmark bill that legislates the nation's commitment to reduce greenhouse gas emissions 43% below 2005 levels by 2030, and achieve net zero by 2050.

It sets out Australia's greenhouse gas emissions reduction targets, requiring annual climate change statements, conferring advisory functions on the Climate Change Authority, and requiring ten key Statutory Authorities including the AEMO, Export Finance Australia (EFA), the Northern Australia Infrastructure Facility (NAIF), the Clean Energy Finance Corporation (CEFC), the Australian Renewable Energy Agency (ARENA) and the CSIRO et al to formally take the climate science into central consideration in all decisions. The Act also updates the Climate Change Authority legislation to reference the purposes of the Paris Agreement in the principles it considers when providing advice.

Minister for Climate Change and Energy Chris Bowen said: "Current issues confronting Australian and global energy markets highlights why this long-term commitment is so important. This Bill confirms our commitment to ambitious but realistic targets supported by Australia's states and territories, business, industry, unions, environmental and community groups. It provides a platform for collaboration to drive down emissions while ensuring reliable energy supplies. The Bill makes it clear that 43% is our minimum commitment and does not prevent our collective efforts delivering even stronger reductions over the coming decade."<sup>19</sup>

This received endorsements globally for the significant 'landmark' move forward towards alignment with the climate science and Paris Agreement.<sup>20</sup> The Financial Times reported that: "Australia passed a landmark climate bill on Thursday, bringing the resource-rich country back in line with the global push to cut carbon emissions after years of pushing back against such efforts. Australia is one of the world's largest miners and one of the biggest coal exporters. The country had been a climate policy laggard for years with former PM Scott Morrison once brandishing a lump of coal in parliament."

The Federal Government has made developing Australia's critical minerals export capacity a key strategic priority, including value-adding mining via refineries powered by low cost, zero emissions renewable energy as a key global competitive advantage.<sup>21</sup> Building out our firm renewable energy infrastructure at scale and speed is a key challenge to help deliver on this strategy. In January 2023 BloombergNEF defines this as a US\$10 trillion investment opportunity.<sup>22</sup>

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<sup>18</sup> Australian Government Federal Register of Legislation, [Climate Change Act 2022](#), 14 September 2022

<sup>19</sup> Australian Government, [Climate Change Bill 2022](#), 28 July 2022

<sup>20</sup> Financial Times, [Australia passes landmark legislation to cut carbon emissions](#), 8 September 2022

<sup>21</sup> Australian Government, [Critical Minerals Strategy 2023: discussion paper](#), 2 December 2022

<sup>22</sup> BloombergNEF, [Transition Metals Become \\$10 Trillion Opportunity as Demand Rises and Supply Continues to Lag](#), 18 January 2023

# A \$7.8bn Joint Federal-NSW Government investment in NSW grid transmission capacity upgrades

*As one of the largest wind farm proposals in Australia today, the Winterbourne Wind farm is clearly entirely aligned with the investment, employment, reindustrialisation of manufacturing, decarbonisation and energy security objectives of the Federal Government of Australia.*

December 2022 saw the Albanese government commit \$4.7 billion of new investment for NSW renewable energy infrastructure development, working alongside the \$3.1 billion investment allocations by the NSW Government in grid upgrades.<sup>23</sup> A core objective is to facilitate investment in the enabling infrastructure to rollout REZs at speed and scale to help permanently reduce rampant fossil fuel hyperinflation in all Australians' energy bills in 2022, and again in 2023.

The Commonwealth money will go towards building, modernising and reconfiguring transmission lines from the state's renewable zones, where new sources of energy will be generated by 2030, to the grid. This investment will also connect the major hydro-powered expansion of the existing Snowy Mountain scheme, Snowy 2.0, to the grid.

Prime Minister Anthony Albanese has linked the strengthening and reconfiguring of the grid with energy security and lower prices, stating that: "...[A]s well as that critical short-term action, the Australian economy can seize the opportunity of more affordable and reliable renewable energy over the long term...The Commonwealth has worked hand in glove with the states and territories to shield Australian households and businesses from the worst impacts of the energy crisis caused by Russia's illegal invasion of Ukraine. But as well as that critical short-term action, the Australian economy can seize the opportunity of more affordable and reliable renewable energy over the long term— creating jobs in the regions that have always powered Australia, and insulating ourselves from global fossil fuel shocks at the same time. Support for critical transmission infrastructure like Sydney Ring, VNI West and HumLink, to get across the line, will help transform Australia into a renewable energy superpower."<sup>24</sup>

NSW Premier Dominic Perrottet stated: "This joint \$7.8 billion funding deal will support the projected \$32 billion in private investment for regional energy infrastructure by 2030. This is our opportunity to invest in our future industries that will drive jobs and wealth creation in our State."

NSW Energy Minister Matt Kean welcomed the Federal government announcement, and the associated 3,900 construction jobs that will result from the construction of the transmission infrastructure, stating: "This is a huge win for NSW that will create new energy jobs across the state and unlock cleaner, cheaper and more secure energy."

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<sup>23</sup> ABC, [Albanese government commits \\$4.7 billion for NSW renewable energy investment](#), 21 December 2022

