Climate Council of Australia

Submission to:	Inquiry into Australia's transition to a green energy superpower
Addressed to:	Joint Standing Committee on Trade and Investment Growth
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About the Climate Council

Climate Council is Australia's own independent, evidence-based organisation on climate science, impacts and solutions.

We connect decision-makers, the public and the media to catalyse action at scale, elevate climate stories in the news and shape the conversation on climate consequences and action, at home and abroad.

We advocate for climate policies and solutions that can rapidly drive down emissions, based on the most up-to-date climate science and information.

We do this in partnership with our incredible community: thousands of generous, passionate supporters and donors, who have backed us every step of the way since they crowd-funded our beginning as a non-profit organisation in 2013.

Introduction

Thank you for the opportunity to contribute to this inquiry into Australia's transition to a green energy superpower.

The Climate Council welcomes the Australian Government's commitment to tackling Australia's greenhouse gas emissions, including by rapidly shifting to renewable power; incentivising the uptake of electric vehicles; and implementing new fuel emissions standards. Especially welcome is the commitment from the federal government to accelerate Australia's transition from a fossil fuel heavyweight to a clean energy superpower.

The world around us is changing fast, as our key trading partners commit to achieving net-zero emissions, and set interim targets to slash emissions over the next decade. Key destination markets for Australian coal and gas - including Japan, Korea, India and China - have set plans to achieve net-zero. Other markets, like the European Union, are setting or considering border tariffs based on carbon content. These shifts have fundamentally changed Australia's trade and economic interests.

Luckily, Australia is well-placed to thrive in a world shifting toward net-zero emissions. Australia has world-class renewable energy resources and enviable reserves of minerals needed for the electric vehicles, batteries and wind turbines of the future. Our renewable energy advantage also means we can competitively produce zero-carbon versions of commodities the world needs, including steel, aluminium, hydrogen and fertilisers.

Prime Minister Anthony Albanese says Australia has a once-in-a-generation opportunity to become a renewable energy superpower. He is right. The Business Council of Australia estimates clean export opportunities could generate 395,000 jobs by 2040.[1] With the right policy framework, Australia could grow a new clean energy export mix worth A$333 billion each year, almost triple the value of Australia's existing fossil fuel exports.[2]

However, ambitious policy is needed to seize these opportunities. We sincerely hope this inquiry will help to inform comprehensive industry and trade-promotion policies that are needed to drive an expansion of clean energy exports. Our submission makes a number of recommendations intended to help accelerate Australia's transition to a green energy superpower. These recommendations, detailed in full on page 8, are summarised as follows:

1. Invest in climate diplomacy
2. Put climate and energy goals at the centre of Australian trade and foreign policy
3. Set out a comprehensive climate investment plan
4. Integrate industry and trade policy, and ensure they are fully aligned with climate goals
5. Phase out fossil fuel exports, while clean energy exports grow
6. Ensure all Australians benefit from the transition

[1] Business Council of Australia (2021) *Sunshot: Australia's opportunity to create 395,000 clean export jobs.* Report with WWF-Australia and the Australian Council of Trade Unions.
[2] Beyond Zero Emissions, (2021) *Export Powerhouse: Australia's $333 billion opportunity.*

Reconsidering Australia's economic interests in a net-zero world

The world is undergoing an energy transition that is as momentous and significant a historical shift as the Industrial Revolution. Driven by the urgent need to tackle the climate crisis and the economic advantages of renewable energy, this transition is reshaping the global economy.

In the past two years alone, more than 100 countries, representing around 90% of the global economy, have committed to achieving net-zero emissions by mid-century.[3] Many of the world's leading economies - including the United States, United Kingdom, European Union, Japan, South Korea, Australia and Canada - have signalled plans for deeper cuts to emissions by 2030. Most developed nations plan to cut their emissions by half this decade.

