5 May 2020

A CLEAN RECOVERY

Using Australia's enormous renewable energy potential to create jobs and jumpstart the economy

CLEAN ENERGY COUNCIL

TABLE OF CONTENTS

Overview	4
The case for A Clean Recovery	6
The challenges we must overcome to accelerate clean energy	8
Building and installing new clean energy is low risk	9

A Clean Recovery can bring forward the enormous pipeline of wind and solar projects across Australia to:

- ***Create over 50,000 new direct jobs - and many more indirect jobs - in the construction of these projects, and an additional 4000 ongoing jobs in operations and maintenance.***

- ***Triple the amount of large-scale renewable energy installed in Australia. Over 30,000 MW of new capacity would be built, on top of the existing 16,000 MW of renewable energy generation in the National Electricity Market, accelerating Australia's shift to a grid dominated by clean energy.***

- ***Inject $50 billion worth of investment into the Australian economy, particularly into rural and regional areas where these projects are located. This investment would be delivered by investors and allow government to direct scarce taxpayer funding to other essential services and areas.***

Overview

Clean energy has delivered an enormous economic boost to Australia during the past few years as a result of unprecedented investment in large-scale wind, solar and storage as well as a record number of Australians investing in the installation of rooftop solar and household battery solutions.

COVID-19 has had a profound impact on the Australian economy. A Clean Recovery has enormous potential to utilise investment in renewable energy and energy storage to assist the national economic recovery effort, creating thousands of new jobs, empowering consumers, bringing economic activity to regional communities, lowering power prices and creating the smart infrastructure of the future that can cement Australia's place as a global clean energy superpower.

Many of these measures involve smart regulatory reform that will unblock massive pent-up private investment, while others are highly cost-effective with minimal demands on government funding or impost on electricity customers.

The clean energy industry has been one of Australia's extraordinary success stories over the past few years and stands ready to lead the economic recovery from COVID-19. A Clean Recovery can jumpstart the economy as a result of the following package of initiatives.

Creating jobs, supporting local communities and empowering consumers	Develop a national home battery program Support small businesses and new homes to go solar Commit to government and community buildings switching to solar and batteries Commit to 100 per cent renewable energy for government agencies
Building 21st century energy infrastructure	Build a 21st century transmission network Build a smart distribution network to accelerate and leverage distributed energy resources (DER) Support investment in large-scale energy storage Build an electric vehicle (EV) charging network Develop the workforce of the future
Accelerating large-scale clean energy investment	Facilitate continued investment in large-scale renewable projects Encourage the development of offshore wind energy Prioritise smart market and regulatory reform
Making Australia a clean energy superpower	Support major energy customers to secure low cost supply and become globally competitive Establish Australia's renewable hydrogen capability

While there has been massive investment in large-scale clean energy projects over the past three years, this investment slowed dramatically in 2019 and 2020 due to the expiry of the Renewable

Energy Target (RET), lower electricity prices, the inadequacy of Australia's transmission network and significant barriers to grid connection which have spooked private investors and developers.

While the long-term fundamentals of investment in clean energy remain strong and compelling, the current circumstances warrant accelerated reform, removal of barriers to investment and a bridge to enable continued investment in the energy transition over the next two to five years. With the massive impact of COVID-19 on the Australia economy in the past two months, new clean energy investment commitments and the related jobs are at risk of stalling further.

Collectively, there were record levels of rooftop solar being installed along with over 60 wind and solar projects currently under construction, equating to 7.7 GW of new electricity generation capacity, employing over 10,700 workers at peak construction and supporting ongoing economic activity in many regional and rural communities across Australia. The required economic recovery from COVID-19 is an opportunity to kick on with new clean energy investment and avoid the risk of the industry stalling further and the associated job losses this would cause.

More renewable energy investment is crucial for Australia to prepare for the certain exit of ageing coal-fired generation over the coming decade. The Australian Energy Market Operator has stated that Australia requires the construction of 30-47 GW of new large-scale renewable energy by 2040, complemented by energy storage, demand-side participation and transmission investments. The large existing pipeline of wind and solar projects that already have planning approval equates to over 30 GW. If these projects alone were to be brought forward, they could deliver over $50 billion in investment and over 50,000 new direct jobs (and many more indirect jobs).

