Modernising and decarbonising our economy to position Australia to be the Global Leader in Zero Emissions Trade and Investment by the newly established Australian Climate Capital Forum

The impact of climate change is the greatest threat to the Australian economy but the response to tackling climate change also will provide one of the greatest opportunities for economic, export and employment growth Australia has ever seen.

Climate change is one of the biggest threats to investment in the Australian economy, but climate action is *the* long-term investment opportunity for Australia.

We can, and must, have a strong economy and a safe climate.

With these challenges in mind, a community of climate-focused financial experts, investors, philanthropists, industry bodies and non-government organisations – now named the Climate Capital Forum – met in late 2022 in Sydney to discuss ideas to encourage businesses to prioritise long-term strategic investment in projects that will rapidly decarbonise the Australian economy and set our country up to be the regional centre for smart energy and zero carbon industries. In this document we have outlined our collective recommendations on how Australia can leverage our own decarbonising and help drive the global move to renewable energy and energy storage as a vehicle to build our future economy.

To do that, we need to create an economic ecosystem to facilitate critical metals and minerals value-adding pre-export, leveraging our global competitive advantage of low-cost renewable energy at world scale.

Decarbonising is also an energy security necessity. With limited domestic stockpiles of fuel and oil and increasing global supply chain challenges, our national security will be increasingly dependent on local supply chains and investments in non-fossil fuel energy and transport.

This demands clear strategies and policies as well as profound economic reform in Australia – a redesign and reindustrialisation of our economy and energy systems, onshoring and expanding manufacturing and creating innovative systems that can support new energy approaches as well as zero emissions partnerships with our leading trading nations to make that happen.

Our biggest companies and our biggest polluters must reduce their emissions in Australia, but doing so can create new jobs and investment opportunities in regional areas and provide the foundations for exciting new zero emissions industries – green aluminium, green iron and steel, electric heavy transport, lithium hydroxide, battery cathodes and anodes, renewable hydrogen and ammonia, all powered by world-scale solar and wind, the cheapest, cleanest energy in history.

Governments must create the enabling policy, regulations and public financing structures to incentivise our world leading companies and miners, as well as a multitude of new startups to collectively seize the opportunities here in Australia, creating jobs, investment opportunities and profits.

This commitment to a strong, sustainable economy and a safe climate is central to Australia's security interests, working with our key trade and security partners. We can and should work with our Pacific neighbours on this shared journey, but also leading the way by utilising our comparative and competitive advantages.

The US Inflation Reduction Act, REPowerEU and Japan's GX Roadmap are all about these regions onshoring their investments; this is a global technology and investment race. And it is already entirely clear that China has a near decade head start in this race. Australia's world-scale renewable and mineral resources give us a global advantage to lead.

The Climate Capital Forum

The participants in the Climate Capital Forum – members listed below – have produced this first report as a zero emissions vision for Australia's future, and an outline of the policies and practices that need to be put in place to achieve this vision.

The Climate Capital Forum will continue to bring together leading thinkers and key policy makers throughout 2023 and beyond to address these critical issues and offer to support efforts at the federal and state level to build a strong future economy and long-term job opportunities that will benefit Australia and our region.

The Climate Capital Forum recommends all Australian governments prioritise investments and policies to leverage Australia's competitive advantages and put our economy on a path to zero emissions as soon as possible.

Australia is already one of the top three largest energy exporters globally, demonstrating we have a clearly trusted trade partner status throughout the greater Asia region. But we need strategies to transition our exports away from their predominantly fossil fuel focus and reposition our mining and refining industries to leverage the zero emissions value-added opportunities, offering embodied decarbonisation pre-export. Australia is already the world's largest exporter of iron ore and lithium and the second largest for copper, and critical minerals demand is forecast to grow exponentially this coming decade. Australia is perfectly positioned to seize an increased global share of the investment, employment and export opportunities ahead.

The Need for Action

The economic cost of climate change is increasingly apparent. Munich Re estimates that in 2022 alone, the devastating floods that hit eastern Australia cost the Australian economy over $8bn. The year before, the horrific fires cost 34 Australian lives. IAG Insurance estimates that so-called 'natural disasters' (increasingly powered by human-induced climate change) will cost the Australian economy upwards of $73bn annually by 2060.

Our Economic Opportunity

The challenge of climate change allows Australia to transform our economy from one excessively dependent on fossil fuel and iron ore exports (our largely dig-and-ship export history) into a value-added critical minerals export economy, with economic and regional employment opportunities both domestically and in the global climate market far into the future. The key challenge is how we best leverage our world leading low-cost renewable energy resources, be that via green ammonia, subsea cables or most effectively, via embodied decarbonisation by refining our mineral wealth pre-export.