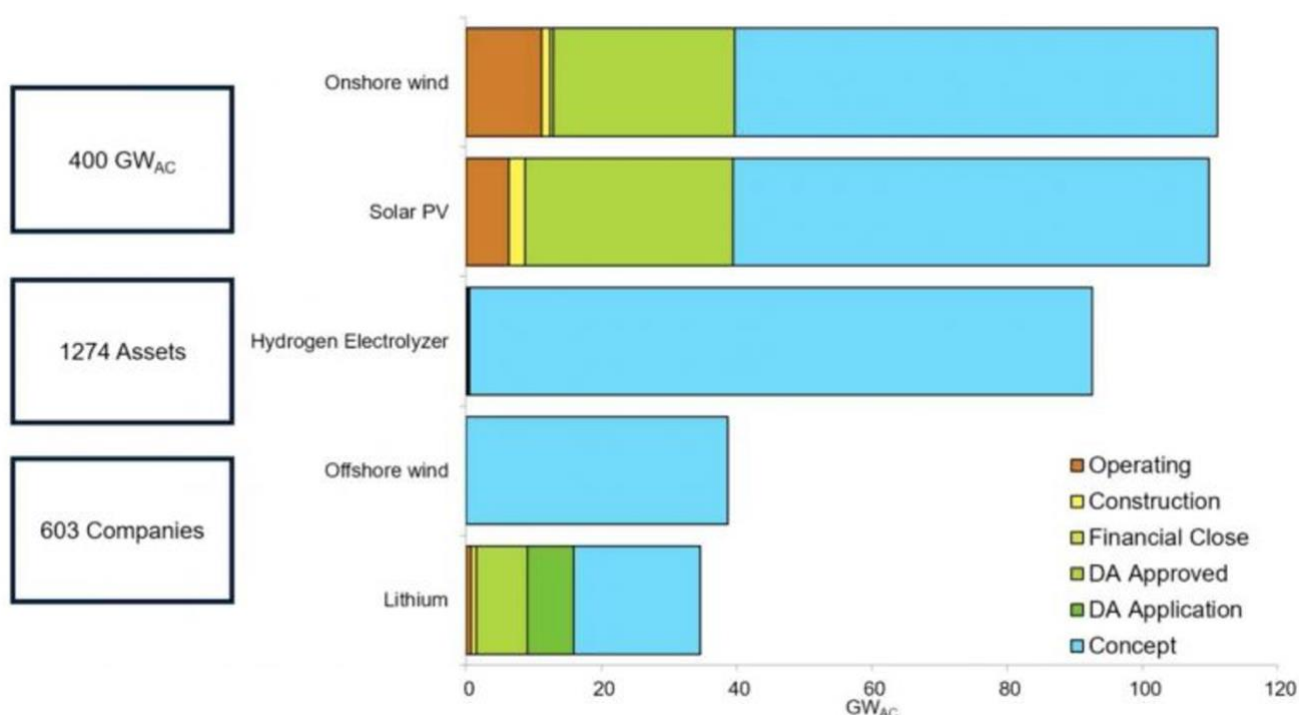
<sup>24</sup> Prime Minister of Australia press release, [Landmark Rewiring the Nation deal to fast-track clean energy jobs and security in NSW](#), 21 December 2022

# The Investment Boom Ahead for Australia

*As one of the most planning process-advanced large wind farm proposals in Australia today, backed by leading global investors and equipment suppliers, the Winterbourne Wind farm is aligned with the infrastructure investment ambitions and areas of focus for investors.*

As we enter 2023, there are investment proposals of over \$800bn for 400 gigawatt (GW) of firmed renewable energy infrastructure, lithium and hydrogen electrolyzers on the books of investors across Australia.<sup>25</sup> This is a once-in-a-century investment boom potential in zero emissions, low cost, deflationary domestic electricity capacity powering our whole economy, as well as powering and decarbonising our value-added domestic refining of critical minerals – Figure 1:

**Figure 1: Australian Utility Solar, Wind, Storage, Hydrogen and Lithium Proposals (GW)**



Source: Rystad Energy, via [Renew Economy](#) 16 January 2023

But as Figure 1 highlights, the vast majority of these proposals are still in the concept stage, and as we have seen this month with SunCable,<sup>26</sup> the development of such proposals is fraught with financing, geopolitical, technical, engineering and leadership challenges.

<sup>25</sup> Renew Economy, [Australia boasts \\$830bn pipeline of wind, solar, hydrogen and storage projects](#), 16 January 2023

<sup>26</sup> Renew Economy, [Administrators seek funds as they prepare Sun Cable sale and billionaire bidding war](#), 20 January 2023

# The Energy Crisis that Smashed the Australian Economy in 2022

*As one of the largest wind farm proposals in Australia today, the Winterbourne Wind farm is clearly aligned with the Federal Government's objective of rapidly expanding investment in renewable energy so as to permanently improve the energy security and affordability in east Australia.*

December 2022 saw the Prime Minister, in conjunction with all the state and territory first ministers, announce an Energy Price Relief Plan designed to: limit east Australian gas and coal prices; provide \$1.5 billion in targeted energy bill relief for households and businesses; and invest in cleaner, cheaper, more reliable energy for the future.<sup>27</sup>

This was a clear response to the sustained and unprecedented distortion of global fossil fuel commodity prices on the back of Russia's illegal invasion of Ukraine. A key objective is to reduce expected inflation in 2023-24 by around a half percentage point.

A key aspect of the announcement was the clear combined aim of Federal and State governments to accelerate investing for a renewable future. This reinforced the commitment made by Energy Ministers to implement the long overdue Capacity Investment Scheme to unlock \$10 billion of private and public sector investment in clean, dispatchable storage and generation to ensure reliable and affordable electricity supply and reduce our exposure to high coal and gas prices over the medium and long term.

The Government acknowledged firmed renewables are the cheapest form of energy. The current coal and gas price crisis makes that reality even more stark. Rewiring the Nation and the Capacity Investment Scheme will drive investment in Australia's future as a renewable energy superpower.

Prime Minister Anthony Albanese said: "Extraordinary times call for extraordinary measures. We are taking urgent action to shield Australian families and businesses from the worst of these energy price spikes. We are working hand-in-hand with our State and Territory partners to find the best outcomes for all Australians; keeping Australians in work, keeping industry going, and making sure that families and businesses can pay their bills."

The actions of the multinational methane gas cartel in 2022 have been central to the total energy market failure experienced in July 2022. The unwillingness to operate even remotely in the public interests during a unprecedented period of hyper-inflation in all fossil fuel prices, when the Australian gas export industry itself is making unprecedented war-profits, shows the critical importance of accelerated investment in domestic zero emissions world-scale firmed renewable energy infrastructure to underpin energy security and affordability for all Australians and our economy.