The opportunity for Australia is enormous.

Delivering this new electricity generation would deliver a cleaner, more affordable energy system that benefits all Australians and would increase Australia's international competitiveness, especially in energy intensive industries, leading to further economic and employment benefits. The consequent investment in renewable energy could also allow Australia to become the first large-scale exporter of hydrogen in the world, securing export revenue and jobs for the 21st century.

This is an opportunity to transform Australia, forever.

The case for A Clean Recovery

The benefits of the recent record levels of renewable energy deployment are obvious across many aspects of the energy system, economy and society. A Clean Recovery that sustains and accelerates this deployment will have a wide range of benefits.

- **Sustaining and creating jobs.** The renewable energy industry currently employs over 28,000 people, from project managers and construction workers on major project sites through to the 6500 accredited installers of rooftop solar and household batteries in our towns and suburbs. Many of these workers are in rural and regional Australia. A Clean Recovery can ensure that no further jobs are lost in the sector while creating over 50,000 new construction jobs for large-scale renewable projects and a further 4000 ongoing operations and maintenance jobs. Australia has a strong history of embracing clean energy innovation, from early-stage research to new technology demonstration projects in the field. To drive future high-skilled jobs, we must maintain Australia's leading role in the uptake of emerging clean technology.

- **Boosting the economy.** There are thousands of small businesses in the solar and battery industry, supply chain and the development, construction and operation of large-scale wind, solar and energy storage projects. Many of these projects and jobs are located in rural and regional Australia. Small rural communities also benefit from the presence of the renewable energy industry through local hardware stores, accommodation, restaurants and catering businesses. These initiatives will help drive demand and support these businesses during the anticipated economic downturn.

- **Lowering power prices.** Rooftop solar and household batteries can play a massive part in reducing power costs for households and small businesses, while large-scale renewable energy deployment is crucial to keeping downward pressure on wholesale (and retail) electricity prices, particularly with the looming closure of further coal-fired generation. A Clean Recovery will be critical in supporting Australians through the anticipated economic downturn and freeing up tight expenditure for household essentials.

- **Creating a smart energy system.** Market and regulatory reform, investment in transmission and energy storage are critical to supporting vast amounts of private sector capital into renewable energy. They will also accelerate Australia's transition to a more flexible, low cost and clean energy system. Renewable energy development will go hand in hand with investment in transmission and energy storage. These are long-term projects that will provide steady, secure and value-adding employment in Australia.

- **Supporting Australia's low-cost and modern manufacturing.** A Clean Recovery can ensure that Australian industry has the lowest-cost, most reliable and flexible energy supply in the world. It will also support a revitalised manufacturing sector, which will create considerable job and economic opportunities.

- **Ensuring Australia becomes a global clean energy superpower.** By accelerating the transition to a clean energy system and investing in the demonstration and building of hydrogen capability, infrastructure and market demand, Australia can take advantage of the enormous global opportunity in exporting renewable hydrogen.

- **Driving the structural adjustment necessary to achieve zero net emissions.** Clean energy has been the single biggest contributor to Australia's emissions reductions over the past decade. Clean energy is one of the very few industries that can deliver strong economic growth while reducing Australia's carbon footprint and delivering on Australia's international commitments. The economic recovery from COVID-19 is an opportunity for A Clean Recovery to set Australia on a pathway to meeting its 2030 emissions commitments. This can reduce the burden on the next generation of Australians who will confront the worst impacts of climate change and even greater abatement obligations while paying down the debt incurred by governments responding to the COVID-19 crisis.

- **Creating a more resilient energy system.** COVID-19 (and the recent bushfire crisis) has made it clear that a resilient power system is a critical component in the stability of modern industry and society in the event of a crisis like the world is currently experiencing. By strengthening energy security, solar and wind, together with storage, will help communities prepare for future crises by providing more reliable and resilient power systems.