The fast-growing demand for renewable energy, batteries, electric vehicles (passenger vehicles and heavy-duty trucks and mining equipment where Australia is one of the largest end-market customers in the world), electric vehicle charging, new low-carbon innovation such as green hydrogen, green ammonia, green zinc and

green iron, lithium hydroxide and rare earths, integrated rooftop solar and behind-the-meter storage IT systems, and smart energy and emissions management systems sets the scene for Australia to play a major role regionally and globally, particularly given the global supply chain risks that have been re-elevated very bluntly with Russia's Ukraine invasion and the likely ongoing western sanctions against Russia as a result.

Australia has traditionally had a public-private approach to energy production and consumption via large scale utilities, global mining, oil and gas majors and public government enabling infrastructure and generation investments (rail, port, power stations), welcoming and leveraging global capital inbound investment from Europe, North America and Asia. Tax expenditures form a large part of our business support and currently represent massive subsidies to fossil fuels. In 2021-22, Australian federal and state governments provided a total of A$11.6 billion worth of spending and tax breaks to assist fossil fuel industries, a 12% increase on 2020-21 and 56 times the budget of the National Recovery and Resilience Agency.

The need for rapid take up of renewable energy, battery storage, grid transmission expansion and electrification also demands systemic and regulatory changes that can allow for a much wider approach, including peer-to-peer energy production and consumption, cooperative and community ownership, private-public partnerships for investment and development structures to allow and encourage the crowding-in of private financing and incentivised approaches to grants, debt, venture capital, infrastructure, export finance and equity, leveraging existing credible federal statutory authorities that have some freedom from political intervention and well established independent oversight and transparency.

We already have the foundations for significant investment but until now have not seen opportunities in Australia due to lack of national policy support. All of our existing institutions need to be turbocharged and given the resources and priority focus of a zero emissions mandate at world scale. Institutions like the Clean Energy Finance Corporation and ARENA need to be complemented by a National Energy Transition Authority and the Future Fund must be given a strong emissions reduction and decarbonisation mandate to both crowd-in private capital and ensure majority Australian ownership of these strategically important investments.

The other significant competitive advantage Australia has to accelerate decarbonisation is Australian superannuation funds which hold $3.3 trillion of private, patient capital, and which to-date have pursued low emissions investment opportunities in other markets more bankable than those in Australia due to our lack of domestic policy ambition.

Priorities for action include: early stage grants and research, development and deployment (RD&D) funding by the Australian Renewable Energy Agency (ARENA); export finance via Export Finance Australia (EFA); patient long duration debt and venture capital supported by the Clean Energy Finance Corporation (CEFC) and venture capital funding via Clean Energy Innovation Fund (Virescent Ventures); infrastructure financing via the Northern Australia Infrastructure Facility (NAIF); public low emissions energy project capital from Snowy Hydro; and the potential of patient, strategic national interest, public equity funding via the Future Fund. There is also an increasing range of state government initiatives to mobilise public capital investments, e.g. Queensland's CleanCo, NSW's Accelerated Infrastructure Fund and AEMO Services, as well as the proposed Victorian State Electricity Commission.

Where appropriate, we need bi-lateral and inter-government investment engagement to support and leverage international public and private investment partnerships e.g. POSCO's proposed US$40bn investment in energy transition opportunities in Australia, announced with the Albanese Government in December 2022, BP's December 2022 40% equity investment into the proposed 26 gigawatt (GW) Australian Renewable Energy Hub in the Pilbara, and Tianqi Lithium China's investment in building Australia's first lithium hydroxide refinery in Kwinana, WA in partnership with ASX-listed IGO Group, even as Wesfarmers invests in the Covalent Kwinana lithium refinery in partnership with SQM of Chile. October 2022 also saw Australia and Singapore sign a landmark Green Economy Agreement (GEA) to strengthen trade and investment in clean energy. This was followed by the signing of an Australia and Japan Critical Minerals Partnership to build secure supply chains.

In this vein, the Smart Energy Council is conducting a smart energy trade delegation to India in March 2023 to develop some of the enormous number of public-private opportunities between Australia and India. This builds on the 2021 Australia-India Economic Cooperation and Trade Agreement, with a particular focus on critical minerals. This seeks to replicate the success of previous Smart Energy Council Australia-China delegations.