As Industry Minister Ed Husic said: "A mandatory code of conduct for the gas industry will ensure Australians in the east coast gas market have access to Australian gas at reasonable prices and on reasonable terms. It will address systemic issues within the wholesale gas market, including insufficient competitive pressure and bargaining power imbalances."<sup>28</sup>

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<sup>27</sup> Prime Minister of Australia press release, [Energy Price Relief Plan](#), 9 December 2022

<sup>28</sup> Industry Minister Ed Husic press release, [Responsible and meaningful action on gas prices](#), 9 December 2022

## Section 3: Winterbourne Wind Farm is Strategically Aligned with the Investment and Policy Objectives of AEMO's Integrated System Plan

*As one of the largest wind farm proposals in Australia today, the Winterbourne Wind farm is clearly aligned with AEMO's ISP objective for 82% renewables by 2030.*

December 2022 saw Australian Energy Market Operator (AEMO) CEO Daniel Westerman give an industry briefing titled "Paving the way to Australia's net-zero future".<sup>29</sup>

Westerman acknowledged there has been a seismic shift in the pace of the energy transition. As discussed in Section 2, the Australian Government has legislated a target of net-zero emissions by 2050 and, by 2030, a 43% reduction in 2005-level emissions, aiming to have 82% of energy in the NEM from renewable sources by then. This target complements individual state and territory government energy policies and renewable energy zones and targets.

Westerman highlighted that as Australia moves rapidly away from its traditional dependency on coal generation, our energy future will be built on four pillars:

1. Low-cost renewable energy, taking advantage of the abundant wind, solar and hydro resources that Australia has to offer;
2. Firming technology like pumped hydro, batteries, and gas generation, to smooth out the peaks and fill in the gaps from that variable renewable energy;
3. New transmission and modernised distribution networks to connect these new and diverse low-cost sources of generation to our towns and cities; and
4. Power systems capable of running, at times, entirely on renewable energy.

AEMO's blueprint for the National Electricity Market (NEM) is detailed in the biennial Integrated System Plan (ISP). The ISP is a least-cost, least-regret pathway to what the power system should look like over the next 30 years, as the size of the NEM nearly doubles, from serving 180 terrawatt hours (TWh) of electricity to 320TWh by 2050.

What was the out-of-left field scenario only 2-3 years ago is now the central scenario. AEMO's Step Change sees 40% of coal-fired generation capacity in the NEM withdrawn over the next five years, 60% by 2030 (that's 14 GW), 87% by 2035, and 96% by 2040. The NEM will need nine times the utility-scale variable renewable energy (VRE) capacity, from 16 GW today to 141 GW in 2050. Australia is currently installing VRE faster than at any time in history. AEMO concludes that this record rate needs to be maintained every year for a decade to triple VRE capacity by 2030 – then almost double it again by 2040, and again by 2050.

AEMO is confident that grid reliability, affordability and decarbonisation call all be achieved in the timeframe required, but only if key REZs, grid transmission and firming infrastructure projects can be delivered at unprecedented speed and scale, and on time with accelerated supportive, thorough approval processes, leveraging the grid integration powers of both geographic and technology diversity (on- and off-shore wind, plus utility scale and rooftop solar) on offer across Australia.

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<sup>29</sup> AEMO, [CEO speech at Melbourne Energy Institute Annual Symposium: Paving the way to Australia's net-zero future](#), 9 December 2022

## Section 4: Winterbourne Wind Farm is Entirely Aligned with the Climate Science

Any government approval process should clearly undertake a full cost-benefit analysis. This should evaluate the credibility of the proponent's various claims, but also weigh up the local and wider community needs, and true costs and benefits imposed.

Key to any government approval in 2023 should be the principle of intergenerational equity, particularly when it comes to new energy projects.

Normally, the mostly negative externalities inflicted on the wider community of individual fossil fuel projects are either ignored or discounted in the extreme in the NSW government process. The failure of the NSW government to enact legislation that takes the climate science fully and centrally into account goes way beyond the brief of this particular project proposal approval. However, beyond the 400 temporary direct construction jobs and the 15 ongoing direct maintenance jobs involved, the Winterbourne Wind Farm actually delivers what CEF would consider to be a huge multi-decade benefit to the wider community.

By providing world scale zero emissions wind-power for the life of the project over the next 25-30 years (and potentially in perpetuity thanks to the ability to leverage the site and grid transmission infrastructure to undertake cost-effective repowering)<sup>30</sup>, Winterbourne Wind Farm directly contributes at significant scale to the accelerated decarbonisation of the Australian electricity system.

With the Federal and NSW governments aligning to accelerate an "Electrify Everything" strategy, and with decarbonisation of heavy industry under the recently reformed Safeguard Mechanism – which will accelerate decarbonisation of high emissions, behind-the-meter energy use (scope 1 emissions) by encouraging electrification (scope 2 emissions)<sup>31</sup> – the need for approval of key projects such as Winterbourne Wind Farm is clear and pressing.