- **Improving air quality and health.** Air pollution has a significant impact on human health in cities across Australia. By transitioning to renewable energy and away from polluting fossil fuels, the quality of air and human health in these cities will improve materially.

The challenges we must overcome to accelerate clean energy

Even before COVID-19 and the associated economic impacts, investment in some elements of renewable energy had become challenging. In determining priority measures to accelerate clean energy investment, it is crucial to recognise the current status and barriers facing the industry.

- **Rooftop solar** achieved record levels of installation in 2019 and the early part of 2020. This was driven by very strong consumer demand accompanied by increasing cost effectiveness – higher retail electricity prices combined with lower costs for solar systems – and customer understanding and interest in solar power as a way of managing power prices and making a contribution to climate change action. While the business case for rooftop solar is very strong for many Australians, barriers remain for niche applications and customer segments, such as renters and low-income households and financing commercial and community-scale systems.

- **Household batteries** have become increasingly popular, with 22,000 Australian homes installing a battery in 2019. While the cost of household batteries continues to fall, the upfront cost of systems remains a barrier for most Australians. Government programs to reduce the capital cost and/or provide low interest loans should be a priority, particularly considering the likely impact of COVID-19 on consumer spending.

- Investment in **large-scale wind and solar projects** had already fallen in 2019 by around 50 per cent. This was largely due to growing grid issues and constraints and the lack of long-term policy (with the exception of a number of state and territory governments, which have programs to underpin new investment in renewable energy). COVID-19 has led to a fall in the Australian dollar, driving up equipment costs for projects, and at least a short-term reduction in energy demand, lower wholesale power prices and the tightening of financial markets. These factors make capital intensive investment in these long-term generation assets more complex and difficult, warranting some short- to medium-term policy support to overcome the current roadblocks.

- **Large-scale energy storage** will play an important role in creating a flexible and reliable energy system and supporting the rapid deployment of variable renewable energy sources. While the optimal mix and level of energy storage – from rapid response batteries to long-duration storage such as pumped hydro – will likely change over time and across different jurisdictions, market arrangements do not currently recognise the full value of storage and are therefore not delivering sufficient levels of private investment. Accelerating market reforms that realise the full value and benefits of energy storage should be a priority. Government support for these projects remains critical while the cost of these solutions continues to decrease and the necessary market reform eventuates.

- Due to Australia's abundant renewable energy resources and strong track record as an export partner to Asia and beyond, Australia is in pole position to be a leading global player in the production and supply of **renewable hydrogen**. But we are in a race with other potential suppliers and must work collaboratively and quickly to ramp up our local capabilities so that we are ready to service a huge potential local and international market that has no, or low, current demand. Governments can play a role in working with industry on research and demonstration projects, strategic planning, infrastructure upgrades and kickstarting local demand to support private investment in new renewable hydrogen production facilities.

Building and installing new clean energy is low risk

Accelerating clean energy can be done safely with low risk of further spreading COVID-19. The clean energy industry is committed to the implementation of and strict compliance with government guidance in order to protect the wellbeing of our people, customers and the community.

The industry has worked hard to ensure the continued safe operation of existing generation assets and construction sites and protect local contractors and supply chains that will sustain the long-term future of this growing industry.

We begin with an advantage. When compared with most other construction sectors, renewable energy projects have many characteristics that reduce the risk factors associated with COVID-19 transmission, including:

- large-scale project sites are generally situated in non-urban settings, well away from population centres and dispersed over a large area with a low density of personnel
- the installation of rooftop solar and household batteries can be undertaken by a small on-site workforce, reducing the risk of virus spread and minimising social contact
- the ability to employ social distancing measures across much of the workforce.

All clean energy businesses and project sites have made modifications to standard work practices over the past two months to promote and practice the principles of physical distancing and good personal hygiene. This places the industry in a strong position to be able to accelerate as part of A Clean Recovery without compromising the enormous progress made on managing the health risks associated with COVID-19.