In order to capture these regional investment, employment and export opportunities as the global energy transition accelerates, the Australian Government needs to play a key role in helping to establish the structures, market signals, targets and incentives to both transform our domestic economy and seize the broader global opportunities emerging.

Whilst the Australian Government must take on a national leadership role, leveraging, co-ordinating and building upon the strong state and territory leadership to-date, as seen with Mark McGowan's WA government commitment to legislate a net zero by 2050 and five-year interim targets, and a commitment to slash public sector emissions by 80% by the end of this decade. Australia's biggest financial institutions, mining houses and corporates – including our biggest polluters – all have significant roles to play, pivoting into the massive investment opportunities ahead.
Shifting the Australian economy to net zero emissions as soon as possible is a critical task and our emissions reductions efforts should be delivered in Australia, creating jobs, economic and export opportunities across Australia, restoring our global climate credentials as well as providing an economically advantaged opportunity to assist our key trade partners in driving decarbonisation of their own economies.

The world is currently in a global climate technology and finance race. Countries are increasingly pursuing strategically oriented public-private partnerships to best position for the rapid development of renewable energy, critical minerals and other low carbon innovation, including: China (through its Five Year Plans); the US (through the Inflation Reduction Act (IRA) and Securing a Made in America Supply Chain for Critical Minerals); Europe (REPowerEU, world leading emissions trading scheme (ETS), Carbon Border Adjustment Mechanism proposal (CBAM) and new Net Zero Industry Act); Canada (the Canadian Critical Minerals Strategy); Japan (via its GX Roadmap); and India (with its 450GW of renewables target and Production Linked Incentives (PLI)). Each has initiated large-scale and directed subsidies not only to address the issue of climate change and adhere to

their Paris commitments, but to gain a strong industrial and technology foothold in the global market for these solutions as demand rapidly increases.

The role of explicit carbon and methane pricing is accelerating globally, with the US introducing a US$85/t carbon capture and storage subsidy and a US$1,500/t methane tax as part of the Inflation Reduction Act, while China has a national emissions trading scheme (ETS) already four times the size of the EU ETS (which it plans to expand from just the power sector to eight heavy industry sectors in the next year) and most recently, Japan proposing a staged national ETS starting in 2026.

If designed with integrity, the Australian government's Safeguard Mechanism, which includes a proposed cap of A$75 (indexed at inflation +2% pa), could be the start of building the regulatory framework and credible carbon pricing needed to mobilise capital. Integrity improvements as per the Chubb Review and other expert recommendations to improve the ACCU and the newly proposed Australian CBAM are preparing the regulatory framework Australia needs to mobilise capital commensurate with the speed and scale of this massive global US$100 trillion by 2050 investment opportunity.

China has emerged as a global clean energy champion in the last decade with the help of government state owned enterprise support on a grand scale. In total, between the private and public sectors, China invested $380 billion in clean energy in 2021, more than the rest of the OECD combined. China installed 87.4GW of solar in 2022 alone, up 60% on its solar investment rate of 2021, and four times the level of US solar investment.

The recently passed US Inflation Reduction Act (IRA) contains US$500 billion in new spending and tax breaks that aim to boost clean energy, reduce healthcare costs and increase tax revenues, and the US Department of Energy Loans Program Office alone has US$394 billion of lending capacity for new decarbonisation investment initiatives (a tenfold expansion of capacity as a direct result of the IRA). Australia is perfectly positioned to leverage our Free Trade Agreement with the US to be a strategic partner supplying critical minerals to the booming US battery and EV market.

Japan and India's investment in renewable energy has far surpassed Australia and the impact of Russia's invasion of Ukraine has seen European countries massively ramp up investment in and targets for renewable energy. European nations installed a record-breaking 41.4GW of photovoltaic power in 2022 – a rise of 47% compared to 2021 – according to industry group SolarPower Europe.

By comparison, it is impressive to see the Australian Government stepping up its policy initiatives, having committed A$25 billion to clean energy spending in its October 2022–23 budget to expand funding of a range of significant policy commitments (Rewiring the Nation, Driving the Nation, Powering the Regions, National Reconstruction Fund, Critical Minerals Development Program). But there is much room to set the right policy and regulatory frameworks and leverage patient, national interest public capital to de-risk and accelerate new project proposals as well as concurrently crowding-in private investment and leadership to kickstart the country's potential opportunities.

