



25 January 2024

2024 Pre-Budget Submission

The Clean Energy Council welcomes the opportunity to make a pre-Budget submission ahead of the forthcoming 2024-25 Federal Budget.

The Clean Energy Council is the peak body for the clean energy industry in Australia. We represent and work with more than 1000 businesses operating in Australia across solar, wind and hydro power, energy storage and renewable hydrogen.

The forthcoming Federal Budget marks a historic opportunity for the Australian Government to build on its strong energy policy agenda to date, by placing the clean energy transition and climate action at the centre of its economic agenda, deliver major cost of living savings to households and small businesses, and unlock the immense potential that Australia has to power the nation – and other international markets – with low-cost, renewable energy.

In October 2023, the Clean Energy Council released its [Power Playbook](#), an unsolicited submission to the Australian Government outlining a strategic package of 45 recommendations designed to ensure Australia gets back on track for 82 per cent renewables by 2030 and achieves its ambition of becoming a renewable energy superpower. Many of these recommendations are highly relevant to the Albanese Government's deliberations for the 2024-25 Federal Budget.

We welcome the very significant portfolio of commitments and achievements of the Albanese Government over the past 18 months, to get Australia's clean energy transition back on track after a lost decade of planning and investment. These commitments include the:

- Government's \$20 billion Rewiring the Nation program
- \$1.9 billion Powering the Regions Fund
- \$3 billion National Reconstruction Fund
- \$2 billion Hydrogen Headstart program
- \$1.6 billion Energy Savings Package to provide low-cost loans for household energy upgrades, targeted energy upgrades for social housing and incentives for small business energy upgrades.
- New fuel efficiency scheme for light passenger vehicles
- Capacity Investment Scheme for utility-scale storage
- Newly announced Expanded Capacity Investment scheme to support large-scale wind and solar projects.

The challenge now is to build on this core policy agenda to deliver low-cost renewables for Australian households, business and industries, and grow the new zero emissions industries of the future, which can lay the foundations for our future prosperity in a carbon-constrained world.

Our overarching message to the Government is to 'go hard, go early'. This is relevant to the major infrastructure planning and investment required, the energy productivity improvements available to us through electrification of buildings, transport and industry, and in terms of stimulating new green growth industries. Strong and early government investment is a downpayment on future economic growth.

One clear example of this is the US \$408 billion of new clean energy investment, the 270,000 MW of projects, and the 113 clean energy manufacturing facilities or expansions that have been announced in the US¹ since the *Inflation Reduction Act* was passed in August 2022. This (largely) private capital investment already surpasses – in just over one year – the original estimates of the public sector investment in energy and climate related initiatives through the IRA (US\$369 billion).

With a large portion of the IRA incentives allocated to uncapped tax credits, Goldman Sachs now estimates that the clean energy spending by Biden's Government could triple to US\$1.2 trillion by 2032. However, the investment bank also forecasts that the raft of incentives will in turn unleash almost US\$3 trillion in clean energy/low-emissions investments across the economy by 2032, more than delivering a return for the much higher expected outlay².

The huge global momentum towards net zero emissions now means that Australia is competing for capital, equipment and skilled workers, and we need the ambitious, long-term policy and investment signals to be put in place as quickly as possible for the future we intend to build. Tentative steps or delays will result in Australia missing out on new private investment, a more costly economic transition, and a less competitive economy.

We should only expect global competitive pressures to increase. The latest international climate agreement, struck at COP28 in Dubai in December, provides an undertaking for the world to triple the current renewable energy capacity by 2030. Federal, state and territory governments will all need to work hard to create the necessary policy frameworks and remove the unnecessary barriers, to attract and unlock our full investment potential. These efforts should focus on attracting private investment through robust, efficient and transparent policy settings, rather than growing the scale and number of government interventions.