These political commitments are starting to drive a redirection of global investment away from fossil fuels and into the green economy of tomorrow. Major finance houses are beginning to divest from the dirtiest of fossil fuels. Last year the head of BlackRock – the world's largest asset manager, in charge of $7 trillion in investment – wrote to hundreds of global chief executives, explaining climate change is now driving a significant reallocation of capital and outlining plans to exit thermal coal.[4] Another global group of investors, with AUD$65 trillion in assets under management, urged governments to rapidly implement priority policy actions, including strengthened national emissions reduction targets (to align with the goal of limiting warming to 1.5℃) and ending fossil fuels subsidies, which would in turn enable trillions of dollars of investment in climate solutions.[5]

The International Energy Agency (IEA), in its 2022 World Energy Outlook, says it sees global investment in clean energy rising to nearly $3 trillion a year by the end of the decade, or more than double the amount invested annually in fossil fuels today.[6] Over the past five years, we have seen the rise of 'new energy giants' in countries like the United States – renewable energy utilities that now rival major oil companies in value.[7] The IEA expects renewable electricity will become the largest source of generation in the next decade, overtaking coal and ending the fossil fuel domination of electricity.[8] A relatively conservative global authority on energy, the IEA expects the world's total consumption of fossil fuels will peak near the end of this decade, and decline significantly in coming decades.[9]

Today, Australia is a major exporter of coal and gas to growing economies in Asia. However, the global shift toward net-zero has fundamentally reshaped Australia's economic prospects. Key

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[3] New Climate Institute (2022) Net Zero Stocktake 2022: Assessing the status and trends of net zero target setting across countries, sub-national governments and companies.
[4] Fink L, (2021). Letter to Chief Executive Officers, BlackRock.
[5] IGCC (Investor Group on Climate Change) (2022). Investors of $65 Trillion Call on Governments To Raise Ambition at COP27. Media Release, November 2022.
[6] International Energy Agency (IEA) (2022). World Energy Outlook.
[7] Blunt K and McFarlane S, (2020). 'The New Green Energy Giants Challenging Exxon and BP', *The Wall Street Journal.*
[8] International Energy Agency (IEA) (2020). Renewable power is defying the COVID crisis with record growth this year and next.
[9] International Energy Agency (IEA) (2022). World Energy Outlook.

destination markets - such as Japan, China and South Korea - have now set timelines for phasing out fossil fuels.[10] This effectively sets a use-by date for Australia's fossil fuel exports, and underlines the urgent need to plan for the creation of good new jobs in growing clean energy industries.

Disappearing Asian markets call time on Australia's fossil fuel exports

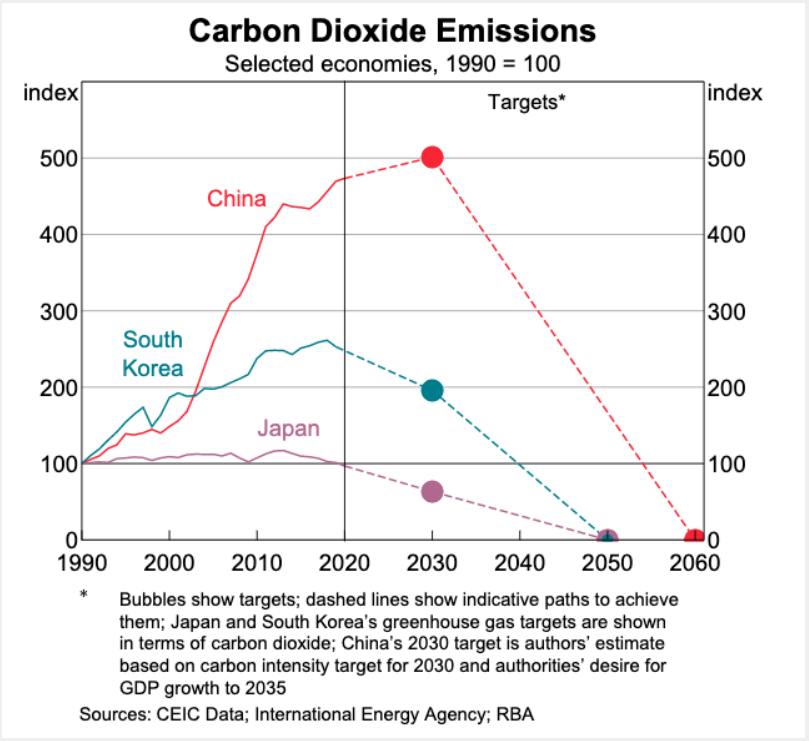
By setting a date for achieving net zero emissions, major economies across Asia have effectively called time on Australia's fossil fuel exports. Today China, South Korea and Japan alone account for two-thirds of Australia's fossil fuel exports.[11] Each of these countries have set a goal of achieving net zero emissions by mid-century, and have strengthened policy for interim emissions reduction targets as well.