Recommendations

Short-Term Actions

Recognising the Australian Government is constructing a strong climate action agenda step-by-step, implementing the commitments endorsed by the 2022 federal election, the Climate Capital Forum urges the Australian Government to continue to accelerate its climate action ambitions and implement fundamental reforms to modernise and decarbonise the Australian economy, maximise the jobs benefits of the transition by adding value locally powered by renewable energy, and use public institutions to strategically support and finance key Australian industries of the future.

The Australian government should:

1. Complete the proposed reforms to the Safeguard Mechanism (what we call Australia's Big Polluters Program) to bring in a high, credible and lasting price on carbon emissions with transparency and integrity, so as to ensure Australia's biggest polluters directly reduce their emissions in Australia (using the Avoid> Reduce > Restore > Compensate > Offset hierarchy), with a focus on credible timely action and a limit on the use of emissions offsets, recognising they should only be used as a last resort.

2. Take government action to protect our domestic industries by exploring an Australian Carbon Border Adjustment Mechanism (CBAM) in conjunction with our trade partners.

3. Set a new, longer-term, science-based emissions reduction target. We recommend an ambitious 75% reduction in emissions (on 2005 levels) by 2035 to ensure a clear and consistent market signal for all Australian businesses and industrial sectors.

4. Adopt the full recommendations of the Chubb Review and those of other experts and set limits on carbon offsets for businesses to ensure real, measurable emissions reductions in alignment with the climate science and our Net Zero Emissions commitment.

5. Ensure its Powering the Regions Fund is only allocated to zero emissions technologies or projects that will accelerate and facilitate pivotal investments to permanently reduce the project's emissions at least in line with our national 43% target by 2030. Fossil fuel export facilities are trade exposed, but have zero risk of being offshored, so it is key our government prioritise assistance to trade exposed facilities at real risk of global competitive disadvantage, rather than those with the loudest lobby groups. Also ensure all public funding processes are transparent, that facilities applying have outlined a timeline and plan for decarbonisation and require that they report on progress to zero emissions.

6. Governments must ensure First Nations and regional communities are included centrally in efforts to develop climate solutions, particularly in their communities, and are consulted on new climate finance incentives, alternative ownership models and wealth sharing opportunities for Australia.

7. Establish a new Make Australia Make Again program to drive smart energy and smart transport manufacturing in Australia and add value to the mining of metals and rare earth minerals.

8. Establish dedicated and significant direct federal debt, equity, infrastructure, grant, export credit and venture capital funding in partnership with state governments to strategically speed up Australia's transition to smart energy in a similar, but Australian, version of the US Inflation Reduction Act, and prioritise majority Australian ownership of strategic new projects.

9. Develop a national plan to support rapid electrification of homes and communities that includes government as guarantor for low income households and operators of public and community housing transitioning to solar, electric vehicle charging, batteries and appliances. Extend the government's role in the provision of affordable loans, expanded access to finance and enhancing existing schemes such as NatHERS and NABERS to sustainably lift our green residential and commercial building standards in a nationally consistent way.

10. Develop a series of bilateral zero emissions trade agreements with our key trading partners including China, the European Union, India, Indonesia, Japan, South Korea and the US, and expand the recent Singapore and Japanese agreements.

Fundamental Reforms

The Australian government should:

a) Revise the Future Fund's investment mandate to prioritise strategic patient equity investments in zero emissions technologies across all relevant asset classes and establish a discrete public asset fund aimed at value-adding critical minerals onshore powered by renewables. The latter should be managed by the Future Fund and funded by progressive mineral and fossil fuel royalties specifically for this purpose.

b) Ensure the energy transition is "nature positive" by establishing an effective process that assesses, avoids and mitigates against potential major environmental impacts of expanding industry and infrastructure, and processing of critical minerals.

c) Set a clear timeline for phasing out government fossil fuel subsidies and banning all new fossil fuel projects, and ensuring multinationals pay corporate tax in Australia when accessing Australian markets and resources, to help fund the enabling investments in transition needed.

d) Reform the Australian energy market to encourage and enable peer-to-peer, community, cooperative, distributed energy and flexible demand response, storage, and private-public partnerships for renewable energy, storage and utilities.

e) Establish Government-backed mechanisms for blended financing that allow higher-risk patient public capital to de-risk strategic opportunities and enable capital to be crowded in from investors, particularly leveraging Australia's strategic competitive advantage and globally influential A$3.3 trillion superannuation capital, the fourth largest such financial pool in the world.