¹ [Clean Energy Investing in America report \(2023\)](#), American Clean Power Association

² [The US is Poised for an Energy Revolution \(goldmansachs.com\)](#), 17 April 2023

The Centre for Future Work released analysis in 2023 of the quantum of expenditure that Australia would be allocating to clean energy investment if it were to take a proportionate approach to that of the United States³ (by population). It found, as shown in the table below, that the amount would be in the order of AUD\$83–138 billion, depending on the ultimate cost of the IRA.

The Clean Energy Council expects that Australia will need to take a much more targeted approach to its clean energy investment strategy than the United States, given the size and structure of its economy. However, we nevertheless consider that a much larger investment will be required by the Australian Government than has been made to date in order to secure our competitiveness for capital, equipment and skilled workers.

The Government should commit – as soon as possible – to a nation-building Clean Energy Transformation Investment Package capable of boosting and retaining Australia’s international competitiveness as a producer of renewable energy and green value-added commodities, which can position Australia to prosper in a carbon-constrained world. We expect that the scale of this fund would be in the order of \$10 billion per year for at least ten years. These funding levels may need to be extended in response to evolving conditions.

As outlined in our [Power Playbook](#), this package should be guided by a Renewable Energy Superpower Masterplan, which articulates the vision for Australia’s role as a producer and exporter of clean energy products and green value-added commodities, and to guide the allocation of public and private investment and resources.

The Clean Energy Transformation Investment Package would also include:

- 1) Support for the accelerated uptake of large-scale and small-scale renewable energy and storage and long-term renewable energy targets, with a view to realising the full decarbonisation of the electricity sector by 2035. This recognises that low-cost, renewable energy will be the foundation of Australia's competitive advantage in a net zero economy. We acknowledge the significant budgetary implications of the recently announced Expanded Capacity Investment Scheme (discussed further below).
- 2) Measures to promote the faster uptake of electrification of buildings and transport, which will deliver cost of living savings and improvements in energy productivity across the economy.
- 3) A national offshore wind target to provide investor certainty in relation to the scale and ambition of Australia’s offshore sector, supported by a policy support mechanism which can drive contracting.

³ [Manufacturing the Energy Revolution | The Australia Institute's Centre for Future Work](#), August 2023

- 4) Major investment allocations for green hydrogen and its derivatives, green iron and energy transition minerals processing.
- 5) Additional capacity within Commonwealth, state and territory government planning and environmental assessment units to expedite project assessment processes.
- 6) Development of a National Clean Energy Supply Chain strategy.
- 7) Alignment of higher education funding models with industry needs for the clean energy transformation.

Further detail about each of these priority areas and more can be found together with all 45 recommendations in the [Power Playbook](#).

With the adoption of a Clean Energy Transformation Investment Package, or a similarly scaled fund, the 2024-25 Federal Budget can support very significant cost of living savings and productivity improvements for households and business, and lay the foundations for Australia's net zero transformation and long-term future prosperity.

Further to the detailed analysis and recommendations provided in the [Power Playbook](#), we set out a range of updates below and recommendations for the 2024-25 Federal Budget.

1) A strong start to the expanded Capacity Investment Scheme for renewable electricity generation

In order to achieve the Federal Government's target of 82 per cent renewables by 2030, Australia itself needs to see roughly a tripling in annual financial commitments of large-scale renewable investment in order to achieve an average of 6-7 GW of new large-scale renewable projects each year from 2024 through to 2030⁴. This is in addition to the installation of approximately 3.5 GW of rooftop solar per year to 2030.

We welcome the Government's announcement in November that it will provide massive support to bring forward 23 GW of large-scale renewable energy capacity between 2024 and 2027 through an expanded Capacity Investment Scheme ('CIS') for variable renewable energy, in addition to 9GW for utility-scale energy storage. This investment commitment appropriately reflects the scale of investment required, and the strategic importance of renewable energy to Australia's energy security and net zero transformation.

The Clean Energy Council has been strongly advocating for a long-term policy mechanism to support new utility-scale renewable energy investment, recognising that the Renewable Energy Target, which has underpinned investment in the sector since 2001, is due to sunset in 2030.