	Clean Recovery Initiative	Benefits	Implementation approach
Creating jobs, supporting local communities and empowering consumers	**Develop a national home battery program**	Scaling up the installation of household batteries has the potential to create thousands of jobs around Australia. Household batteries are a great way to empower consumers to better manage their power use and lower their electricity costs. Australia has a strong regulatory and compliance regime to ensure the safe installation of batteries that meet Australian standards by qualified installers. Household batteries also have well-demonstrated benefits to distribution networks and have the potential to support more renewable generation and substantially reduce peak power prices.	Batteries should be virtual power plant-ready and capable of automatic frequency response, allowing them to have high levels of control and optimisation to play a significant role in complementing the output of rooftop solar and ensuring a more stable, reliable and lower cost grid. Government could establish a national program to provide an upfront rebate to household batteries and provide low interest loans. This rebate could be funded via a capital allocation (through an extended ARENA) with finance through the Clean Energy Finance Corporation. Alternatively, a range of state and territory governments have pre-existing household battery schemes that could be quickly expanded and accelerated to support rebates and finance for household batteries.
	Support small businesses and new homes to go solar	Electricity bills are a growing component of costs and an increasing challenge for small businesses in Australia. Rooftop solar has proven immensely popular with small businesses. Supporting these businesses to go solar can help them remain in operation while stimulating jobs in the rooftop solar industry. Mandating solar power and battery solutions in new-build homes will future proof new homes, ensuring a lower cost of home ownership through controlled overheads (savings on electricity bills) and addressing grid challenges and improved network support.	The Federal Government's instant asset write-off of up to $150,000, covering 100 per cent of the cost of solar, batteries and smart meter installation (including labour component), should be extended (currently due to finish on 30 June 2020) to 30 June 2021. Expanding the use of environmental upgrade agreements to all states and territories across Australia will allow the financing of residential, community and commercial solar installations using this innovative finance model. Mandating solar and batteries in new homes could be achieved by changing the National Construction Code through a collaborative approach that ensures system design, size, quality and impact to the grid are considered.

	Commit to government and community buildings switching to solar and batteries	Installing solar on schools, early childhood facilities, police stations, hospitals, aged care facilities and low-income rental housing can dramatically reduce electricity costs for these critical institutions and community members. Installing battery backup in critical infrastructure such as telecommunications, police stations and fire stations will lower power costs by reducing the need for more expensive backup solutions and increase security of supply for these essential services. The installation would employ lots of local electricians and tradespeople quickly.	The Australian Government and every state and territory should directly fund the installation of solar and batteries via grant funding, which would be offset by lower power costs. This should be integrated with demand-side energy efficiency and smart energy management measures that further offset power use and costs and leverage the technology service installation synergies with solar and battery installation. This could be delivered via an extended ARENA or directly through a capital funding initiative.
	Commit to 100 per cent renewable energy for government agencies	Governments are a major energy user and their procurement of renewable energy could drive significant new demand and the construction of large amounts of new renewable energy. This would create thousands of new jobs and drive down power prices (by virtue of additional supply into the wholesale energy market) for all energy users. Renewable energy is increasingly cost effective and securing the supply of renewable energy will have a negligible impact on costs for government and associated agencies.	Every government in Australia should change their electricity procurement policy to ensure that all future contracts stipulate that supply must be sourced from 100 per cent renewable energy.

