Re-energised Economy

Transitioning to a low-cost, low-emissions economy

Smart solutions
Positive impact

Written by Dr. Emma Aisbett and Zali Steggall OAM MP

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Preface

Emma Aisbett PhD

Too often voters are told they need to choose between economic and environmental concerns, such as cost of living versus climate change. This is a false choice. Our economy is currently on a well-worn path towards ever increasing financial and environmental costs, and concentration of benefits to a diminishing group of privileged individuals. There are alternative destinations, with lower costs and shared benefits. We know what direction they lie in, but the path there is yet to be made. We wrote this paper to show how our government can work with – and for – Australian households and businesses, to forge a path to an economy in which current and future generations not only survive but thrive.

Zali Steggall OAM MP

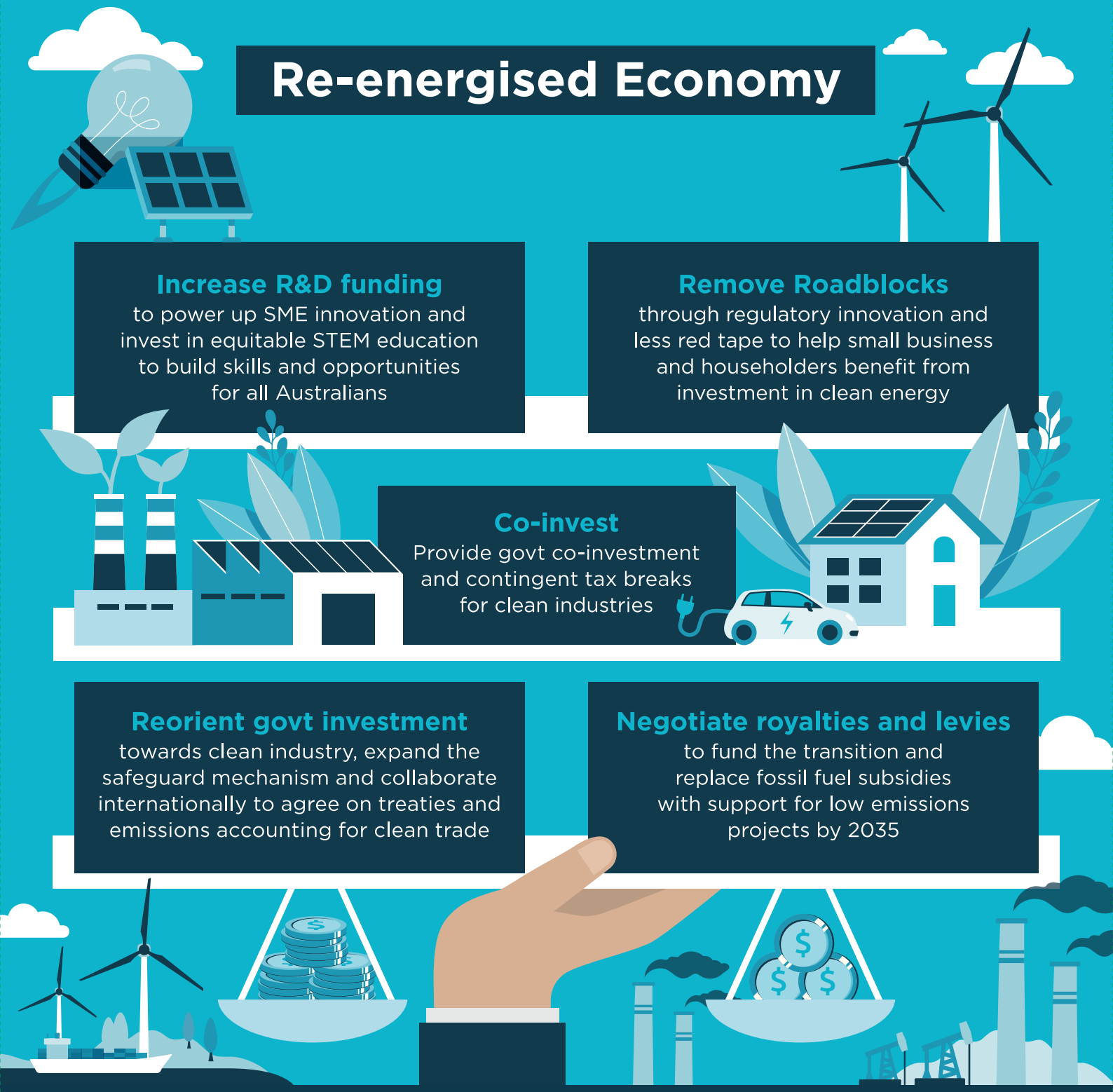
Australia's over-reliance on fossil fuels, coupled with inconsistent climate policy and a lack of investment in future-focused industries, has left us increasingly vulnerable to rising costs and worsening climate impacts.

But it doesn't have to be this way. Australia is uniquely placed to be a sustainability superpower. With smart solutions and strong climate leadership, we can embrace a renewable-powered, net zero economy that delivers cheaper energy, stronger domestic capability, and greater economic resilience in the face of global headwinds.

In 2024, Australia reached an annual commitment of approximately $9 billion to large-scale renewable projects – the highest annual investment in renewable energy projects since 2018. Currently, renewables already account for nearly 40% of our energy supply and there have been daily records of renewable generation hitting over 75% of electricity into the National Energy Market, proving the immense possibilities that lay ahead with strong, climate leadership.

This White Paper sets out a clear, practical plan to harness the opportunities of a low-cost, low-emissions economy. We have an opportunity to build a re-energised, productive and self-reliant Australia. In doing so, we can build a strong Australia with our communities in mind, where everyone – regardless of age, gender, race or location – has an equal opportunity to be safe and supported.

Re-energised Economy



Increase R&D funding
to power up SME innovation and invest in equitable STEM education to build skills and opportunities for all Australians

Remove Roadblocks
through regulatory innovation and less red tape to help small business and householders benefit from investment in clean energy

Co-invest
Provide govt co-investment and contingent tax breaks for clean industries

Reorient govt investment
towards clean industry, expand the safeguard mechanism and collaborate internationally to agree on treaties and emissions accounting for clean trade

Negotiate royalties and levies
to fund the transition and replace fossil fuel subsidies with support for low emissions projects by 2035

Transitioning from an economy that is heavily reliant on fossil fuel exports to an innovation-driven sustainable economy requires investment in our own industries and people, supported by the effective government policy and leadership, summarised in this infographic.

While it will not be easy, the rewards make the journey worthwhile: cheaper energy, stronger domestic capacity, and economic resilience against global tensions and headwinds.

Contents

Introduction

Rising economic and environmental costs

The start of 2025 has already seen record-breaking floods in Northern NSW and Queensland, large scale fish deaths from the South Australian algal bloom and ex-Tropical Cyclone Alfred. Overseas, unseasonable winter fires destroyed large parts of Los Angeles. The economic and environmental costs of these disasters continue to rise with natural disasters costing the economy $73 billion per year by 2060 (Delotte Access Economics, 2021).

Meanwhile, a whopping 82% of electorates have a majority of households under financial stress (Angus Grigg, 2025) and business insolvencies are at their highest level since October 2020 (Ainsworth, 2024). This widespread increase in financial stress is directly attributable to rising cost of living – from food and energy, to rent, interest payments, and insurance. This pattern of financial stress is mirrored around the world as the underlying drivers of inflation and interest rates are global. This includes the coronavirus pandemic, Ukraine and Russian War, as well as the impact of climate change.

By embracing the opportunity to position ourselves as a green superpower, all Australians can broadly share in the reduced economic and environmental costs of our food, housing and transport.