While the NSW Government does not have a legislated commitment to intergenerational equity when it comes to the climate science, this is clearly increasingly a top priority of the NSW Government. December 2022 saw Energy Minister Matt Kean stated as part of the NSW Government's announcement to target 70% emissions reduction by 2035: "There is no bigger fight that we as a nation must face, than the fight against climate change. Many communities across the country have spent the last few years choking on the dust of drought, or on the smoke of bushfires. Now, many of those same communities have seen their homes and businesses inundated with one-in-a-thousand-year floods three times in the space of nine months. As any of those families who have lost their homes to fire or food or their livelihoods to drought will tell you, this fight is one that we cannot afford to lose."<sup>32</sup>

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<sup>30</sup> Wind Europe, [Repowered wind farms show huge potential of replacing old turbines](#), 23 March 2022

<sup>31</sup> Energy and Climate Minister Chris Bowen press release, [Next steps to safeguard Australian industry and regions in net zero global economy](#), 10 January 2023

<sup>32</sup> ABC, [NSW sets new emissions target to become 'engine room' of low carbon global economy](#), 23 December 2022



# The climate science is clear, and has been for decades

*The science is clear, the direction needed for the Australian economy is set, and it is imperative that we accelerate the deployment of investment capital at an unprecedented scale and speed. The Winterbourne Wind Farm is one such investment proposal clearly needed.*

The climate science has been clear and well documented for over 40 years.<sup>33</sup>

It is now somewhat ironic that one of the largest funders of climate science denialism, ExxonMobil, clearly modelled in precise details the permanent and catastrophic consequences of climate change over 40 years ago, as far back as 1977.<sup>34</sup> As Exxon's leading climate scientists testified in US Congress, the science was clear, and the company then chose to embark on a multi-decade campaign to promote misinformation, denialism and delay. These scientists' views were clearly documented under oath in the US congressional testimony in 2019, thanks to New York congresswoman Alexandria Ocasio-Cortez.<sup>35</sup>

In June 1988, NASA lead scientist James Hansen told a US congressional hearing that the planet was already warming,<sup>36</sup> and went on to devote much of his career to trying to combat the climate denialism funded by the likes of ExxonMobil.

Climate Energy Finance is a public interest thinktank focussed on the financial aspects of the global energy transition – we are not climate scientists. But we accept the overwhelming scientific evidence on this topic, and have testified to the NSW, Queensland and Federal Court hearings and Government inquiries alongside climate scientists like Professor Will Stephen, Inaugural Director of the ANU Climate Change Institute.<sup>37</sup> Accordingly, we accept and act on the global imperative of the climate science.

The Climate Change Authority's first annual progress report to the Federal Government of November 2022 concludes: "These new legislated targets and the many commitments made by Australian companies and government entities at all levels show that the debate has moved on from 'why' and 'at what rate' should we transition to a low carbon economy to 'how' should we do it."<sup>38</sup>

For the global rise in average temperatures to be limited to 1.5°C, McKinsey & Co concludes that greenhouse gas emissions from global economic activity must be reduced to net zero by the middle of this century – critically, with roughly 50% of those reductions occurring by 2030.<sup>39</sup>

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<sup>33</sup> Inside Climate News, [Exxon: The road not taken](#), accessed 22 January 2023

<sup>34</sup> Scientific American, [Exxon Knew about Climate Change almost 40 years ago](#), 26 October 2015

<sup>35</sup> The Guardian, [Exxon sowed doubt about climate crisis, House Democrats hear in testimony](#), 24 October 2019

<sup>36</sup> New York Times, [Global Warming Has Begun, Expert Tells Senate](#), 24 June 1988

<sup>37</sup> Australian National University, [Professor Will Steffen](#), accessed 22 January 2023

<sup>38</sup> Climate Change Authority, [First annual progress report](#), November 2022

<sup>39</sup> McKinsey & Co, [Climate Math: What a 1.5-Degree Pathway Would Take](#), 30 April 2020



# Cost of failing to act on the climate science is already significant, and will escalate rapidly

*The climate science is clear, and the cost of continued delay will be catastrophic for Australia, and the world. The Winterbourne Wind Farm – part of the imperative to reduce carbon emissions rapidly by transitioning to clean energy – is a solution clearly needed.*

January 2023 saw the Federal Treasurer Jim Chalmers warn that the economic pressure from natural disasters will continue through 2023 after modelling showed severe flooding across the country in 2021/22 alone cost the economy \$5 billion. This estimate does not include the cost of government support, including the \$3.5 billion spent on disaster recovery payments. The Treasury estimate also excludes the private cost to households or businesses faced with rebuilding.<sup>40</sup>

Separate analysis from the new National Emergency Management Agency found more than two-thirds of Australians lived in a local government area that was subject to a natural disaster declaration at some point in 2022. Major floods affected parts of NSW, Queensland, Victoria, Tasmania, South Australia and the Northern Territory last year, killing more than two dozen people. Flooding continues to affect communities in parts of SA and WA.

A separate report from global reinsurance firm Munich Re found Australia's floods caused \$US8.1 billion of losses, making them the fourth most costly natural disaster around the world in 2022.

September 2022 saw the Insurance Council of Australia release estimates showing that extreme weather events over the past 12 months cost every Australian household an average of \$1,532, and that this figure is expected to jump to more than \$2,500 a year by 2050.<sup>41</sup>

A January 2021 Climate Council report estimated that the collective cost of climate change in Australia within two decades will reach \$100 billion annually.<sup>42</sup>

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<sup>40</sup> Sydney Morning Herald, [Floods cost economy \\$5 billion last year](#), 12 January 2023

<sup>41</sup> Insurance Council of Australia, [New research shows every Australian pays for extreme weather](#), 8 September 2022

<sup>42</sup> Investor Daily, [Climate change forecast to cost Australia \\$100bn annually](#), 27 January 2021

## **Section 5: Winterbourne Wind Farm is Strategically Aligned with Australia's Global Commitments under the Paris Agreement and the IEA Energy Modelling**

*As the largest wind farm development in NSW, and one of the largest such developments in planning in the Southern Hemisphere, the Winterbourne Wind Farm proposal is of key national strategic interest to help Australia deliver on our international treaty obligations, the Paris Agreement and the recommendations of the IEA.*

The Paris Climate Agreement was ratified in 2015 by 175 parties. The aim of the agreement is to strive to limit warming to 1.5°C.

Former Minister for the Environment Greg Hunt signed the Paris Agreement in April 2016 and it entered into force on 4 November 2016. It is made under the United Nations Framework Convention on Climate Change. Australia announced its ratification of the Paris Agreement on 10 November 2016.<sup>43</sup>

As discussed in Section 2, the Australian Government upgraded our Nationally Determined Contribution to include the new, more ambitious 43% emissions reduction target by 2030 as part of our longer term net zero emissions by 2050 target.