Japan, the top buyer of Australian fossil fuels, has committed to net zero emissions by 2050, and last year strengthened its 2030 emissions reduction target to 46% below 2013 levels, with the possibility of reaching 50% – a significant increase on its earlier commitment of 26%. Japan also announced a revision of its draft energy plan for 2030, increasing the share of renewable energy and dramatically reducing the role of coal and gas. Under this plan, coal's share in the country's energy mix is expected to fall by 40% and liquified natural gas (LNG) is expected to fall by almost half. These commitments pose a major challenge to the outlook for Australia's coal and gas export industries.[12]

China aims to peak carbon dioxide emissions before 2030 and to achieve net zero emissions by 2060. Beijing's plans for decarbonisation and energy security signal an end to Australia's recent coal export boom to China. Modelling released in April this year, from researchers at the Australian National University, suggest China's demand for coal imports, including from Australia, will drop significantly before 2025.[13] China has also announced that it would end overseas financing of coal projects, eliminating around 40 GW from the global coal pipeline, with flow-on implications for Australian coal export markets.[14]

South Korea intends to reduce emissions by 40% by 2030 (from 2018 levels) and to achieve net zero emissions by 2050. India - another destination market for coal especially - aims to achieve net-zero emissions by 2070, and has ambitious plans to install 500GW of renewable energy by 2030.[15]

[10] Kemp J, McCowage M and Wang F, (2021). 'Towards Net Zero: Implications for Australia of Energy Policies in East Asia', *Reserve Bank of Australia*.
[11] Ibid.
[12] Toscano N and Foley M, 2021. 'Japan's clean energy push a threat to Australian coal, LNG exports', The Sydney Morning Herald.
[13] Greber, J. (2022) 'End of Australia's coal export boom to China is "imminent"', *Australian Financial Review.* April 22, 2022
[14] Littlecott C, Roberts L, Senlen Ö, Burton J, Joshi M, Shearer C and Ewen M, 2021. 'No New Coal by 2021: The Collapse of the Global Coal Pipeline', E3G.
[15] Climate Action Tracker (2022) Country Summary: India. https://climateactiontracker.org/countries/india/



Source: Kemp J, McCowage M and Wang F, (2021). 'Towards Net Zero: Implications for Australia of Energy Policies in East Asia', *Reserve Bank of Australia*.

To take advantage of the global clean energy transition, Australia's key allies and trading partners are investing heavily in green industrial policy. The United States, for example, has this year passed new legislation - the 'Inflation Reduction Act' (IRA) - which allocates more than AUD$500 billion to accelerate the transition to renewable energy, and to spur clean energy manufacturing in the US.[16] Through a range of incentives, it is estimated the legislation will spur the creation of up to 1,000 new clean tech companies.[17]

The US legislation is intended in part to address China's dominance over global clean energy supply chains, including the supply of clean energy technology and components to the US market.[18] Today, China leads global production of solar voltaics, batteries, batteries and electric vehicles. The IRA legislation contains provisions for 'friendshoring' production, as part of a strategy of diversifying clean energy supply chains away from China. Carve-outs to local content provisions under the legislation include international partners that have signed free trade agreements with the US, such as Australia. This provides potentially lucrative opportunities for Australia to export critical minerals and develop value-added clean energy production for export

[16] McKinsey and Company (2022) The Inflation Reduction Act: Here's what's in it. October 24, 2022
[17] CNBC. (2022) Climate bill could create 1,000 new companies, says head of investment at Bill Gates' Breakthrough Energy Ventures. August 17, 2022
[18] Matheisen K, Colman Z (2022) 'Newest cause for climate optimism? The US rivalry with China'. Politico. 20 August 2022.

to the United States (including for example, by moving up the value chain for battery production).[19]