Government's role in transitioning to a lower cost society

Australians face a choice: continue with outdated, polluting policies or embrace clean energy and innovation that lowers costs and delivers shared benefits. Our trades and industries are eager for change that secures their future. Governments have a critical role in guiding the economy toward a lower-cost, decarbonised future. Broadly we see three ways Government can help Australians forge a path to a low-cost society:

Incentivising investment at scale: By offering incentives for Australia's biggest industries to move towards greater sustainability. This could include production subsidies for large-scale clean industries or tax breaks for decarbonisation efforts. While effective, overreliance on this approach risks concentrating the benefits, such as first-mover advantage to large-scale businesses.

Supporting small scale: By helping households and small and medium-sized enterprises overcome the obstacles to transition to the low-cost economy. Examples include supports for households and businesses for small-scale infrastructure investments, research and development, as well as ensuring adequate insurance coverage. Although essential, this approach also needs to be used in balance with others. Over-reliance on government investment can come at a cost of investments elsewhere and put upwards pressure on inflation.

Removing roadblocks and broadening benefits: By removing obstacles, thereby increasing the availability of opportunities, governments can support reform, learning and innovation. Examples of this approach include regulatory and legal reform, provision of information and support services to lower regulatory burden, support for innovative models for business and social enterprise, and climate adaptation. The advantages of this approach include lower overall cost, lower inflationary pressure, and less risk of public subsidies providing private benefits to already wealthy individuals.

Financing the transition

Globally, systemic trends are shrinking the Australian government's traditional revenue base and raising the costs of maintaining perverse subsidies. A shift toward sustainable alternative revenue sources and away from subsidies for harmful activities is crucial to continue responsibly raising revenue.

The first systemic trend that is shrinking government revenue is lower returns to human capital.[1] As artificial intelligence becomes more advanced, alongside Australia's ageing population, this trend of decreasing returns to human capital is expected to worsen.

The shrinking returns to human capital have two major impacts on the fiscal balance for governments. Firstly, it increases the need for expenditures to support welfare of citizens. Secondly, it shrinks Australia's revenue base, which is currently concentrated on taxing individuals and business profits.

The second systemic trend putting pressure on budgets, particularly for Australian governments, is a lowering of resource extraction royalties and taxes. International decarbonisations efforts are reducing global demand for fossil fuels: coal in the short term and gas in the medium term. It is also possible that international demand for Australian iron ore will fall due to geopolitical shifts and technological advancements which favour scrap and higher-quality ores.

1. Human capital refers to the value created by people's skills, knowledge, and abilities, which is typically reflected in wages for workers and profits for small businesses
2. Economic distortions refer to situations where market prices deviate from what would occur in a free, competitive market. This is often due to government intervention.

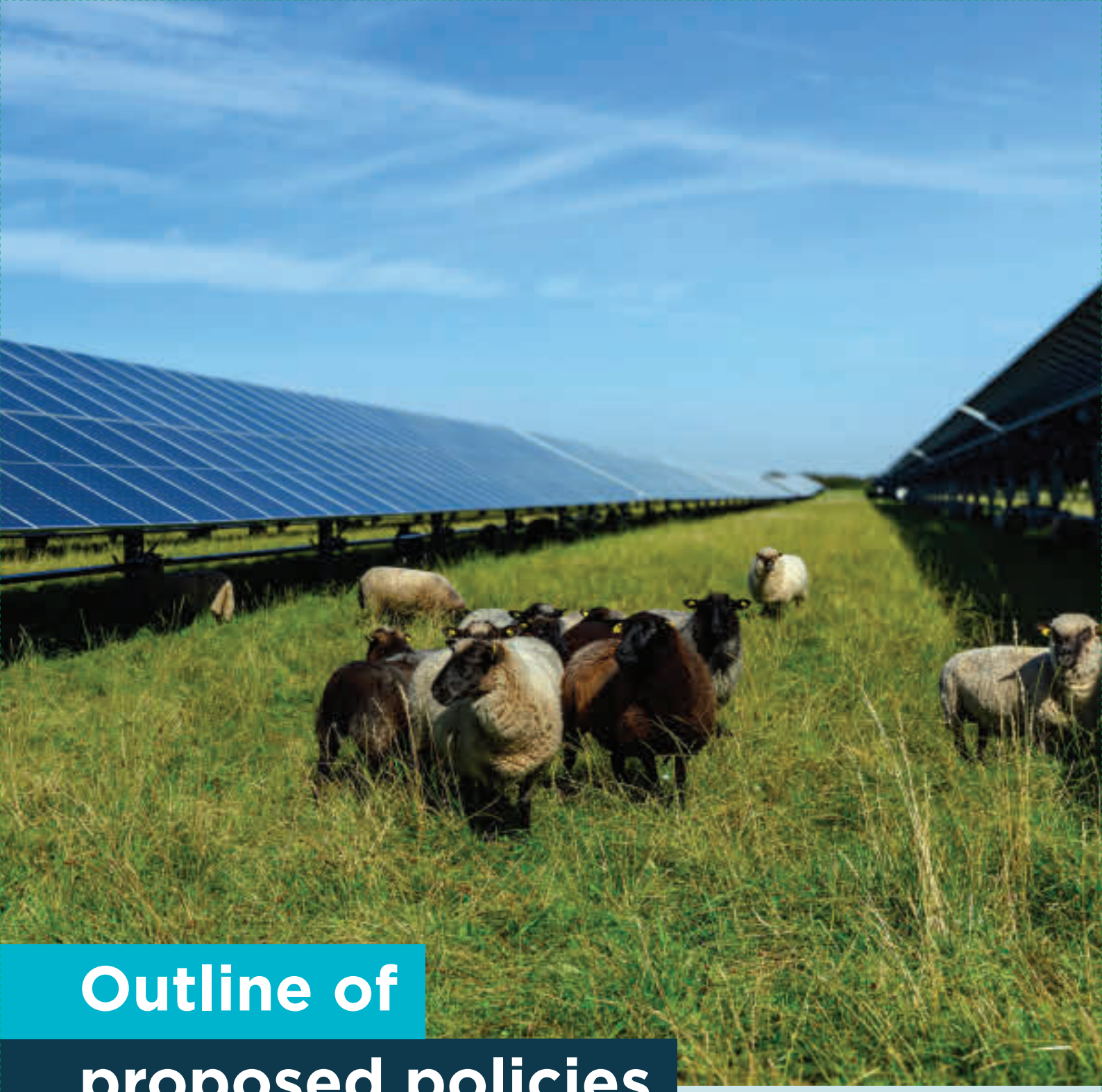
Future-focused economic policies

Naturally, the effects of fiscal policy reach far beyond the narrow objective of balancing the budget. Government revenue collection and spending patterns also affect the efficiency of the economy. Efficient fiscal policies collect revenue from activities which are harmful or consume public goods while subsidising beneficial activities. An example of this is placing royalty payments on geological carbon capture and storage. This contrasts with the other end of the spectrum, perverse subsidies which encourage harmful activities, such as fossil fuel subsidies.

Fiscal policy can also impact inflation and cost of living. For example, raising revenue using import tariffs (as currently favoured by the Trump administration) directly increases the cost of goods to which they are applied, and indirectly increases the cost of many further goods which are made using the affected imports. Implicit and explicit subsidies from government can also drive up costs by increasing competition for scarce resources such as land and labour.

The fiscal policies proposed in this paper:

- seek to counter these systemic trends by emphasising government financial sustainability through the generation of stable, long-term, revenue sources;
- are economically efficient by reducing or eliminating economic distortions[2] and thereby providing environmental and social benefits; and
- seek to minimise inflationary pressure of Government revenue raising.