It was widely reported that NSW Energy and Climate Minister Matt Kean informed King Charles III and John Kerry, US President Joe Biden's special envoy on climate, about NSW's commitment to cut state carbon emissions by 70% by 2035. This is a globally important move, helping to build global momentum consistent with climate science and the Paris Agreement.<sup>44</sup>

The International Energy Agency (IEA) extensively models and reports on the global energy transition, including the massive US\$100 trillion or more of cumulative global investment in energy needed by 2050. Its modelling, consistent with climate science, concludes that, with immediate effect, the world can't afford any new greenfield fossil fuel development if we are to have any reasonable chance to limit global warming to 1.5°C.<sup>45</sup>

The IEA reports that with energy markets remaining extremely vulnerable, today's energy shock is a reminder of the fragility and unsustainability of our current energy system and the need to invest aggressively in accelerating deployment of zero emissions, lower cost domestic clean energy solutions. The IEA concludes that new policies in major energy markets will help propel annual clean energy investment to more than US\$2 trillion by 2030, a rise of more than 50% from today.

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<sup>43</sup> Parliament of Australia, [Paris climate agreement: a quick guide](#), 10 November 2017

<sup>44</sup> The Sydney Morning Herald, [NSW to turbocharge transition to net zero greenhouse gas emissions](#), 23 December 2022

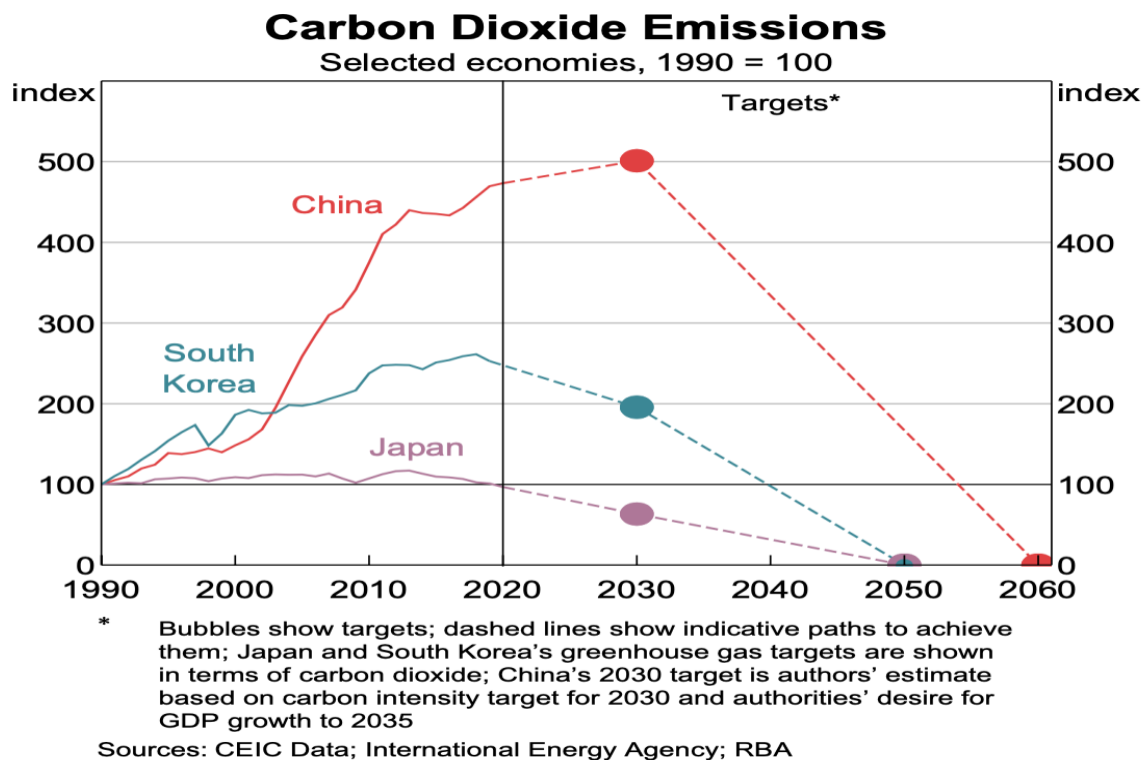
<sup>45</sup> IEA, [World Energy Outlook 2022](#)

# Global Policy Developments

Extensive progress has been made in global policy developments relating to energy and CO<sub>2</sub> emissions over the last two years, starting with China pledging peak emissions before 2030 and Net Zero Emissions (NZE) by 2060, quickly followed by Japan and Korea committing to net zero by 2050. These moves are aligned with the Paris Agreement acknowledgement that developed countries have a greater responsibility and capacity to act (Figure 2).

When President Biden was elected at the start of 2021, he committed to a 50-52% emissions reduction by 2030, transforming the global dialogue from vague pledges to do something in three decades time to immediate action this decade. Japan and South Korea again followed with strong pledges of a 46% and 40% emissions reduction this decade.

**Figure 2: Carbon Dioxide Emissions Pledges by China, South Korea and Japan**



Source: Reserve Bank of Australia October 2021

October 2021 saw South Korea build on its April 2021 pledge to cut national CO<sub>2</sub> emissions by 40% by 2030 with the presidential committee on carbon neutrality announcing an additional pledge to phase out thermal coal use in power generation entirely by 2050, using the country's existing national emissions trading scheme (ETS) as the mechanism to drive this.<sup>46</sup> South Korea is Australia's second largest coal export destination.