As well as promoting clean energy industries, some of Australia's key trading partners are pricing carbon for both their domestic producers and trading partners. To re-level the playing field for domestic firms (who are faced with a carbon price), they are looking to impose costs on exports from countries that don't have policies in place to rapidly cut emissions. The European Union for example has announced a Carbon Border Adjustment Mechanism (CBAM) that is likely to impose costs on select Australian exports to Europe. The EU's plans are likely to be the first of many that impose costs on countries exporting high-carbon commodities or failing to put in place adequate domestic policy to cut emissions.[20] In the United States, the Biden administration has also shown interest in implementing carbon border tariffs as part of the US trade agenda.[21]

Last year the EU and the US announced plans for a trade deal that would give preference to steel manufactured using lower carbon emissions, and impose costs on carbon-intensive steel produced in countries like China. This may have flow-on impacts for Australia, as a major iron-ore exporter to China. Most significantly, it heralds a new era of 'carbon clubs' – where major powers band together to coordinate a shared approach to their emission reductions and impose trade and economic penalties on other countries that are not meeting similar obligations.

Taken together, the global shift toward net-zero emissions is fundamentally reshaping Australia's trade and investment prospects. The federal government must be proactive about managing the inevitable transition away from fossil fuel exports, to seize the immense opportunities available as a clean energy exporter.

Australia's comparative advantage as a clean energy exporter

As the world shifts toward net-zero emissions, Australia is well-placed to reposition itself as a clean energy superpower. Australia has huge commercial advantages that could enable it to become a world-beating exporter of clean energy commodities and of critical minerals that are so important for the global energy transition. Leading economist Ross Garnaut says Australia is "better placed than any other country" to prosper from the clean energy transition.[22]

A key advantage is Australia's world-class resources for renewable energy. Australia is the windiest and sunniest inhabited continent on the planet and has lots of suitable land for large-scale renewable energy projects. Australia receives the most sunlight per square metre of any continent – enough to power our nation approximately 100,000 times over.[23] Australia also has some of the best onshore and offshore wind resources in the world. This means Australia can

[19] For discussion see: Bowen J (2022) Re-energising Indo-Pacific Relations: Australia's Clean Energy Opportunity. PerthUSAsia Centre
[20] For discussion see: Climate Council (2021) Markets are moving: The economic costs of Australia's climate inaction.
[21] Lawder, D. (2021) Biden administration to consider carbon border tax as part of trade agenda: USTR. March 2, 2021, Reuters.
[22] Garnaut R (2022) The Superpower Transformation: Making Australia's zero-carbon future. La Trobe University Press.
[23] Commonwealth of Australia (Geoscience Australia) (2021) Solar Energy.

produce low-cost renewable electricity, which is key to transforming our energy supply while at the same time giving us the capacity to develop new clean energy exports.

We should be aiming for 100% renewable electricity generation this decade, and must phase out coal-fired power as soon as possible. This shift will need to be accompanied by investment in energy storage - such as grid-scale batteries and pumped hydro - and new transmission infrastructure. But getting to 100% renewables for electricity generation is not enough. We will also need to generate much more power to electrify other sectors of the economy, and for new clean energy exports.

A comparative advantage in renewable energy means Australia is well-placed to deliver the clean energy goods that other countries need to achieve their decarbonisation goals. Australian companies are already planning to export zero-carbon electricity directly to growing economies in Asia. In the Northern Territory, Sun Cable is planning to build a $30 billion solar power plant to supply clean electricity to Singapore via an undersea cable. By 2027, Sun Cable's Australia-Asia PowerLink project[24] could provide 15% of Singapore's power supply.[25]

Australia can also play a central role in the global energy transition by converting abundant renewable energy resources into zero-carbon commodities, such as renewable hydrogen and ammonia, and green steel and aluminium.

Renewable or 'green' hydrogen has a role to play in the decarbonisation of the global economy. In most sectors, the cheapest way to switch away from fossil fuels is to produce and use renewable electricity directly. However renewable hydrogen - made when renewable electricity is used to split water into oxygen and hydrogen - is a good fuel for some industrial processes, and could have specific uses for long-haul and heavy transport. There is growing global demand for hydrogen, which reached an estimated 87 million metric tons (MT) in 2020, and is expected to grow to 500–680 million MT by 2050.[26] In the first half of 2022, there were 19 new export-focused projects for hydrogen production in Australia, most of them powered by renewables.[27] Australian company Fortescue Future Industries also started construction of the largest electrolyser facility in the world - the Green Energy Manufacturing Centre in Gladstone, Queensland.