Outline of proposed policies

Ultimately, a successful transition to a lower-cost society requires government to invest in all three of the above approaches – incentivising investment, supporting small-scale, removing roadblocks – and to find responsible and sustainable means of financing these investments. To that end, each of the policies proposed in this paper contributes to at least one of these objectives, and many contribute to multiple.

The policies are organised under headings which highlight their primary objective:

- Removing roadblocks and broadening benefits,
- Supporting small-scale transition (households and enterprises),
- Incentivising investment at scale, and
- Responsibly raising revenue.

Removing roadblocks and broadening benefits

Removing roadblocks to the low-cost transition ensure broad access to its benefits.

These policies provide the most efficient means for government to support the low-cost transition while remaining the most likely to generate co-benefits.

Among the specific policies below, a key theme is progressing regulatory reform and innovation in both regulatory and business models.

Regulatory reform aims to make interactions – either between stakeholders and government, or among stakeholders – fairer and less costly.

For the low-cost transition to forge a new path for society, successful regulatory reform in many cases needs to be underpinned by regulatory innovation.

Another key element is ensuring that Australia nurtures innovative businesses. Innovative businesses have the potential to solve problems faced by households and businesses alike and reduce the need for government intervention. These innovations are costly to generate, and government support should be available to ensure potential benefits are realised.

Regulatory innovation to support small-scale private investments in the energy transition

The Federal Government must continue to work with, and through, relevant agencies and sub-national governments to drive faster regulatory innovation to support electrification and integration of distributed renewable energy sources into electricity networks.

Policy Box 1: Regulatory innovation to support small-scale private investments in the energy transition

Regulatory burden remains as a barrier to the energy transition, driving up costs and deterring investment in the energy transition. In the current context, regulatory burden refers to the costs (financial, time, and emotional) incurred by investors to comply with regulatory requirements of governments and utility companies.

A wide range of stakeholders are affected by this type of regulatory burden, including:

- households looking to disconnect from gas;
- innovative businesses, for example those providing leasing options for electric vehicles, rooftop solar installations;
- social and community enterprises based on renewable energy, and
- pro-sumers wishing to sell their excess energy on the spot market.[3]

Timely and efficient regulatory reforms strengthen the Australian economy by preventing wasteful investment in outdated assets by consumers, businesses, and governments.

The rapid and ongoing pace of technological change and cost reductions for renewable and electric technologies means that existing government investments in regulatory innovation must be maintained and ideally expanded. The current National Energy Market Whole Market Settings Review is a strong example of the sort of investment required to identify best-practice, evidence-based reforms based on a combination of research and broad stakeholder engagement. It is important that implementation of the findings of this sort of review are not impeded by incumbent interests.

3. "Pro-sumers" is the term given to households and businesses that have their own renewable energy (usually rooftop solar) and wish to both export their excess energy to the grid and import energy from the grid when they need it. The importance of supportive regulation for pro-sumerism will grow in step with vehicle-to-grid technology which allows electric vehicle batteries to charge during the day and feed back into the grid at peak times in the morning and evening.

Removing barriers to energy-cost savings for renters and apartment owners

Targeted regulatory reform to ensure all consumers have opportunity to access lower energy costs through energy-cost saving technologies, even if they are renting or living in apartments.

This includes reforms to:

- incentivise landlords to invest in energy-cost saving technologies;
- make it easier for apartment owners to negotiate their installation of energy-cost saving technologies with neighbours and strata managers; and
- easing approvals processes for installation of energy-cost saving technologies on public housing.

Policy Box 2: Removing barriers to energy-cost savings for renters and apartment owners

While related to the broader issue of regulatory burden, the challenges of enabling electrification for renters and apartment owners presents a distinct set of regulatory concerns.

Whereas regulatory burden arises from interactions with government regulators, this issue revolves around the interactions between renters and landlords, or between apartment owners and strata companies. These barriers to positive interactions prevent renters and apartment owners from benefitting from rooftop solar, batteries, insulation, energy efficient heating, cooling and hot water. Better regulation can help to adjudicate these interactions, make them fairer and remove barriers to energy transition.

The current government approach to incentivising landlords to install energy-cost saving technologies relies heavily on subsidised loans. Not only is this approach a regressive drain on taxpayer funds, but it is also unlikely to be effective (Bjorn Sturmberg, 2023).

Alternative approaches to incentivise energy-cost saving upgrades in rental properties include:

- Limiting tax breaks for property investing (e.g. negative gearing) to rental properties meeting minimum energy standards or to investments which improve the energy standard of a property;
- Mandatory disclosure of energy cost information when properties are advertised for rental or sale (see, Trivess Moore, 2023); or
- Campaigns aimed at educating and informing property managers, renters and landlords of the financial and emissions implications of different household energy technologies.

ARENA funding for regulatory and business innovation

Direct more Australian Renewable Energy Agency (ARENA) funding towards regulatory and business innovation.

Policy Box 3: ARENA funding for regulatory and business innovation

Innovations in business-models and regulation are important but under-funded elements of the transition to a safer and lower-cost society. They have the potential to efficiently support Australians by catalysing the adoption of cost-saving, low-emissions technologies and reducing the need for large subsidy programs.

An example of this approach is leasing and transport-as-a-service[4] business models which reduce up-front costs – both financial and time – of adopting new technologies. In this way, they reduce the need for government subsidies and technology support programs for business electric vehicle adoption. This would allow a relatively small government investment in pilot projects to subsidise experimentation and provide learnings about the business and regulatory innovations required to make these models work.

ARENA is funded by the Federal Government to "support the global transition to net zero emissions by accelerating the pace of pre-commercial innovation, to the benefit of Australian consumers, businesses and workers."

The vast majority of ARENA's funding currently supports technology-development and deployment. An increased emphasis on ARENA support to innovative models for business and regulation could increase the return on investment for Australian taxpayers. Importantly, learnings from ARENA projects must be shared – allowing other businesses and regulators to learn from funding provided to leading innovators – and driving the wide-spread adoption of existing clean technologies.

4. For example, ride-sharing or peer-to-peer rental services.

Protect vulnerable electricity consumers and facilitate energy sovereignty

The Australian Energy Regulator needs better oversight of energy market regulation across Australia to:

- ensure equity and protect vulnerable consumers from exposure to dangerous heat and cold, and
- facilitate energy sovereignty through small-scale solar and battery installations.

Policy Box 4: Protect vulnerable electricity consumers and facilitate energy sovereignty

An increasingly hot and variable climate is exposing more Australians more often to life-threatening heat and cold. In remote areas, energy insecurity intersects with an already extreme climate. In these environments, this insecurity is particularly deadly. Research has shown that remote, mostly Aboriginal and Torres Strait Islander, communities are far more likely to suffer energy insecurity (Thomas Longden, 2024). This driven by regulatory disparities which disadvantage remote communities in the energy transition (Lee V. White, 2024).

Lowering regulatory barriers to rooftop solar could help to address the deadly impacts of energy insecurity. Greater federal oversight of energy market regulation can help counter the effects climate change and keep Australians safe.

Empower First Nations' involvement in renewable energy and related projects

- Embed principles of Free, Prior and Informed Consent into legislative, policy, and decision-making processes and systems, and
- Enhance resourcing of First Nations to plan their engagement with clean energy developments.

Policy Box 5: Empower First Nations' involvement in renewable energy and related projects

Many large-scale renewable energy and related projects are proposed on lands traditionally owned by First Nations Australians.