Building 21st century energy infrastructure	**Build a 21st century transmission network**	A stronger transmission network will improve the reliability, security and resilience of Australia's energy system. It will also ensure that low cost clean energy can be accessed and delivered to customers across the country, in turn lowering power prices. Grid congestion is the single biggest challenge facing new investment in large-scale renewable energy. Accelerating construction and expansion of the transmission network will unlock new private sector investment in large-scale renewable energy. The construction of transmission will create thousands of jobs, particularly in rural and regional Australia. These jobs are in technical engineering as well as civil engineering, construction, logistical support and long-term service and maintenance. Transmission development will also leverage further job creation and regional development as it facilitates significant renewable generation development.	Governments should accelerate the delivery of renewable energy zones (REZs). They should prioritise trials and the development of a framework for sharing the costs, benefits and risks of REZs between generators, transmission networks (or other potential investor parties), governments and consumers. Governments should take a more active role in transmission investment while maintaining appropriate rigour around ensuring the consumer benefit of any network or non-network transmission projects and determining how any investments may be included in a networks regulated asset base. Options for this could include: • fast-track planning approvals to the extent possible • mandates to allow transmission businesses to explore scale-efficient benefits to bring forward future anticipated transmission projects into related existing projects or expand the capacity of other existing transmission projects • direct government support of strategic interconnector projects • limited derogations developed in consultation with industry to allow governments to further accelerate key transmission projects. The Federal Government should fast track the legislation and introduction of the $1 billion Grid Reliability Fund to underwrite new transmission projects.

Build a smart distribution network to accelerate and leverage distributed energy resources (DER)	A smarter distribution network would allow for greater deployment of distributed energy – solar and batteries – and facilitate demand-side responses. Maximising the hosting capacity of DER in the existing network infrastructure is key to allowing high DER penetration without risks to quality of supply and safety. Real-time network data improves network operations through visibility of actual DER performance and interaction with the grid. Moving from static to dynamic network operations also maximises the potential contribution of DER. Enabling more sophisticated network data collection improves network safety, including the detection of broken neutral conductors, network outages caused by storms and the detection of broken line conductors that can cause bushfires (as happened in the US in 2019). All these aspects can be solved through real-time distribution network data collection and analysis.	Establish a fund for distribution networks to accelerate their network digitisation to ensure a visible, safe and cost-effective operation. Invest in the digital distribution network to get visibility and allow for higher DER penetration based on real network hosting capacity analysis. Enable the dynamic response of DER through real-time alignment between network and connected DER assets.
Support investment in large-scale energy storage	Deliver on the need for increased energy storage through a combination of rapid response battery solutions, pumped hydro investments and emerging long duration storage technology spread across the energy system. Additional energy storage would improve system reliability, competition and security and facilitate large amounts of new renewable energy into the system. It can also provide firming products allowing additional renewable energy to seamlessly integrate and benefit NEM operation and reliability. Energy storage projects are often located in regional areas and would create a large number of jobs in the feasibility and project design phases, through to civil and construction works. In some cases, the use of large-scale energy storage developments can provide a more cost effective and efficient alternative compared to new transmission network developments.	Governments should prioritise and fast-track energy storage projects and provide capital support and low-cost finance to underpin investment. Important market reforms should be accelerated to recognise the grid service benefits provided by storage and better support their integration into the electricity system. This should include reform to planning processes to better support planning applications where storage projects are co-located with other generation as well as reform of integration and grid connection processes. National Electricity Rules should be reformed to ensure that they are fit-for-purpose to support investment in energy storage and enable the energy transition. Funding support for large-scale storage could be achieved via a new capital fund or an expanded role for ARENA. Alternatively, the existing (but not yet implemented) Underwriting of New Generation Investment program could be repurposed to focus solely on energy storage. This could complement the role of the CEFC in providing competitive finance to energy storage projects.