[24] Sun Cable (2022) Australia-Asia PowerLink https://suncable.energy/australia-asia-power-link/
[25] Fogarty D, (2021) 'Aussie solar cable project moves ahead with Indonesia's approval of subsea route', The Straits Times. 24 September 2021
[26] Kobina Kane, M. Gil, S. (2022) Green Hydrogen: A key investment for the energy transition. World Bank Blogs.
[27] Bowen J (2022) Re-energising Indo-Pacific Relations: Australia's Clean Energy Opportunity. PerthUSAsia Centre

Only green hydrogen has a future if we're to be a clean energy superpower

While hydrogen presents many opportunities for Australian businesses, it is only the variety of hydrogen generated using renewable electricity - often termed 'green hydrogen' - that has any role in our zero emissions future. Fossil fuel hydrogen, produced using coal or gas, results in significant greenhouse gas emissions and contributes to the climate crisis.

Different types of energy can be used to produce different types of hydrogen.

- "Green" – renewable energy
- "Brown" – brown coal
- "Black" – black coal
- "Grey" – gas
- "Blue" – any fossil fuel with carbon capture and storage
- "Clean" – a recently coined and purposefully misleading term that could describe either 'green' or 'blue' hydrogen.

Only green hydrogen - created with renewables - has a place if Australia is to become a clean energy superpower. Hydrogen produced using renewable energy can help lower Australia's emissions, drive a booming export industry, and replace fossil-fuels in energy-intensive sectors like steel-making and long-range transport.

Perhaps Australia's single biggest decarbonisation opportunity is to help China eliminate carbon emissions in its steel production. Today, China makes more steel than the rest of the world put together. It is the source of 17.5% of the country's carbon emissions, second only to its electricity sector.[28] Australia is a major supplier of iron ore to China's steel smelters. Over the past decade Australia's top-earning export has been iron ore, with 82.4% of it going to China.[29] However Australia is now well-placed to use cheap and abundant renewable energy to convert iron ore into steel without producing carbon emissions, in a process that replaces coking coal with renewable hydrogen. Producing green steel for export to China would help Beijing meet its decarbonisation goals and could cut global emissions around 2 percent - almost twice as much as Australia eliminating its own emissions.[30] It could also be very lucrative. If all of Australia's iron ore was to be processed into steel domestically, before being exported, it would generate roughly ten times current earnings for iron exports.[31]

Already a major mining nation, Australia is well placed to become an exporter of the minerals that are key to the energy transition. Australia is today the world's largest exporter of lithium and third largest of cobalt, both important minerals in batteries, and is also the second largest producer of rare earth elements, which are used for magnets in wind turbines and electric vehicles.[32] As demand for renewable energy and battery storage surges, there will be exponential

[28] Garnaut R (2022) The Superpower Transformation: Making Australia's zero-carbon future. La Trobe University Press.
[29] Griffith, S (2022) *The Big Switch: Australia's Electric Future.* Black Inc Books, Melbourne.
[30] Song L (2022) 'Decarbonising China's steel industry', in: Garnaut R (2022) The Superpower Transformation: Making Australia's zero-carbon future. La Trobe University Press.
[31] Griffith, S (2022) *The Big Switch: Australia's Electric Future.* Black Inc Books, Melbourne.
[32] Australian Government (2021) *Resources Technology and Critical Minerals Processing (National Manufacturing Priority road map)*

demand growth for critical minerals. The International Energy Agency estimates global export revenue from energy transition minerals will overtake revenue from coal in the next decade.[33] The International Monetary Fund estimates that these minerals will be worth $17.6 trillion over the next two decades.[34]

Importantly, all aspects of Australia's transition from fossil fuel giant to clean energy superpower – and in particular the development of new mining operations – must be conducted in a socially and environmentally responsible manner. They should seek to reduce existing inequalities and injustices, and leave all Australian communities stronger. Leadership of First Nations and meaningful consultation with local communities, farmers, land owners, and other groups will be fundamental to maximising the benefits and minimising any potential harms.