These developments have the potential to provide a pathway to sustainable development for First Nations communities. However, history has shown that valuable projects on First Nations land far from guarantees sustainable development. For the potential of renewable energy and related projects to be realised, legal and regulatory reform is essential to ensure fairer sharing of benefits and costs for affected First Nations people, communities, and organisations.

To avoid repeating mistakes of the past, it is imperative that these reforms be informed by the advice of First Nations communities and organisations, such as the First Nations Clean Energy Network.

Improve co-ordination and reduce duplication between state and federal approvals

Establish a pilot project focussed on clean-energy and related project developments to progress efforts towards a 'one project, one assessment, one decision' framework' for environmental, cultural and energy approvals, that includes strengthening bilateral assessment and approval agreements between the Commonwealth and the States and Territories.

Policy Box 6: Improve co-ordination and reduce duplication between state and federal approvals

Poor coordination and duplication of approvals processes creates a substantial barrier to clean energy and other low-emissions projects – hampering the low-cost transition. Duplication and poor coordination not only places costs on project proponents, but also on affected communities.

Insofar as these communities are often less well-resourced than project proponents, these regulatory failures can have particularly bad environmental and social outcomes.

The move towards a 'one project, one assessment, one decision' framework, as recommended by the Productivity Commission, for approvals for major projects would encourage strengthening bilateral assessment and approval agreements between the Commonwealth and the States and Territories (Productivity Commission, 2013).

Appoint a Special Envoy for AI and the Future of Work

The Federal Government should appoint a Special Envoy for AI and the Future of Work to lead national engagement on the risks and opportunities presented by artificial intelligence, with a particular focus on its impact on workers, small businesses, and the broader economy.

The envoy would act as a focal point for public engagement and cross-sector collaboration, including facilitating dialogue between industry, unions, education providers, students, and technology developers to ensure AI adoption aligns with community values, sustainable practices, economic priorities, and workforce protections.

This initiative would address growing public concern over AI-driven disruption and support a proactive, coordinated approach to managing technological change. It would help build public trust, support informed policy development, and ensure Australia remains competitive and socially resilient in the face of rapid AI advancement.

Supporting small-scale (households and enterprises)

For people facing severe resource constraints - such as many households and small businesses - even small barriers can prevent them accessing the cost and comfort benefits of the transition. Government plays an important role in supporting assisting households and small businesses to overcome these barriers to the transition.

Below outlines a suite of fair and efficient policies to provide this support emphasising innovation, adaptation, and generation of co-benefits for individuals and society.

Support for SME innovators

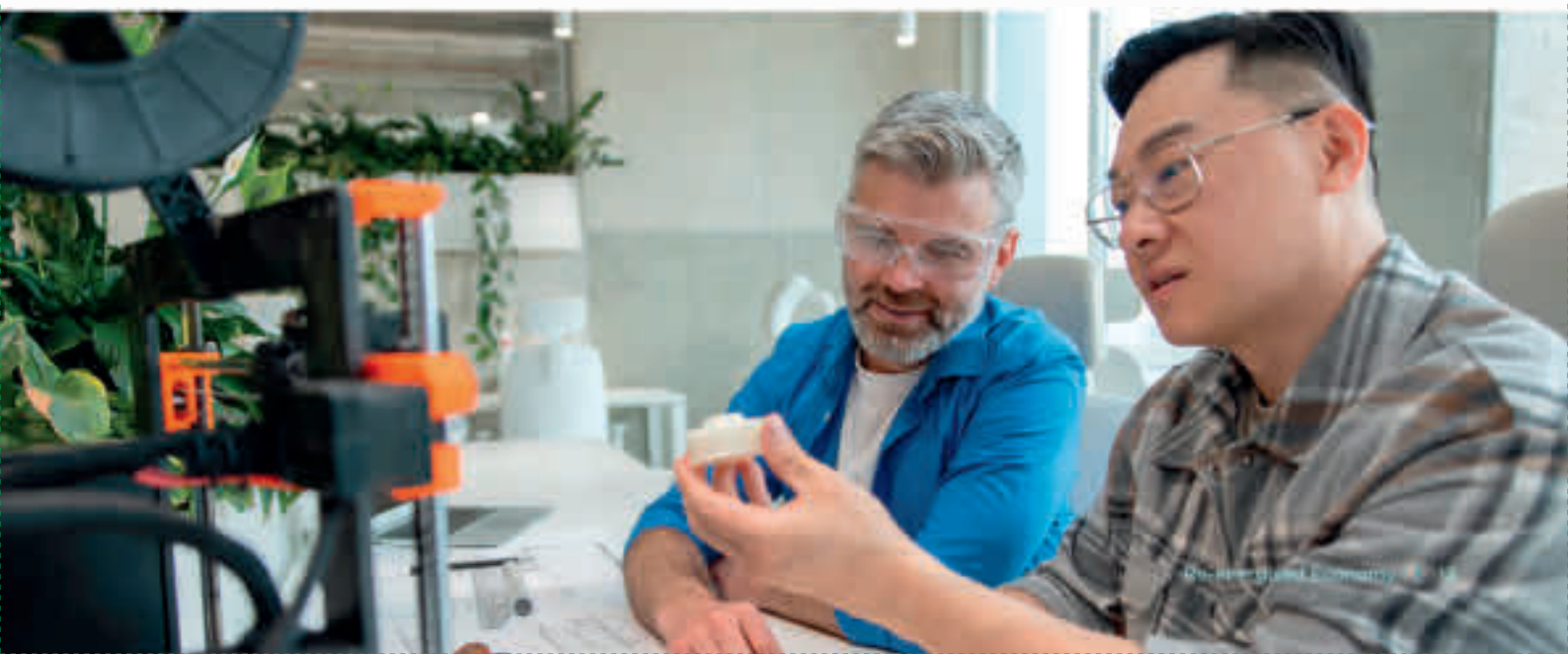
Increased funding for innovation, research and development by small and medium-sized enterprises.

Policy Box 7: Support for SME innovators

Small and medium sized enterprises (SME) contribute disproportionately to innovation and the creation of jobs, yet they are the most vulnerable to increasing costs, complexity, and unpredictability of their operating environment.

While overall, the Australian government may provide some meaningful SME support, when compared to other OECD countries, we consistently lag when it comes to expenditure in innovation and research and development. The Federal Government has an opportunity to bring Australia in line with leading countries in terms of value and quality of support for SME innovation. This means implementing scaled regulation that reflects business size, maturity and risk exposure, reducing unnecessary compliance costs.

Access to capital can be a barrier for new start-ups, especially those who don't have property or other valuable assets. This includes young people, new migrants and others who have been affected by Australia's increasing housing prices. Financial institutions should be allowed to use more flexible ways to assess loan applications, such as looking at business potential or cash flow, rather than relying only on traditional measures like property ownership.



Funding research and innovation for sustainable enterprises

Enhance funding opportunities for research and innovation to support the emergence and success of sustainable enterprises.

Policy Box 8: Funding sustainable enterprise research and innovation

Sustainable enterprises include small and large businesses and social enterprises that create value for society beyond the creation of jobs and generation of profits. These sustainability benefits may be social or environmental – and are long-lasting.

For example, a farmer innovating to integrate solar energy production into their operations (agri-voltaics) may create benefits in the form of clean energy, increased drought resistance (due to shade and water collection from panels), resilience (due to diversification of income sources), and international market opportunities (for low-emissions agricultural products). Funding research and innovation for sustainable enterprises allows us to find smart, home-grown solutions to pressing social and environmental challenges.