<sup>46</sup> Argus Media, Seoul plans to phase out coal by 2050, 18 October 2021

In November 2021, Germany accelerated its already world-leading commitment to decarbonisation of its energy system. The new German coalition government announced renewables would be 80% of its electricity mix by 2030 (up from the current law (EEG 2021) mandating 65% renewables by 2030), driven by 130 GW of onshore wind and 30 GW of offshore wind (until 2021 Germany led the world in offshore wind, and this target has just been doubled), and a near quadrupling of solar installations to 200 GW by 2030.<sup>47</sup>

On 30 December 2021 China's State-owned Assets Supervision and Administration Commission (SASAC) announced more details of the country's decarbonisation strategy.<sup>48</sup> This document instructs the top five power utilities in China that they are required to have at least 50% renewable energy capacity by 2025. The SASAC policy means renewable energy investment will have to accelerate further in China, already the world's renewable energy superpower.

January 2022 saw President Xi Jinping<sup>49</sup> provide additional insights on the profound measures being undertaken by China as it "striv[es] to achieve the goal of carbon peaking and carbon neutrality". Amongst the six priority areas of focus on accelerating the energy system transition, the fourth being:

"Speed up the green and low-carbon technological revolution. It is necessary to pay close attention to tackling key green and low-carbon technologies, and accelerate the research and development, promotion and application of advanced and applicable technologies."

2022 saw the world increasingly targeting accelerated climate action and energy security.

This included the US Inflation Reduction Act (IRA);<sup>50</sup> the European Union (EU)'s REPowerEU<sup>51</sup> the carbon border adjustment mechanism (CBAM) and the most recent proposal for a Net-Zero Industry Act;<sup>52</sup> China's 14th Five Year Plan;<sup>53</sup> India's 450GW by 2030 renewables plan and the associated Production-Linked Incentives (PLI) scheme;<sup>54</sup> and the Japanese GX Roadmap with its Yen20 trillion investment stimulus to green energy and proposed phase-in of a national emissions trading scheme starting 2026.<sup>55</sup>

The massive investment opportunities for Australia in embracing an accelerated decarbonisation strategy are huge, but so too are the threats to our leading global trade position should we not embrace decarbonisation. The rise of CBAM and carbon ETSs across Europe, China and now Japan, as well as the price on carbon emissions established in the US IRA, show clearly that global momentum is building rapidly. Australia needs to acknowledge and embrace this global trend.

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<sup>47</sup> S&P Global Platts, German coalition plans for 480-540 TWh renewables by 2030 to exit coal, 25 November 2021

<sup>48</sup> State-owned Assets Supervision and Administration Commission (SASAC), Notice on Printing and Distributing the "Guiding Opinions on Promoting the High-quality Development of Central Enterprises and Doing a Good Job in Carbon Neutralization", 30 December 2021

<sup>49</sup> Xinhua News Agency, Xi Jinping presided over the thirty-sixth collective study of the Political Bureau of the CPC Central Committee, 25 January 2022

<sup>50</sup> The Whitehouse press release, [Biden-Harris Administration Releases Inflation Reduction Act Guidebook for Clean Energy and Climate Programs](#), 15 December 2022

<sup>51</sup> IEA, [Is the European Union on track to meet its REPowerEU goals?](#), December 2022

<sup>52</sup> The New York Times, [Talk of green trade war overshadows Davos optimism](#), 22 January 2023

<sup>53</sup> IEA, [An energy sector roadmap to carbon neutrality in China](#), September 2021

<sup>54</sup> The New Indian, [Role of PLI scheme in India's quest for clean & affordable energy](#), 20 January 2023

<sup>55</sup> Japan2Earth, GX: [Nuclear Power To Play a Key Role in New Green Transformation Roadmap](#), 10 January 2023

# Global finance is moving

Global finance is increasingly reflecting the implications of the power of technology to disrupt industries. Renewable energy and lithium ion batteries are in the process of massively disrupting the power and transport sectors. This is driven by the ongoing double-digit annual deflation over the last decade, and which we forecast to continue this coming decade. In CEF's view, the power of renewables deflation is akin to the development of the internet or mobile phones in terms of the scale of global industry disruption.

2022 was an outlier, with commodity and fossil-fuel energy prices surging globally, and as a result renewables saw inflation in costs for the first time in a decade. But the power of 'learning curves' in solar is well proven over the last decade, and CEF expects a return to an aggressive deflation acceleration across zero emission technologies this coming decade, underpinned by massive scaling-up and technology innovation.

Global finance is clearly pivoting. This pivot is partly in acknowledgement of the climate science and the need for a liveable planet to have a sustainable economy, but also reflective of what CEF estimates to be the cumulative investment opportunities over the coming two to three decades in the order of over US\$100 trillion. Global giants like BlackRock (Assets under Management (AuM) US\$9 trillion) and Blackstone (AuM US\$649bn) are now moving increasingly rapidly.

BlackRock CEO Larry Fink's 2022 CEO letter<sup>56</sup> is widely read by global corporate leadership. The message is clear – global corporates wanting BlackRock as an investor will need to demonstrate clear, credible targets for decarbonisation, and they will have to provide interim 2030 targets aligned with the Science Based Target initiative (SBTi<sup>57</sup>) and support this with timely and full transparency consistent with the newly formed International Sustainability Standards Board.<sup>58</sup>

One of the defining financial climate risk developments of 2021 was the US\$130 trillion of collective AuM in the UN-sponsored Glasgow Financial Alliance for Net Zero (GFANZ),<sup>59</sup> which has since expanded to US\$150 trillion now.<sup>60</sup>

December 2021 saw the US Office of the Comptroller of the Currency (OCC) release a supervisory guidance for how banks should manage the risks related to climate change.<sup>61</sup> The OCC tells banks that where they publicly communicate their climate-related strategies, boards and management must make sure those commitments are consistent with their internal strategies. This follows similar warnings from the US Securities and Exchange Commission (SEC). October 2021 saw the US Treasury's Financial Stability Oversight Council identify "Climate Change as an Emerging and Increasing Threat to Financial Stability".<sup>62</sup>

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<sup>56</sup> BlackRock, LARRY FINK'S 2022 LETTER TO CEOS: The Power of Capitalism, January 2022