⁴ Green Energy Markets analysis for the Clean Energy Council, August 2023

We note that there is inherent investment risk in moving away from an existing and proven market-based policy framework to a new scheme linked to a centralised competitive process run by Government. As such, in developing the final scheme design, we encourage close and careful consultation with the energy industry and in particular renewable energy asset developers and investors, to ensure that we can maximise the transparency, predictability and efficiency of the competitive process.

The Clean Energy Council also encourages the Albanese Government to **'go big, and go early'** in the phasing of the Expanded CIS, noting that (a) investment is already lagging required levels by a wide margin, (b) many investors are now pausing project finalisation until further detail about the scheme is available, and (c) insufficient scale and speed in the competitive rounds has the potential to stifle investment, rather than bring it forward.

As recognised by Government, this Expanded CIS will need to be accompanied by a range of supporting and enabling measures across the following areas, which are detailed in Section 3 (pages 35-44) of the [Power Playbook](#):

- Social licence for the clean energy transformation of our electricity sector
- Efficient planning and environmental assessment processes
- A large, skilled and diverse workforce
- Robust supply chains.

2) Cost of living package to accelerate the household and SME shift to rooftop solar, behind-the-meter energy storage and electrification

Uptake of rooftop solar and behind-the-meter batteries can deliver substantial cost of living savings to households and small businesses, and substantially increase the savings generated from electrification.

A 2023 study by Energy Consumers Australia and CSIRO⁵, supported by the Clean Energy Council and other organisations, found that fully electrified households that can install rooftop solar and a battery are forecast to save a further \$1250 per year by 2030 (in addition to the \$2,250 savings from electrification), and \$1420 by 2040 (in addition to the \$2,600 from electrification).

⁵ [Stepping Up: A smoother pathway to decarbonising homes](#), Energy Consumers Australia, August 2023

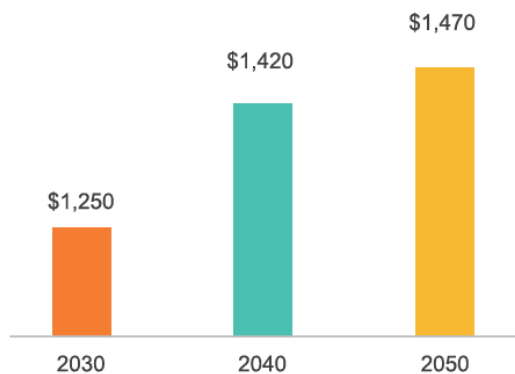


Figure 1: Additional electrification savings available to some households as a result of solar and battery ownership (Energy Consumers Australia, August 2023)

We encourage the Australian Government to develop and fund a package to support uptake of both technologies through to 2040 (beyond the current life of the Small-scale Renewable Energy Scheme (SRES), due to sunset in 2030).

Solar and batteries can provide immediate bill relief, with savings on retail bills ranging from \$665-\$1250 per annum for those who take up a solar and battery solution. They can also deliver wider system savings by dampening wholesale costs both during the middle of the day and during evening peaks where batteries are installed, and by delaying the need for capital upgrades to the distribution network.

While adoption of solar PV continues to track strongly, the current rate of deployment will need to be increased and consistently maintained over coming years in order to match forecasts under the Australian Energy Market Operator's Step Change Scenario. This is even as the rebates under the SRES decline (and ultimately end) as we approach 2030.

On its own, solar generation is a passive form of generation and there is a limit to its value. Storage, however, makes this passive generation source more flexible and valuable to both the individual and the wider system.

However, battery storage remains expensive, and this acts as a barrier to deployment levels that means the full value of its benefits are not attained. AEMO's Step Change scenario forecasts that distributed battery storage will grow from less than 1 GW in 2022 to over 6 GW in 2030. This forecast however has been predicated on a 50 per cent capital subsidy for battery storage⁶ that does not currently exist, and so is highly unlikely to be realised without policy intervention.