Unlocking the full potential of sustainable enterprises requires strategic public investment in research and innovation. This includes expanding the role of universities in facilitating industry collaboration and accelerating the diffusion of new technologies. Targeted funding should be directed toward emerging sustainable businesses to support their growth and market entry. Government-led initiatives that enable small businesses and undercapitalised entrepreneurs, including youth-led ventures, to adopt emerging technologies such as AI, can enhance global competitiveness and reduce the barriers related to limited start-up capital and resources.

Research and innovation supporting the creation and success of sustainable enterprises is undertaken predominantly by SMEs and research-focussed institutions such as universities. Government funding programs should be designed to ensure competitive, inclusive access to resources, with a focus on enabling small businesses and young innovators to adopt and apply technologies like AI.

Boosting high-quality science education

A Federal 'Science for All' initiative to enhance science education for all students, including resourcing for high-quality science educational experiences in disadvantaged schools and a nationally coordinated strategy to enhance engagement and performance among currently excluded groups, including low socio-economic groups, girls, and Indigenous children.

Policy Box 9: Science for All

Australia is projected to need 1.2 million people with science, technology, engineering and mathematic (STEM) skills by 2030 to meet future workforce demands and maintain global competitiveness (Victoria Univeristy, 2023).

This will be crucial, not just to enhance critical thinking and to the development, deployment and scaling of low-emissions technologies.

And yet, significant barriers remain that limit participation in STEM, particularly among girls and students from low socio-economic groups. On average, a 15-year-old from a low socio-economic background is three years behind their peers from higher socio-economic groups in mathematics and science achievement and is less likely to aspire to STEM careers (Department of Education, n.d.). Australia has one of the widest science performance gaps between the top and bottom 10% of students among OECD countries (OECD, 2025).

Girls continue to remain underrepresented in STEM pathways, comprising less than a quarter of total Year 12, undergraduate university and VET enrolments (Department of Industry, Science and Resources, 2023).

Expanding access to broad-based introduction of high-quality science education experiences into the curricula can boost engagement and achievement in science and maths (Holper, 2017). This can help to break down the existing stigma and barriers that currently exist from these excluded cohorts. Boosting engagement and achievements in science and maths across all demographics, helping to close these gaps, unlock talent, and lift Australia's productivity.

Household resilience support program

A Federal program offering eligible households and businesses up to $30,000 equivalent subsidy towards lowering their costs arising from climate change.

The recipient may obtain the funds for their choice of any combination of:

- A direct subsidy towards costs of approved adaptation investments,
- A low-interest loan to help finance approved adaptation investments, or
- Direct subsidy towards approved insurance coverage premiums.

An online tool would help potential recipients:

- Determine their eligibility,
- Calculate the best use of the available subsidy for their individual situation.

Eligibility criteria will ensure the funds:

- are directed to protect those most vulnerable to being impoverished by a climate-related disaster (including renters via landlords), and
- do not encourage investments which increase potential financial or other losses due to climate-related disasters.

Policy Box 10: Disaster-insurance support

Insurance premiums are one of the fastest-growing components of cost-of-living increases. Systemic risks posed by ongoing climate change mean that – without government intervention – the cost of insurance protection will become out of reach for more and more Australians in an ever-larger number of situations.

Poorly designed government interventions risk encouraging poor choices and high-risk developments, while placing the burden of paying for those choices on other taxpayers.

The Household Resilience Support Program uses economic theory to avoid producing these perverse consequences. By providing subsidy options as well as decision support tools, it also supports individual choice and education about the benefits of climate adaptation.

Reduce demand-side pressure on house prices

Address housing affordability through demand-side measures targeting investors and landlords including:

- Phased reduction in capital gains tax discounts on investment properties,
- Tax concessions for boarders or renters in a main residence,
- Better enforcing existing laws covering foreign investment in residential real estate,
- Raising taxes on foreign investment in residential real estate.

Policy Box 11: Reduce demand-side pressure on house prices

Growth in house prices has outstripped that of wages for over two decades. While some drivers are global, others, such as introduced tax breaks and high migration levels are the result of government policies (or lack thereof).

Supply-side measures are the current focus of the government. While popular with the construction industry, these measures have the major disadvantage of causing social division due to loss of amenity for existing residents as suburbs densify, or loss of environmental value (including habitat for endangered, iconic, species) as suburbs expand.

In contrast, the proposed demand-side measures help to lower house-price growth by reducing the number of people needing housing (as per population policy), or by decreasing the amount of money chasing the housing stock (as per reducing incentives for domestic and foreign property investment) (Coates, 2018).

Measures to encourage property investment are often touted as necessary to increase housing supply. While investors can be an important source of capital, they are only effective at increasing supply when capital is the limiting factor. In Australia currently, land and labour are widely acknowledged as the factors limiting housing supply. In this situation, encouraging investors does little more than drive up prices as it chases opportunities in competition with owner-occupiers.

Incentivising investment at scale

Households and small and medium-sized enterprises have an important role to play in the low-cost transition. However, the success of the transition ultimately relies on transition at scale, which needs to be led by large players in our economy.

While a focus on support is appropriate for resource-constrained households and SMEs, an overreliance on this approach can be problematic when it comes to large scale subsidies, which add significant strain on government resources. In contrast, the policies proposed in this chapter focus on fair and fiscally sustainable approaches to incentivising investment in the low-cost transition at scale.

Fairer forms of support for sustainable industries

Shift supports for sustainable industries away from simple tax concessions and towards approaches such as:

- direct Government co-investment in major projects,
- indirect Government investment via Clean Energy Finance Corporation; and
- contingent tax breaks, which require tax concessions to be repaid when businesses succeed,
- regulatory settings and incentives that encourage long-term environmental responsibility.

Policy Box 12: Fairer support for clean industries

The proposed policies highlight the opportunities for public investment to accelerate innovation, whilst ensuring accountability and long-term public benefit. Traditional financial support mechanisms, such as blanket tax concessions or subsidies, can fail to deliver targeted outcomes or scale innovation effectively. Conversely, more targeted and transparent approaches can better support the scale of sustainable industries, ensuring when industry succeeds, so does the taxpayer.

However, driving large-scale investment in sustainable industries requires a more than just capital, it requires a policy environment that is predictable, technology-neutral and aligned with long-term national interests.

Together, well-designed financial incentives and regulatory frameworks can promote responsible practices across industries and supply chains. This includes fostering a greater shared responsibility across supply chains, from production to end-of-life management, reinforcing the economy's shift toward a more circular, low-emissions future.

Leveraging green bonds for low-cost financing

Direct funds raised through the issuance of Australian Green Treasury Bonds to the Clean Energy Finance Corporation to provide low-cost loans to qualifying sustainable investments.

Policy Box 13: Low-cost financing though Australian Green Treasury Bonds

Australian Green Treasury Bonds allow investors to specifically back public projects that drive Australia's transition to net zero by 2050 and support environmental objectives by providing low-cost, long-term capital as well as enabling faster deployment of clean technologies.

This benefits taxpayers as the repayment of the loan, as well as any other interest paid, covers the Government's cost of raising the funds meaning there is little or no need for subsidy from taxpayers.

By allocating these green bond proceeds to the Clean Energy Finance Corporation (CEFC), it supports projects that are commercially viable but currently underfunded due to market risk or scale. This works to stimulate private investment, boost innovation, and create high-value jobs – particularly in regional and emerging industries.

This strategy enables the Government to support the clean energy transition while maintaining fiscal discipline, enhancing productivity, and delivering long-term economic and environmental benefits for all Australians.

Sustainably invest unsustainable resource revenues

Future-proof Government revenue by investing returns from natural resource extraction in a portfolio of sustainable investments which will generate real, lasting wealth for the benefit of all Australians.