<sup>57</sup> Science Based Target initiative (SBTi)

<sup>58</sup> IFRS, International Sustainability Standards Board

<sup>59</sup> GFANZ, Finance committed to achieving 1.5°C now at scale needed to deliver the transition, 3 November 2021

<sup>60</sup> Corporate Knights, Mark Carney's NZBA backtracks on compulsory climate targets, 3 November 2022

<sup>61</sup> Yevgeny Shrago Public Citizen, Office of the Comptroller of the Currency Climate Guidance for Banks, December 2021

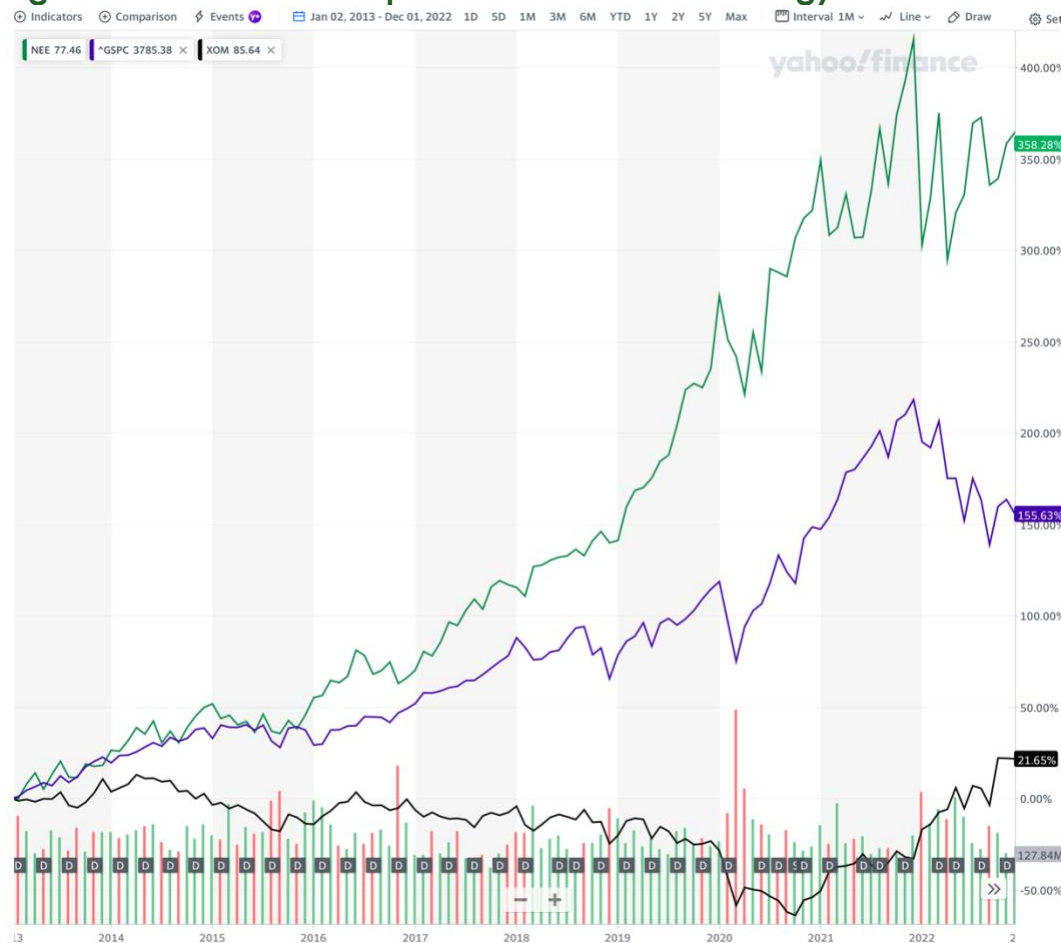
<sup>62</sup> US Department of the Treasury, Financial Stability Oversight Council Identifies Climate Change as an Emerging and Increasing Threat to Financial Stability, 21 October 2021

In January 2022, President Biden appointed Sarah Bloom Raskin as Federal Reserve Vice Chair of Supervision, a key appointment for US action on climate change.<sup>63</sup>

January 2022 also saw Blackstone announce one of the largest renewable energy equity investments in US history, a US\$3bn purchase of a minority stake in leading North American renewables company, Invenergy Renewables.<sup>64</sup> Rather than private equity being the funder of last resort for fossil fuels, it is investing in growth industries of the future.<sup>65</sup>

Figure 3 highlights why finance has started to respond to what I see as the combined moral, financial and policy pressures – it is all to do with massive fossil fuel wealth destruction over the last decade. Nextera Energy (in green, up fourfold) is the largest investor in renewable energy in the world, and Exxon (in black, up just 22% in the past decade) one of the largest fossil fuel firms. Fund managers have voted with their investments. Purple is the US equity market index (up 156%), for comparison.

**Figure 3: The Sustained Outperformance of NextEra Energy vs ExxonMobil**



Source: Yahoo Finance, Accessed 22 January 2022

<sup>63</sup> Yahoo Finance, Biden picks Sarah Bloom Raskin for top Fed regulator, Cook & Jefferson for governors, 14 January 2022

<sup>64</sup> Environmental Finance, Blackstone invests \$3bn in North American renewable energy firm, January 2022

<sup>65</sup> Bloomberg, Why Private Equity Won't Be the Savior of Fossil Fuels?, 6 January 2022



# Conclusion:

## Key findings re Winterbourne Wind Farm

**Climate Energy Finance recommends the DPE approve the Winterbourne Wind farm. Beyond the employment, investment and development gains directly to the community, we see five key reasons underpinning our conclusion:**