Scale of the opportunity and potential benefits

For too long, successive governments have argued that Australia cannot make a difference in global efforts to tackle the climate crisis. The truth is, as a fossil fuel heavyweight and potential renewables superpower, we have a big role to play in the global energy transition.

Australia can play a significant role in tackling the climate crisis by exporting the clean energy commodities and critical minerals that other countries need to shift to net-zero economies. Recent estimates suggest that by providing clean energy resources the world needs for decarbonisation - and especially by exporting zero-carbon metals to Asia - Australia could help cut global emissions by eight percent.[35] This would be the equivalent of cutting all the emissions of Europe and the UK, or as much as Japan reaching net-zero twice over.

The potential benefits for embracing clean energy export industries are huge - and will be measured in jobs, investment and economic growth. By conservative estimates, Australia's clean energy exports have the potential to generate 395,000 jobs by 2040 - with many of these jobs in the same regions and communities which are currently home to fossil fuel production fossil fuel industries.[36] In coming decades, Australia could grow a clean export mix worth $333 billion annually, almost triple the value of existing fossil fuel exports.[37]

Policy recommendations

1. Investing in climate diplomacy

New investment in diplomacy and trade promotion is needed to match Australia's goal of becoming a clean energy superpower, and if Australia is to successfully host the UN climate talks

[33] International Energy Agency (2021) The role of Critical Minerals in Clean Energy Transitions
[34] Cranston M, Mizen R. (2021) Net zero will be a bonanza for Australia, says IMF. *Australian Financial Review*. October 13, 2021.
[35] Garnaut R (2022) The Superpower Transformation: Making Australia's zero-carbon future. La Trobe University Press.
[36] Business Council of Australia (2021) *Sunshot: Australia's opportunity to create 395,000 clean export jobs.* Report with WWF-Australia and the Australian Council of Trade Unions.
[37] Beyond Zero Emissions, (2021) *Export Powerhouse: Australia's $333 billion opportunity.*

in 2026. In the past, the Department of Foreign Affairs and Trade (DFAT) and the Australian Trade and Investment Commission (Austrade) have been tasked with establishing new markets for, and promoting, Australian fossil fuel exports. Today, the task must be explicitly redefined - to use Australia's diplomatic resources to promote clean energy exports and to pursue an ambitious climate agenda. This will help to secure Australia's reputation - with key allies and trading partners, and with countries in our neighbourhood - as a responsible regional power, and help to pursue Australia's broader foreign policy interests as well.

In recent times, Australian diplomats have been tasked with promoting fossil fuel exports to growing economies in Asia. Australia lobbied hard, for example, to ensure the Asian Infrastructure Investment Bank (AIIB) would be able to direct multilateral finance toward coal-fired power plants. Australian diplomats have also lobbied developing countries in South East Asia to buy more Australian coal.[38] If we are to successfully transition to a clean energy superpower, Australia must adopt a climate-focussed foreign policy that explicitly moves away from promoting fossil fuels and instead promotes opportunities for Australian clean energy exports and seeks to integrate Australian firms into regional clean energy supply chains.

2. Putting climate and energy goals at the centre of Australian trade and foreign policy

Australia has *begun* to integrate clean energy goals into its international trade and diplomatic strategy - but this must be accelerated. In the past two years, Australia has signed 'low emissions technology partnerships' with seven nations - Germany, the UK, the US, Japan, Singapore, Korea, and India - which are intended to develop supply chains for critical minerals, clean energy industrial goods and renewable hydrogen.[39] Australia's former chief scientist, Dr Alan Finkel, was appointed Special Advisor on Low-Emissions Technology and tasked with pursuing international partnerships to develop clean energy technologies, though Finkel moved on from this role in November 2022.

The federal government should consider appointing a new role of Special Advisor on Australia's Clean Energy Opportunities, and should overhaul the existing Technology Investment Advisory Council to focus more explicitly on clean energy opportunities and to rule out support for coal, oil or gas. Future investments to support the clean energy transition should be explicitly aligned with the national goal of achieving net-zero emissions, and achieving interim emissions reduction targets.