Policy Box 14: Sustainable investment of unsustainable revenues

The safest way to ensure sustainable government revenue for fossil-dependent economies is to invest as much as possible of the current revenue from fossil extraction in ways that can provide long-term revenue.

This approach has been adopted by other fossil-fuel rich economies such as Norway and Saudi Arabia, which now have sovereign wealth funds worth $1.74 trillion and $930 billion USD respectively.

In the current global economic environment, a further benefit of sustainable investment of current revenue from fossil fuel extraction is that it reduces inflationary pressure compared to spending these revenues on measures to support short-term consumption.

A sound and well-supported approach to ensuring the revenues from natural resource extraction are invested for real wealth creation for Australians would be to ensure they align with the sustainable investment taxonomy that has been proposed by the Australian Sustainable Finance Institute.

Broaden and strengthen emissions pricing schemes

Improve emissions pricing mechanisms by expanding and strengthening the Safeguard Mechanism and increasing the integrity of Australian Carbon Credit Units.

Policy Box 15: Strengthen emissions pricing mechanisms

Pricing greenhouse gas emissions means making polluters pay for the damage caused by the impact they've had on climate. It is a leading example of an economically efficient source of Government revenue because of its effectiveness at reducing greenhouse gas emissions. As the global Net Zero Transition progresses, coverage of emissions pricing schemes globally continues to increase, and Australia is at risk of falling behind.

Focussing on strengthening the Safeguard Mechanism supports Australians because the covered facilities are almost entirely export oriented (Dr Emily Gibson, 2024). This means that cost increases will be passed on to foreign rather than Australian consumers, avoiding the inflationary pressures that could be associated with consumer-focussed emissions pricing schemes.

Mandatory emissions pricing in Australia is currently restricted to facilities covered by the Safeguard mechanism – approximately 200 of Australia's largest sources of greenhouse gas emissions. Together these facilities are responsible for around 30% of Australia's annual emissions. Expansion of the Safeguard Mechanism to cover more facilities would help incentivise reductions in some of the remaining 70% of emissions.

Safeguard facilities that are unable to achieve their required reductions are allowed to offset excess emissions by purchasing Australian Carbon Credit Units (ACCUs). ACCUs have been widely criticised for being low-integrity carbon offsets, which results in artificially low implicit emissions prices in the Safeguard Mechanism, reducing incentives for facilities to invest in genuine emissions reductions. The integrity of ACCUs should be subject to continuous monitoring and improvement.

Australian leadership in aligning international trade and investment with climate goals

Australian Government should take leadership in helping align international trade and investment with global climate goals through:

- Working with partner countries to reform investment treaties so that they can no longer be used by fossil fuel companies to sue governments for decarbonisation initiatives, and
- Working through international organisations and collaborations to develop effective embedded emissions accounting frameworks for clean trade.

Policy Box 16: Leadership in climate-compatible trade and investment

International regimes governing trade and investment flows can have huge impacts on our ability to transition to a low-cost economy. International markets for clean exports are essential to replace shrinking fossil fuel exports, but these will not emerge without appropriate international rules to govern them. International clean finance can also help to lower the costs of transition for Australia, and allow Australian investors to benefit from opportunities elsewhere, including helping lower-income countries to transition.

Leadership for reform is needed because existing international trade and investment rules are not fit for purpose. A case in point is the international investment treaty regime, which allows foreign investors to sue host governments for public good policies – including policies to price emissions or phase out fossil fuel subsidies. As a stable middle power, closely connected to both Asia and the West, Australia is in an excellent position to take on this climate leadership.

Charge fossil fuel exports for consequential emissions

Charge fossil fuel exports for the greenhouse gas emissions arising as a consequence of their use overseas.

The charge should be set such that the effective emissions price is the same as that for emissions in Australia covered by the Safeguard Mechanism.

Policy Box 17: Emissions charge on fossil exports

Australia is among the world's largest fossil fuel exports, and the emissions associated with the overseas use of Australian fossil fuels are significantly larger than Australia's entire domestic emissions. As it stands, Australia has 'no national policy framework aiming to restrict fossil fuel exploration, production or infrastructure development' (SEI et al, 2023).

While policies such as the Safeguard Mechanism help to address emissions occurring in Australia from the extraction and processing of fossil fuel exports, these policies do not address the much larger emissions associated with their downstream use overseas.

The introduction of a charge on the emissions associated with Australia's fossil fuel exports would provide a meaningful contribution to the global climate mitigation and safeguard our long-term national interests.

Many overseas jurisdictions, such as the EU, UK and Canada, are looking to the implementation of Carbon Border Adjustment Mechanism - a levy based on the emissions embedded in imported products. However, these charges are only able to be applied on emissions that have not already been priced earlier in supply chain and therefore, products whose embedded emissions arise from the use of Australian fossil exports will face lower "border adjustments".

By placing a price on fossil fuel exports, the Australian government would collect the emissions-pricing revenue, rather than a foreign government. In doing this, it improves, in real terms, the benefits Australia gains as a country from our exports and would have a counter-inflationary benefit. Since the costs are borne by foreign customers, rather than domestic, it avoids adding inflationary pressure.

Further, pricing exported emissions provides predictable industry transition for the fossil fuel industry. Rather than an outright ban on new fossil fuel projects, this approach provides a market signal that discourages further expansion whilst providing sources of revenue to support workers and communities affected by the transition.

Lastly, and somewhat counter-intuitively, an emissions charge on Australian fossil-fuel exports may enhance their competitiveness in a global market that is increasingly pricing greenhouse externalities. This competitive edge arises because it can help reduce administrative complexity for intermediate industrial consumers that face carbon border adjustments and other emissions pricing schemes in the output markets.

An example of this policy is the Carbon Solutions Levy, posed by Ross Garnaut and Rod Sims, imposed on all fossil fuel extraction sites in Australia, and as well as fossil fuel imports into Australia. The tax is proposed to be calculated on the emissions generated when the fuels are burned (also known as Scope 3 emissions). Garnaut and Sims have estimated that this could raise well over $100 billion in the first year of operation.

Downstream emissions pricing schemes such as carbon border adjustments cannot charge for emissions that have already been paid for - so there is no need to undertake complex embedded emissions accounting for the emissions associated with the use of pre-paid Australian fossil fuels. This administrative simplification provided by pre-taxed Australian fossil fuels may strengthen their competitive position in a shrinking global market.

Responsibly raising revenue

Alongside our energy and industrial systems, the way Australia raises revenue must also transition to support a low-emissions economy. In this way, it is expected that the structure of government funding will adapt to reflect the changing economy; reduced reliance on outdated subsidies and revenue sources interlinked with high-emitting activities and instead have focus on spending which aligns with long-term priorities.

By phasing out inefficient subsidies that no longer serve Australia's economic or environmental interests, funding can be redirected towards future-focussed investments which encourage accountability for environmental impacts and lay the groundwork for a fiscally sustainable low-emissions economy.

Coordinate royalties on geological carbon storage

Federal government should work with the state governments to develop efficient, fair and consistent approaches to charging royalties for geological carbon storage.

Policy Box 18: Royalties on geological carbon storage

Carbon dioxide captured from industrial processes or directly from the air can be stored in appropriate geological formations – keeping it out of the atmosphere for a hundred years or more. To ensure the carbon dioxide does not leak back into the atmosphere, it is important to use appropriate geological storage sites. In contrast to Norway and Canada, Australian governments do not yet have clear policies around charges for use of geological storage for carbon dioxide.

Natural resource royalties are a rare example of a non-distortionary[5] source of government revenue. Traditionally, a natural resource royalty is a payment made to the royalty holder (usually a government) for the right to extract a finite natural resource such as coal or gas. Geological sites that are suitable for storage of carbon dioxide are also finite natural resources. Hence, the same economic theory that provides the basis for royalties on extractable natural resources also applies to the use of geological storage sites.