	Build an electric vehicle (EV) charging network	The global automotive industry is going electric, and Australia needs to prepare the necessary infrastructure to support a growing EV fleet and encourage a faster transition. This will reduce Australia's reliance on global oil prices and supply chains. The accelerated rollout of public EV charging infrastructure can boost Australian jobs and local economic activity. It will also support the 30 per cent of Australians who live in rental housing to have access to vehicle charging points. By addressing regulatory barriers and providing capital funding, this can leverage large amounts of private investment into charging infrastructure.	Reform should be accelerated to address regulatory barriers, including supporting the development and implementation of an EV fast charging tariff, standardised planning and connection agreements. Government should provide a funding commitment to leverage private investment (a model proven already by ARENA) in EV charging infrastructure, particularly focused on public charging infrastructure and locations. This funding would similarly be housed in a contestable fund and allocated to projects according to a merit-based assessment. Ensure the forthcoming review of the National Construction Code includes provisions for all new buildings to be EV ready (as well as solar and battery ready) to support EV deployment.
	Develop the workforce of the future	Establishing a clear workforce development strategy for clean energy can ensure the skilled workforce exists to meet future clean energy industry needs while maximising the transition of existing energy and associated sector workers into the right jobs of the future. A clear strategy will help ensure that Australia develops a strong and secure workforce and can maximise the opportunity for skills development, particularly in rural and regional areas (where renewable energy projects are generally located).	Establish a taskforce between industry, governments, unions and training and research bodies to understand and map the workforce needs and gaps of the future and establish clear strategies to address these. This taskforce should also explore opportunities for transitioning workers into clean energy from sectors that will recover slowly (or may not recover at all) from COVID-19. The taskforce should also assess targeted support for training facilities to upskill regional workers in advance of critical transmission infrastructure development.

Accelerating large-scale clean energy investment	**Facilitate continued investment in large-scale renewable projects**	There is an enormous pipeline of potential large-scale wind and solar projects throughout Australia. Unblocking this investment is critical to ensuring a reliable, flexible and low-cost energy system as Australia's coal-fired power continues to become less reliable and closes. Over the past three years, there has been over $20 billion worth of new large-scale wind and solar projects committed, equating to 11,149 MW of capacity and creating over 14,000 new jobs. There are currently over 30,000 MW of wind and solar projects that have been identified with planning approval and not yet committed. If these projects were to be brought forward, they could deliver over $50 billion of investment and more than 50,000 new jobs. Accelerating the next wave of large-scale wind and solar projects would help to lower wholesale power prices, particularly in light of the imminent closure of existing coal-fired generation and the increase in prices that would otherwise occur when these large plants come offline. It would also ensure continued reliable power generation in anticipation of the closure of these ageing thermal generators.	With substantial new challenges – lack of policy, grid constraints, new and complex connection requirements, low Australian dollar and lower energy demand – policy support is likely to be required to support private sector investment during this challenging period. This would deliver the next wave of investment and jobs in the construction of new wind and solar projects. The target for new investment must recognise – at a minimum – AEMO's modelling of new renewable energy generation needs of between 30 and 47 GW by 2040. There are a range of policy options (at the federal and state levels) for achieving this. This includes transitioning the Renewable Energy Target to a 'New Energy Target', which would bring forward utility-scale projects to ensure enough new generation to replace retiring coal-fired power stations and remain on target for our international climate change commitments. Reform should also be accelerated to unlock opportunities for renewable energy (proven as one of the least cost forms of carbon abatement) to offset emissions elsewhere in the economy. This could be facilitated by ensuring effective and simple fungibility between Large-scale Generation Certificates and Australian Carbon Credit Units, allowing abatement to be sought from the electricity sector through new projects. COVID-19 has had a material impact on financial markets, and if this continues there may be an increased role for the CEFC and ARENA to support the financing of utility-scale projects and new technologies (including renewable hydrogen) in the short to medium term. Foreign investment reviews, which are now taking longer due to a temporary requirement for all transactions (regardless of value) to undergo review, should be expedited for new energy generation projects that will provide local jobs and investment in Australia's essential infrastructure. Additional Foreign Investment Review