⁶ See Table 4-1, page 44, [Projections for Distributed Energy Resources report, Green Energy Markets, prepared on behalf of AEMO, December 2022](#)

There are a number of options for the Australian Government to assist households and small businesses to benefit to adopt solar + storage solutions.

For households, these include:

- 1) The extension of the SRES to 2040, with an expansion of the scheme to also cover batteries. Income means testing could be applied for households in order to reduce the overall retail bill impact. Extending the SRES has the advantages of an established legislative and regulatory framework that ensures the compliance of solar PV retailers and installers with their obligations under the scheme through a formal accreditation process of installers to ensure systems are installed by persons who are appropriately trained, competent and operate with integrity; and an approval process for key components (i.e. solar PV panels and inverters) to ensure components comply with relevant product standards. Broadening the scheme to batteries provides for a low cost and established compliance framework to be extended to battery installation and product quality.
- 2) Direct rebates for households, which could again be subject to means testing. We note that rebates are significantly more effective than concessional loan schemes.
- 3) A co-funded battery rebate program with State Governments based on the same design principles as the current Community Batteries Funding and Community Solar Banks programs.

For small-to-medium businesses, the Government could supercharge solar and battery uptake through one of the following options:

- 1) The introduction of temporary tax breaks/accelerated depreciation targeting eligible small and medium-sized businesses. This measure has previously stimulated activity (e.g. post-COVID lockdown).
- 2) The expansion of former grant packages for energy efficiency in high energy use businesses. Criteria can be adjusted to include solar and battery installation and can be targeted towards high use energy sectors i.e. manufacturing, hospitals.
- 3) The extension of the SRES by size of system from current limit of 100 kW to 200 kW. Enabling more participation from small and medium businesses, with the retail bill cost offset through the introduction of income/revenue testing.

3) Expansion/extension of Hydrogen Headstart

The CEC welcomes the statement by the Federal Treasurer in November of four green growth priority areas that would feature in Australia's net zero transformation⁷. These included renewable hydrogen, green metals, critical minerals and the manufacturing of energy generation and storage technologies, and all are aligned with our recommendations contained in the Power Playbook.

Green hydrogen is the building block for many decarbonisation solutions for hard-to-abate areas, from green iron and aluminium, to fertilisers and marine and aviation fuels, and its production is well aligned with our natural resources and comparative advantages. We urgently need to drive down the cost of this renewable fuel to support decarbonisation plans and green growth markets.

The Federal Government is now leading the refresh of the National Hydrogen Strategy, which represents a critical opportunity for Australia to address declining competitiveness for Australian hydrogen projects, in the context of stronger targets and generous incentives being provided in other regions (particularly Europe and the US). Australia needs an enduring policy mechanism to support green hydrogen production.

In announcing the \$2 billion Hydrogen Headstart contract for difference scheme in the 2023-24 Federal Budget, the Government recognised that it represented a 'downpayment' on the development of Australia's hydrogen industry. We note that a 2023 analysis by Deloitte found that a hydrogen production credit of AUD \$2/kg 'around half the level of the maximum credit in the IRA for renewable hydrogen' – would be required, 'underlining Australia's underlying comparative advantage'. This would require Government investment in the order of \$15.5 billion in today's terms over a decade. We note that this quantum is broadly commensurate with Canada's investment commitment in response to the IRA (~\$20.6 billion), pledged last year.

Noting that Headstart is only expected to support 2-3 large scale projects from a large field of potential candidates, and that the uncertainty around longer term policy arrangements will have a chilling effect on projects, we urge the Government to move quickly to outline its plans for stimulating sustained investment in large-scale early mover projects over the decade ahead. This support should have the objective of accelerating the scale-up of Australian industry to an internationally cost-competitive basis.

One option for a long-term support program is to establish a set of transparent project eligibility criteria, which, if met, would attract the production credit for a specified volume or time-period, similar to the US Inflation Reduction Act scheme.