In addition to providing revenue, a sound and consistent regime for charging royalties on geological carbon storage ensures Australians receive a fair return for the use of a finite natural resource.

Appropriate royalty charges also incentivise efficient utilisation of Australia's carbon storage capacity – avoiding wasteful use of this capacity by industries for which alternative decarbonisation options are feasible.

Leading importers of Australian fossil fuels – such as Japan and Singapore – have been arguing that it is Australia's responsibility to dispose of the carbon dioxide resulting from use overseas of the fossil fuels it exports. These importers propose to ship the carbon dioxide back to Australia, and for us to sequester it using geological storage.

Failing to charge royalties on geological storage provides an implicit subsidy that could set this new industry on an unsustainable path. Furthermore, under the terms of Australia's current investment treaties, later introduction of royalties (after investments have been made) could result in expensive compensation claims by foreign entities.

Since Australian state governments own the rights to geological storage sites, the Federal Government should work with them to develop efficient, fair, and consistent approaches to charging royalties for geological carbon storage.

5. This relates to economic distortions, as described above.

Phase out subsidies that encourage use of fossil fuels

Commit to phasing out all subsidies encouraging the use of fossil fuel by 2035. The speed of phase out can vary by industry, with subsidies for fossil fuels used in fossil-fuel extractive industries, such as coal and gas top priority, and those for agriculture last.

Where appropriate, these perverse subsidies should be replaced with smarter support mechanisms. For example, farmers could be supported to transition to low-emissions fuels and to increase the climate-resilience of their land.

Policy Box 19: Phase out fossil fuel subsidies

Supports for fossil fuel use are a textbook example of a perverse subsidy – encouraging harmful activities and distorting the economy. Phasing out fossil fuel subsidies strengthens the Australian economy by removing perverse incentives for investment in damaging industries. Removing these subsidies also helps improve the competitiveness of clean energy alternatives, helping to future-proof our economy.

Phasing out fossil fuel subsidies would also provide a significant source of government revenue that could be used towards social and environmental goals. In the 2023–24 Budget, fossil fuel subsidies cost the Federal Government $11.8 billion. Easily the biggest component of these subsidies is the Fuel Tax Credits Scheme. This subsidy is estimated to be worth $4.8 billion to the mining industry in 2024-25, with $1.4 billion going to the coal industry alone (Rod Campbell, 2024). Most Federal fossil fuel subsidies go to export-oriented industries – particularly extractives. As such, Australian taxpayers are currently subsidising consumption overseas.

An initiative that repurposes the $10 billion Fuel Tax Credits Scheme into a Climate Resilience Fund that funds high-risk local government areas' adaptation and resilience projects would help fulfil our environmental and social goals whilst remaining budget neutral. Local governments are under increasing strain from successive natural disasters as much of the cost of clean-up as well as resilience-building is funded by ratepayers, adding to the cost-of-living burden on residents. This initiative would not only help to strengthen the local community but also ease the overall economic burden of climate-related disasters on ratepayers.

End subsidies to emissions-intensive projects

The Federal Government must lead the State governments to bring an end to subsidies for emissions-intensive projects.

Policy Box 20: End subsidies to emissions-intensive projects

State and federal governments provide a wide range of subsidies to emissions-intensive projects, often through both direct and indirect means.

Some subsidies, such as tax breaks, are explicit and easy to identify. For instance, the New South Wales Government offered a suite of financial incentives, including concessional royalties and tax concessions, to support the development of the Shenhua Watermark coal mine.

Other subsidies are less direct. This includes funding of infrastructure which enables the high-emitting activities, such as railways and ports. For example, in the 2021-22 Federal Budget, the Federal Government allocated $173 million for road infrastructure upgrades to support the Beetaloo Basin fracking activities in the Northern Territory (Vivian, 2021). Additional forms of support include the low-cost use of natural resources (e.g. water) or utilities (e.g. electricity), often provided below market rates.

Subsidies can also be broader than direct funding and take the form of regulatory leniency, such as the waiving or relaxation of environmental or social obligations. This form of support can significantly reduce the costs of emissions-intensive operations and distort the playing field in favour of polluting industries.

Subsidies for high-emitting projects are another example of perverse subsidies – subsidies that drain government resources while encouraging harmful investments. Putting an end to subsidisation of emissions-intensive projects will reduce their competitiveness compared to clean alternatives, and ensure more resources are available to meet the needs of households and businesses.

Furthermore, it will reduce the inflationary pressure caused by inefficient projects competing for resources such as investment capital and skilled labour. By ending these harmful subsidies swiftly, it will help to steer business and the economy towards sustainable developments and avoid wasteful investment in sunset industries.

Lastly, it is noted that many of our largest and most emissions-intensive projects are export oriented and have substantial foreign ownership. Subsidising these projects means that Australian taxpayers are subsidising consumption of emissions-intensive products overseas, and often subsidising the profits of foreign firms, like the Indian-owned Adani Group.

Strengthen Australia's fossil fuel royalty scheme

Australia's Petroleum Rent Resource Tax (PRRT), which aims to collect funding from unsustainable resources revenues, remains weak when compared to other jurisdictions, such as Norway.

The changes brought in by the government in July 2023 have not seen a significant uplift in revenue collected by the PRRT, merely bringing forward the amount payable.

The 2025-26 Budget shows that, on average, PRRT has paid around 41% less than originally forecast. In fact, Australians continue to pay more HECS than gas companies pay PRRT. In 2023/24 the Australian government collected $5.1 billion in HECS, compared to just $1.1 billion in PRRT (The Australia Institute, 2025).

Instead, meaningful reform of the PRRT presents a valuable opportunity to raise substantial revenue to ensure that Australians are getting the most out of their natural resources.

Reform options should include:

- The PRRT deductions cap reduced to 80 per cent of assessable receipts
- Seven-year exemption removed.
- PRRT payment should not be deductible from company tax.

Carbon Border Adjustment Mechanism

Implement a carbon border adjustment mechanism (CBAM) to avoid emissions leakage and ensure a level playing field for facilities regulated under the Safeguard Mechanism.

Policy Box 21: Carbon border adjustment mechanism

A Carbon Border Adjustment Mechanism (CBAM) places a fair price on carbon emitted during the production of imported carbon-intensive goods that are entering the country.

The CBAM is designed to level the playing field between producers within Australia, who are affected by carbon pricing regulations through the Safeguard Mechanism, and foreign producers of similar products, who may not face the same carbon pricing. By supporting international momentum towards emissions pricing, a CBAM would also help create markets for Australian clean exports.

Indirectly, a CBAM reduces climate risks by reducing industry resistance to stronger and more comprehensive emissions reduction policies – especially those related to emissions pricing.

According to World Trade Organization non-discrimination rules, CBAM fees can be no higher than the pollution price paid by producers of "like" products in the imposing country. For Australia currently, this means that a CBAM could be applied to products whose production falls under the Safeguard Mechanism. A CBAM linked to the current Safeguard Mechanism would have negligible impact on the Consumer Price Index.

Similarly, the revenue-generation benefits of a CBAM can be expected to be small initially. These revenues are likely to roughly match the costs of development and implementation – at least in the short term.

Conclusion

We are halfway through a critical decade for climate action[6] (CSIRO, 2024). Australians experienced the 'climate whiplash' from flooding rains to heatwaves and fires. This new reality underlines the urgent need to transition away from polluting industries. The path forward will not always be simple or without cost, and there are consequences and, at times, difficult trade-offs. But failing to address climate change is not an available choice.