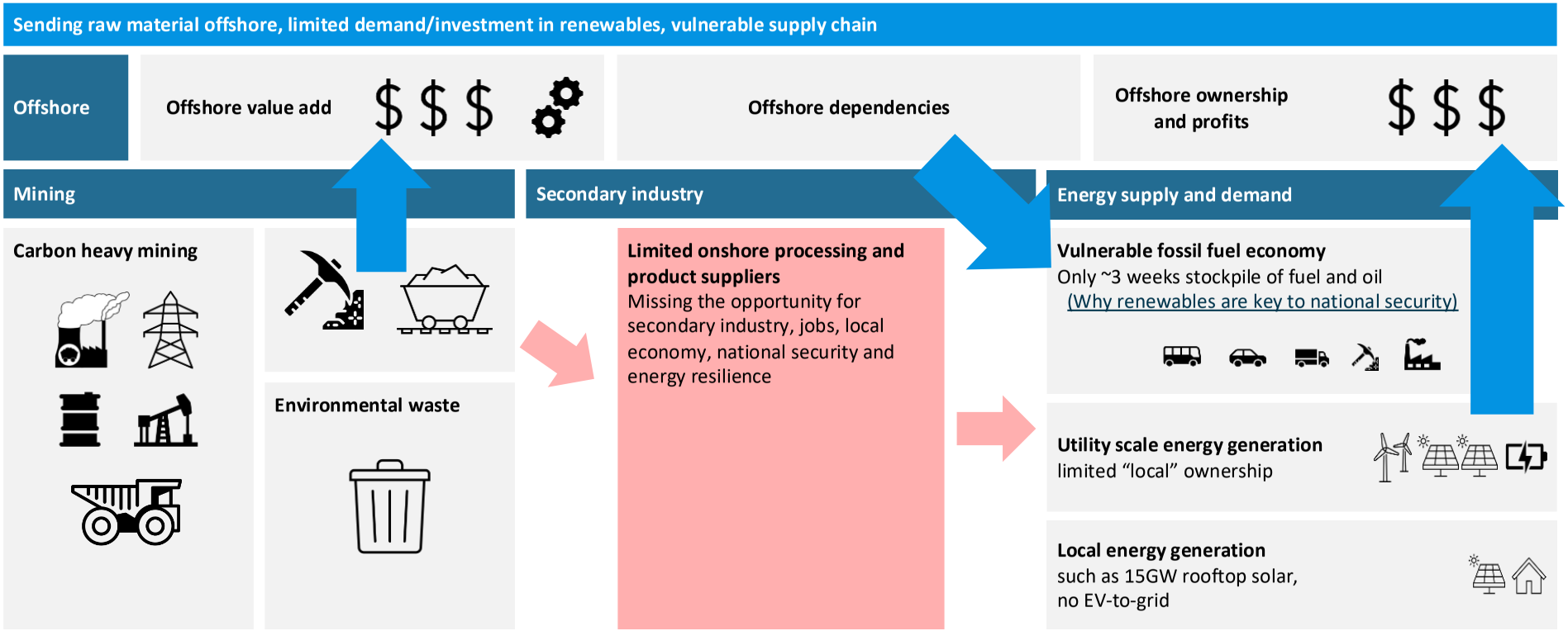
f) Establish time-limited tax incentives to encourage catalytic Research, Development & Demonstration (RD&D) capital for climate solution innovation in the local context (as per the US, California); recognise and address Australia's challenge with a relatively smaller-end consumer market than other countries/regions.

g) Create the enabling regulatory environment to package and finance investments from companies engaged in climate solutions at the needed speed and scale so they are accessible to and bankable by retail and institutional investors (e.g. via verified Climate Bonds and infrastructure funds).

h) Require the Your Future, Your Super performance test to utilise benchmark indices that appropriately reflect the other fundamental reforms above, and require APRA's MySuper Heatmap to measure superannuation funds' performance against a Paris-aligned Transition-benchmark rather than standard default, high-emissions indices to encourage the pivot of MySuper default options to track a lower-carbon index, with trustees and members required to 'opt-in' if they choose to pursue high carbon-exposed investments, with all the carbon price and stranded asset risks involved.

At all times, governments should ensure First Nations and regional communities are included centrally in efforts to develop climate solutions, particularly in their communities, and are consulted on new climate finance incentives and opportunities for Australia.