⁷ [Keynote address to the Economic and Social Outlook Conference, Melbourne | Treasury Ministers, 2 November 2023](#)

Alternatively, the Government could look to extend the Hydrogen Headstart contract-for-difference program, providing a published forward schedule of periodic (eg. annual) competitive rounds until at least 2030.

4) Funding the data collection to support the development of our clean energy workforce

Research from Net Zero Australia has found that decarbonising our domestic energy system requires the energy workforce to double by 2030 and double again by 2035, with up to 75 per cent of jobs in regional areas. This represents a five-fold increase in the size of the energy workforce, increasing from ~50,000 workers today to ~250,000 workers.

The story is much larger in a superpower future. The hydrogen superpower potential alone would require a further ~500,000 workers to 2060 across the hydrogen supply chain, including electricity generation, hydrogen production, transport, storage, and conversion to energy carriers such as ammonia. This does not include a range of other value-added manufacturing opportunities (e.g. green iron/metals production and a larger role in critical minerals processing) associated with the superpower opportunity.

Achieving renewable energy superpower status would involve a transformational shift of Australia's workforce, which would need unprecedented planning, co-ordination and cooperation between governments, education and training providers, industry, unions, communities, and workers. In the immediate term, the clean energy industry is already facing several workforce challenges that risk Australia's ambitions of 82 per cent renewable electricity by 2030.

Australia currently lacks the data it needs to properly understand clean energy jobs. This is because clean energy workers can be found across a variety of incumbent industries, including electricity, construction, and manufacturing. This data gap hinders the workforce planning and policymaking efforts needed to deliver the workforce required to transition to a clean economy. An immediate outcome for industry is enduring skill shortages in critical occupations, in a context of growing demand for workers due to escalating decarbonisation ambitions.

The full impacts of this challenge were detailed in Jobs and Skills Australia's (JSA) Clean Energy Generation report (2023), a landmark analysis of the current and future state of the clean energy workforce in Australia. It noted that previous efforts to survey the industry for an Australian Energy Employment Report (AEER) were stymied by low responses and insufficient budget.

The Government's own study recommended that the Australian Government commission a comprehensive and regular AEER. JSA has worked with the Department of Climate Change, Energy, the Environment and Water to develop a business case that builds on the capability of the AEER and broaden its data collection.

This would leverage the whole-of-labour market mapping initiated by the study and establish a consistent approach to measuring the workforce. An AEER would address critical data gaps limiting Australia's ability to identify and project future needs in emerging sectors and across the supply chain.

A regular report, at an initial total cost of approximately \$3.4 million, would support all levels of government, industry and the education and training sector to effectively manage the clean energy transformation. It would enable a planned and orderly transition that maximises benefits for local communities, First Nations peoples and workers.

Conclusion

Our Power Playbook, together with the complementary recommendations provided in this submission, outline the need for the Government to build on its strong progress in energy and climate policy, by prioritising a nation-building Clean Energy Transformation Investment Package in the forthcoming Budget. This funding package will need to be supported by a complementary set of actions to build capacity for a major expansion of our electricity system and associated industries, streamline regulatory processes, and to effectively engage communities in the economic vision. We look forward to partnering with the Federal, State and Territory governments in these efforts.

The 2024-25 Federal Budget provides a critical opportunity for the Albanese Government to set in train a transformative economic agenda which can deliver real cost-of-living savings to households and businesses, support dramatic improvements to energy productivity through electrification, and ultimately unlock hundreds of billions of dollars of private investment, and hundreds of thousands of jobs across the economy in clean energy infrastructure and new green industries.

A delayed response will only erode the scale and scope of our opportunities and international competitiveness, and as such we must seize this year's Budget as a rare chance to proactively refashion our economy for long term prosperity and success in a carbon constrained world.

Should you require any further information about this submission, please contact Anna Freeman, Policy Director – Decarbonisation at afreeman@cleanenergycouncil.org.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Kane Thornton', with a stylized flourish at the end.

Kane Thornton
Chief Executive