Australia is uniquely positioned to immensely benefit from the low-emissions transition. Our country has abundant natural renewable resources and expertise and ingenuity to lead in clean energy, innovation and technology. To take advantage, we must embrace all opportunities to position ourselves for global competitiveness. In doing so, every part of the Australian economy will be reshaped. We must focus on smart policy and strong leadership.

Our ability to meet emissions reduction goals relies on providing a clear, predictable policy environment. Divergent targets and policies across jurisdictions create unnecessary uncertainty for businesses and make investment decisions more complex.

At each election, Australians have been provided with a false dichotomy that they must choose between the prosperous economy and environmental responsibility. This outdated choice has continued to polarise debate over environmental and energy issues for decades. This paper argues there is an alternative path – one that lowers both the financial and environmental costs of living.

With broad government, business and community support for strong emissions reduction targets, Australians have shown they want a clear path to change. This White Paper provides practical policy solutions to help Australians forge and follow a path towards a lower-cost economy – both financially and environmentally.

6. The United Nation's Intergovernmental Panel on Climate Change says limiting warming to around 1.5°C requires global greenhouse gas emissions to peak before 2025 at the latest and be reduced by 43% by 2030.

Appendix – Policies in Action

Climate Resilience Plan

Zali Steggall has proposed a $10 billion Climate Resilience Plan which would provide a proactive, long-term and comprehensive plan to help adapt to climate risk and build long-term resilience, without passing the cost onto taxpayers.

This would consist of:

- $10bn Climate Resilience Fund designed to sustainably fund climate adaptation and resilience efforts in Australia.
    - The Fund would be set up as an investment facility, with the interest to use to pay out grants to implement the National Adaptation Plan.
    - Instead of passing the cost onto taxpayers, the Fund will repurpose existing funds for fossil fuel subsidies by phasing the subsidy over three years (33% each year). This includes abolishing the fuel tax credit for all industries except agricultural businesses. This has been independently modelled by the Parliamentary Budget Office to add $1.5bn to the Budget.
    - Funding will be prioritised to high-risk local government areas, as identified by the National Climate Adaptation Plan, to build infrastructure and mitigation strategies and reduce the overall economic impact of climate-related disasters. The second priority of the Fund would focus on uplifting climate resilience for households.
- $40m to expand the work of the Resilience Building Council in measuring resilience and incentivising risk reduction (via the Resilience Rating System) and the development of a Household Climate Resilient Certificate for homes.
    - The Resilience Ratings Scheme has been developed over the past decade in partnership with all levels of government, households, the Insurance Council of Australia, community-based NGOs, engineers, researchers, the building industry, banks and investors.
    - This proposal will help more than 4.5 million households and small business to benefit from the Resilient Council's Resilience Ratings across all hazards (fire, flood, cyclone etc)
    - This proposal help more Australians access affordable insurance and finance.
- Legislating national climate resilience assessment and adaptation plan to be conducted every 5 years.
    - This would bind future governments to regularly assess emerging climate risks and make informed, long-term plans to safeguard our communities against climate risk.
    - By including climate risks in government planning and decision-making, this Bill will help to build a strong Australia, where everyone – regardless of age, gender, race, ability – can feel safe and supported.
- Updating the National Construction Code to promote low cost, climate-resilient and energy-efficient housing.
    - Updating the National Construction Code to embed resilience in the next edition – due in 2028 – to ensure homes are built for climate resilience.
    - Reduce regulatory barriers to domestic, sustainable prefabricated housing and increase regulatory incentives for capital for households wanting to build with prefabricated housing providers
- Better co-ordination between all levels of government to create stronger land planning controls to ensure new developments are not built in high-risk areas (such as flood zones)
    - This proposal would ensure that local governments have the right tools available to prepare for climate adaptation.
    - Develop consistent methodologies for climate hazard analysis and collating data to show national trends and reduce costs to local government.

References

Ainsworth, K. (2024, November 20). Business insolvencies hit four-year high as price pressures squeeze hospitality and construction sectors. Retrieved from Australian Broadcasting Corporation: https://www.abc.net.au/news/2024-11-20/business-insolvencies-reach-highest-level-since-october-2020/104615438

Angus Grigg, N. F. (2025, Feburary 3). Marginal Labor seats among highest for mortgage and rental stress. Retrieved from Australian Broadcasting Corporation: https://www.abc.net.au/news/2025-02-03/electorates-in-financial-stress-four-corners/104875102

Bjorn Sturmberg, L. W. (2023, May 25). Electricity prices are rising again. Here's how to ensure renters can cash-in on rooftop solar. Retrieved from The Conversation: https://theconversation.com/electricity-prices-are-rising-again-heres-how-to-ensure-renters-can-cash-in-on-rooftop-solar-205928

Coates, J. D. (2018). Housing Affordability: Re-imagining the Australian Dream. Melbourne: Grattan Institute.

CSIRO. (2024). Australia's changing climate. Retrieved from CSIRO: https://www.csiro.au/en/research/environmental-impacts/climate-change/state-of-the-climate/australias-changing-climate

Delotte Access Economics. (2021). Special report: Update to the economic costs of natural disasters in Australia.

Department of Education. (n.d.). Students low socio-economic areas. Retrieved from https://www.education.gov.au/australian-curriculum/national-stem-education-resources-toolkit/i-want-know-about-stem-education/which-school-students-need-stem-education/students-low-socio-economic-areas#:~:text=The%20average%2015%2Dyear%2Dold,to%20aspire%2

Department of Industry, Science and Resources. (2023, July). The state of STEM gender equity in 2023. Retrieved from https://www.industry.gov.au/news/state-stem-gender-equity-2023

Dr Emily Gibson, A. H. (2024). Reforming Australia's safeguard mechanism: an update. Canberra: Parliamentary Library.

Holper, S. T. (2017). Recharging education to power the nation. CSIRO.

Lee V. White, B. R. (2024). Regulatory disparities disadvantage remote Australian communities in energy transition. Nature Energy, 14–15.

OECD. (2025, April). Education GPS. Retrieved from OECD: https://gpseducation.oecd.org/CountryProfile?primaryCountry=AUS&treshold=10&topic=PI

Productivity Commission. (2013). Major project development assessment processes.

Rod Campbell, E. M. (2024, May 13). Fossil fuel subsidies in Australia 2024. Retrieved from The Australia Institute: https://australiainstitute.org.au/report/fossil-fuel-subsidies-in-australia-2024/

Thomas Longden, S. Q. (2024). Temperature extremes exacerbate energy insecurity for Indigenous communities in remote Australia. Nature Energy, 11-12.

Trivess Moore, L. d. (2023, April 26). We need a 'lemon law' to make all the homes we buy and rent more energy-efficient. Retrieved from The Conversation: https://theconversation.com/we-need-a-lemon-law-to-make-all-the-homes-we-buy-and-rent-more-energy-efficient-204369

Victoria Univeristy. (2023). Projections for Jobs and Skills Australia.

Vivian, S. (2021, Janurary 14). Commonwealth tips another $173 million into Beetaloo Basin gas reserve, insists emissions targets on track. Retrieved from Australian Broadcasting Corporation: https://www.abc.net.au/news/2021-01-14/federal-government-road-funding-props-up-beetaloo-development/13057974

Thrower, Jack. (2025, March 19). In 2023-24 Australians paid more than 4 times on HECS/HELP than gas companies did on PRR. Retrieved from the Australia Institute: https://australiainstitute.org.au/post/in-2023-24-australians-paid-more-than-4-times-on-hecs-help-than-gas-companies-did-on-prrt/

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