Current Australian climate economy



A value-adding Australian climate economy

Establish targets, investment, grants, research, demand incentives, improve biodiversity and decarbonisation, regional community and first nations inclusion

Establish ***comparative*** disincentives

Building national security and local economy through energy security, local manufacturing, local communities, and trading the excesses internationally

Offshore

Offshore value add

Supply chain diversity, **offshore markets and bilateral agreements** such as India and Indonesia

Offshore ownership and profits

Mining

Decarbonisation of mining

Circular economy
Sustainability in mining. Mining tailings and waste as inputs to other manufacturing processes. Mining with respect for the environment and communities

Secondary industry

Onshore value add processing
Including green steel, green aluminium, etc

Local product manufacturing
(including licenses, JV etc for global supply chain bottle necks such as wind turbines, vessels, batteries)

Energy supply and demand

Onshore ownership and profits
e.g. more Govt, Super funds and/or community shares

Utility scale energy generation
with a level of Govt and/or community ownership

Local Peer to Peer systems such as Distributed energy resource developments, cooperative energy producers, cooperative energy buyers, micro grids, the right balance of on/off grid, EV-to-grid.

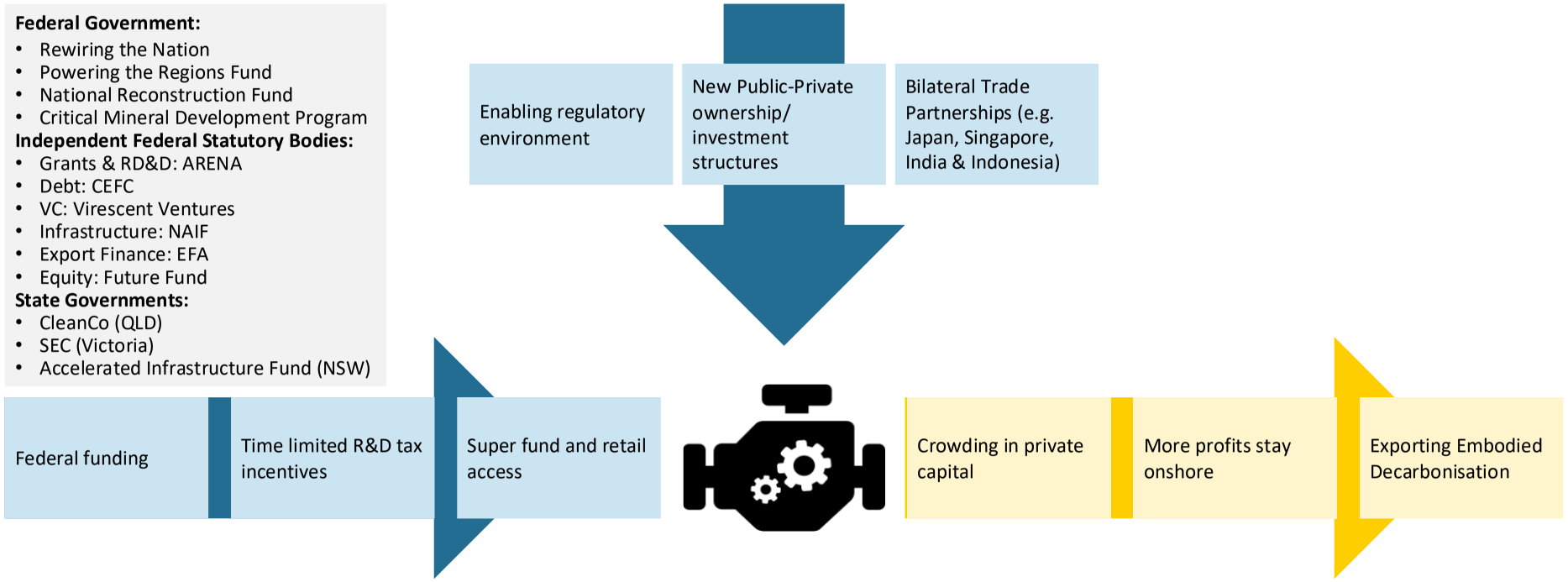
Strategic financing & policies for a value-adding Australian climate economy

Australia should aim to be a renewable energy powered-critical minerals superpower

Federal Government:
- Rewiring the Nation
- Powering the Regions Fund
- National Reconstruction Fund
- Critical Mineral Development Program

Independent Federal Statutory Bodies:
- Grants & RD&D: ARENA
- Debt: CEFC
- VC: Virescent Ventures
- Infrastructure: NAIF
- Export Finance: EFA
- Equity: Future Fund

State Governments:
- CleanCo (QLD)
- SEC (Victoria)
- Accelerated Infrastructure Fund (NSW)



Climate Capital Forum as of 30 January 2023

Organisations, companies and individuals who have signed on to support the Climate Capital Forum Discussion Paper:

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