1. As one of the largest private investment proposals for zero emissions electricity generation in NSW, the Winterbourne Wind Farm is entirely consistent and in fact key to the NSW Government's target to cut carbon emissions by 70% by 2035. As one of the largest private investment proposals for zero emissions electricity generation in NSW, it is entirely consistent with the NSW Government policy priorities of REZs, accelerated decarbonisation, and facilitating the building of low cost, zero emissions, domestic replacement generation capacity to replace the rapidly approach end-of-life coal fired power plants NSW has historically relied upon.
2. As one of the largest private investment proposals for new zero emissions electricity generation in Australia, the Winterbourne Wind Farm is entirely consistent with delivering on the objectives of the Federal Government's Climate Change Act 2022. The Winterbourne Wind farm is clearly aligned with the investment, employment, reindustrialisation of manufacturing, decarbonisation and energy security objectives of the Federal Government of Australia to deliver on its objective of rapidly expanding investment in renewable energy so as to permanently improve energy security and affordability in east Australia.
3. As one of the largest wind farm proposals in Australia today, the Winterbourne Wind farm is clearly aligned with the Australian Energy Market Operator's Integrated System Plan objective for 82% renewables by 2030.
4. The climate science is clear, the direction needed for the Australian economy is set, and we need to accelerate the deployment of investment capital at an unprecedented scale and speed. The Winterbourne Wind Farm is one such investment proposal that is clearly needed. The cost of continued delay will be catastrophic for Australia, and the world. The \$8 billion flood cost of 2021/22 alone is a taste of the rising costs of failure to act decisively on the climate science, with estimates the cost to Australia could rise to \$100 billion annually within two decades.
5. As one of the largest wind farm developments in NSW, and one of the largest such developments in planning in the Southern Hemisphere, the Winterbourne Wind Farm proposal is of key national strategic interest to help Australia deliver on our international treaty obligations, the Paris Agreement and the modelling by the IEA.



## Appendix: The Winterbourne Wind Farm

WinterbourneWind Pty Ltd is developing a wind energy project near Walcha in the Northern Tablelands of New South Wales. The project has a proposed capacity of up to 700 MW using up to 119 turbines and involves an estimated investment of over \$1bn.<sup>66</sup> The project is expected to generate approximately 2,100,000 megawatt hours (MWh) per year of clean, renewable energy — enough to power more than 375,000 average NSW homes for a year. The origins of the project date back to 2001, when a group of local landowners conceived of a combination of wind and solar farms in the Walcha area. Vestas has been involved with the wind project since 2019 and is progressing project planning and approvals, with construction expected to start in 2023. This wind project alone would deliver up to 400 new construction jobs and around 15 long-term operations jobs.

The proposed project area extends over 22,000 hectares, of which less than 1,000 hectares is expected to be disturbed during construction. The project area is located at 1,100m-1,300m elevation and is comprised of hills and ridgelines rising out of the Walcha Plateau. The project will be constructed primarily on freehold land within the Walcha and Uralla Local Government Areas. Land to be used for the project will be secured under lease arrangements with local landholders which are well advanced.

Wind speed is critical to energy generation, so it is very important to place turbines in areas of high and consistent winds. The Walcha area is considered one of the best wind resource areas in NSW. Wind monitoring at the site since 2009 indicates that wind speeds are high and consistent, making the wind farm project viable in this location.

It is CEF's understanding that this project proposal has a strong level of community support, and that the farmers involved have been extensively consulted for almost two decades, and in the main are looking forward to the project proceeding, given the substantial lift in the value of their properties underpinned by much needed annual rental incomes.

Importantly, a broad section of the community, including landowners, many neighbours, jobseekers and local businesses are supportive of the proposed project. The wider community will see a significant benefit through the community benefit fund which will be one of the largest such funds in Australia. WinterbourneWind will continue to engage with the local community and relevant local, state and federal stakeholders to ensure the proposed project addresses community concerns and meets expectations.

In June 2019, Wind Power Invest (WPI), a wholly-owned subsidiary of the world leading Danish wind turbine manufacturer Vestas, acquired a majority stake in WinterbourneWind Pty Ltd. Vestas has been very active in Australia since 2001 and employs around 500 staff in Australia and New Zealand. In December 2021, one of the world's leading renewable energy infrastructure investors, Copenhagen Infrastructure Partners, entered into an agreement with Vestas to acquire Vestas' shareholding in the Project. Vestas and CIP are progressing the development of the project with the aim of commencing construction in 2024.

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<sup>66</sup> [Winterbourne Wind Farm](#)

## **New England Renewable Energy Zone**

The NSW Government has proposed a Renewable Energy Zone (REZ) for the New England region. The REZ involves a coordinated effort to plan new transmission lines to accommodate up to 8,000 MW of renewable energy projects. The NSW Government has identified the New England region as having strong wind and solar resources and infrastructure which can support renewable energy development, as well as potential pumped hydro storage options to deliver grid firming.

The Winterbourne Wind project site is within the proposed New England REZ. The project requires construction of 50 km of new 330kV transmission line infrastructure, which will tie into the existing TransGrid network via a new 330kV switchyard, proposed to be built 7km south of Uralla. Other proposed renewable energy projects in this REZ may also connect to the grid at this location.

## **Scoping Report & Environmental Impact Statement**

WinterbourneWind lodged a Scoping Report for the project to the Department of Planning and Environment (DPE) in June 2020. The Scoping Report provides a description of the project and identifies the scale and types of associated potential impacts and benefits.

DPE reviewed the Scoping Report and in July 2020 sought comment from local councils and government agencies regarding further assessment requirements. The feedback from these agencies was incorporated into the Secretary's Environmental Assessment Requirements (SEARs) for this project, which were issued in September 2020.

The SEARs set out the requirements for detailed studies on potential visual, noise, biodiversity, traffic, cultural heritage and other environmental and social impacts associated with the project. The results of these studies, together with feedback from the local community and stakeholders, has informed the project's design and is documented in the project's Environmental Impact Statement (EIS), which was lodged with DPE in November 2022. Community consultation has continued, with briefings to the community undertaken in December 2022.

## Important Information

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