The time has come to put climate goals at the very centre of Australian foreign policy, in the same way major powers like the US, the UK and the European Union already have. This will require DFAT and Austrade to integrate climate and clean energy goals across their work, including the pursuit of trade agreements, the management of international alliances and as a focus for Australia's aid spending. Activities in each of these areas should be aligned with our national target of achieving net-zero emissions, and with legislated interim emissions reduction targets. It will also mean tasking Australia's global diplomatic network with actively promoting

[38] Denniss R, Behm A (2021) 'Double Game: How Australian diplomacy protects fossil fuels'. Australian Foreign Affairs. Issue 12, July 2021.
[39] For discussion see: Bowen J (2022) Re-energising Indo-Pacific Relations: Australia's Clean Energy Opportunity. PerthUSAsia Centre

climate action, and promoting Australia's credentials as a clean energy superpower. Developing an ambitious diplomatic strategy to limit global warming and promote the goals of the Paris Agreement will be especially important if Australia is to successfully host the UN climate talks in four years' time.

3. A comprehensive climate investment plan

Currently there are pools of funding available to support the uptake of specific technologies, such as a $250 million program to boost Australia's capabilities in Carbon Capture Utilisation and Storage (CCUS), a $300 million hydrogen fund under the Clean Energy Finance Corporation, and various programs under the Australian Renewable Energy Agency. Many programs are the legacy of previous governments and may deliver limited bang for buck when it comes to real emissions reductions or, worse, promote false solutions. Federal climate and energy spending must be well-coordinated, efficient, transparent and guided by an overall investment strategy that aims for the maximum possible emissions reductions this decade and beyond. Programs that serve mainly to prolong the life of fossil fuels – such as many investments in Carbon Capture and Storage (CCS) – should be immediately phased out.

As part of an overall climate and energy strategy, the federal government needs an investment plan that focuses on identifying gaps and stepping in wherever additional support is needed to accelerate the development and rollout of clean energy opportunities. This may be funding for research and development of nascent technologies, putting in place the infrastructure to enable their rollout, or promoting the development of new industry through the use of Commonwealth Special Investment Vehicles.

4. Integrating industry and trade policy, and ensuring they are fully aligned with climate goals

The federal government needs to develop an integrated approach to industry policy and trade policy. The United States' Inflation Reduction Act is an example of how our key allies are developing industry policy that is aimed at developing a new domestic clean energy manufacturing base, while at the same time promoting diverse and resilient clean energy supply chains. The federal government should look to develop an Australian version of the US legislation, by developing comprehensive industry and trade-promotion policies that will support a massive expansion of clean energy exports. Such an ambitious approach will be key to Australia's transition to a clean energy superpower, and is essential if Australia is to thrive in a world shifting toward net-zero emissions.

5. Plan for phase out of fossil fuel exports, while clean energy exports grow

As Australia embraces the opportunities of becoming a clean energy superpower, the federal government should plan for a sensible, phased, transition away from fossil fuel exports. This should include an immediate end to public funding and finance for coal, gas and oil. No government support should be allocated for any fossil fuel projects, and existing subsidies for fossil fuel consumption and production should be swiftly phased out.

Trying to prolong the life of coal and gas, instead of embracing new clean energy technologies would come with very real opportunity costs. Australia will need to move fast to seize the

economic opportunities of the global transition to net zero emissions. While we have commercially significant advantages in renewable energy, the rest of the world is not waiting for Australia to develop new clean energy industries. A number of our trade competitors are developing their own export strategies in key areas like renewable hydrogen and critical minerals. If we don't lean in, we could miss out on a once-in-a-generation opportunity to develop vibrant new export industries.

The federal government will need to be upfront with the community, with industry and with our trading partners about how we intend to phase down Australia's fossil fuel industry, even as we ramp up new industries built on clean energy.

6. Ensuring all Australians benefit from the transition

While the shift to a clean energy superpower offers enormous economic opportunities for Australia, careful planning will be required to ensure that the benefits are appropriately shared and that environmental harms are avoided. Large-scale renewable energy projects, transmission infrastructure, and the mining of new energy minerals, all have the potential to benefit local communities, though also the potential to bring about social and environmental harms if poorly designed. Close consultation with First Nations and local communities, and principles that ensure all communities are left stronger, should be at the heart of Australia's transition to a clean energy superpower.