			Board restrictions and delays, when combined with already lengthy times for grid application processes, can undermine the viability of new developments. These restrictions need to be removed as a matter of urgency. State governments should fast-track planning assessments for utility-scale renewable energy developments, or support other agencies (such as councils, planning panels or tribunals) to do so, by providing additional resources for the assessment of development/planning applications and providing case management to help resolve outstanding issues and accelerate progress through the planning system.
	Encourage the development of offshore wind energy	While still in the early stage of development as an industry, offshore wind costs globally have been declining rapidly and the technology has enormous potential in Australia. The energy profile of wind power is complementary to other variable renewable energy sources. The development of an offshore wind industry could create a major economic and employment opportunity over the medium and long term. This could leverage the workforce, industry capacity and supply chain that is emerging as a result of the rapid decline of production in the Bass Strait offshore oil and gas sector.	The government should maintain the momentum to legislate a regulatory framework for the offshore clean energy sector in 2020. As part of this legislation, the Feasibility Licence terms should be for up to seven years to enable projects to undertake the necessary studies and planning as well as to procure offtake agreements and grid connections. To incentivise early movers, the Government should identify and publish zones that would not be precluded from offshore clean energy developments on the basis of defence and national security, existing and planned industries (shipping, fisheries and oil and gas exploration) and environmental protection areas. The government should consider undertaking wind monitoring and energy analysis in prospective areas and making the data publicly available to attract investors. ARENA would be well-placed to oversee this work. In the interests of the government supporting this new sector to get off the ground (as it supports other emerging industries such as hydrogen), the government should also consider waiving or heavily discounting its annual licence fees in the early years (such as the first 10 years) of the industry.

	Prioritise smart market and regulatory reform	Australian energy markets were designed many decades ago, based on the legacy power generation technologies that are rapidly becoming superseded. Smart reform is now crucial to ensure that many of the market rules and regulations are fit-for-purpose, do not discriminate against new technology and provide clear market signals for investment. Reform will enable an accelerated transition of Australia's electricity markets by placing consumer expectations and the imperative to transition to a zero emissions electricity system at the centre of market design.	Prioritise reforms aimed at unblocking further utility-scale deployment. This should include revising existing connection and system strength arrangements and developing new grid service markets. Reforms such as COGATI that have undermined investment confidence should either be dumped or seriously revised in order to restore much needed investment confidence. Expand the National Electricity Objective to include a decarbonisation objective to ensure clearer strategic direction and guidance for all decision making and reform prioritisation. This will ensure that we don't make investments now that we will later regret when looking to meet our Paris commitments.
Making Australia a clean energy superpower	**Support major energy customers to secure low cost supply and become globally competitive**	Many leading Australian businesses have entered into corporate power purchase agreements over the past two years as a way of securing a least cost source of (clean) power. Building capacity and demonstrating the potential of these projects and models across Australian industry – such as the steel production, resource extraction, telecommunications, agriculture and IT and finance sectors – can allow them to take up these clean energy opportunities. This will in turn lower their power costs and build their global competitiveness.	Support the continued role of ARENA in deploying targeted programs to support Australian industry to develop capability and understanding to take up clean energy opportunities. Priorities could include: • supporting the increasing electrification of the Australian manufacturing sector and fuel switching for low-temperature heat • accelerating the greening of the steel and aluminium industries to make these more flexible, modernise the industrial processes and seize the opportunity for hydrogen to support traditional manufacturing processes. Enable parties to come together and develop innovative models to make long-term investments that secure additional low-cost and zero-emissions supply.
	Establish Australia's renewable hydrogen capability	Australia has enormous potential to become a leading global player in the hydrogen market, driven by enormous demand from Asia. This can deliver massive economic benefits to Australia as hydrogen becomes a major export commodity. Investment in hydrogen production infrastructure can deliver huge foreign investment and local jobs, particularly through the construction of the hydrogen production and export facilities as	Build demand for and lower the cost of renewable hydrogen by establishing a 10 per cent target for renewable hydrogen to be injected in state gas distribution networks by 2030. Accelerate the switch to clean hydrogen for Australia's ammonia production sector (the biggest current single user of hydrogen) by supporting demonstration projects and/or providing incentives.

		well as the clean energy generation that will be required for its clean production. The creation of renewable hydrogen zones could accelerate development approval processes and the connection to the electricity and gas network.	Expand funding to support renewable hydrogen projects (leveraging vast private sector capital) to build scale, increase learning and drive down costs. Recognise the crucial role of the CEFC in providing finance for the hydrogen sector and ARENA in co-funding hydrogen feasibility studies and demonstration projects. Extend ARENA's remit beyond 2021 and ensure that it has an additional $2 billion funding to 2030 for investment in renewable hydrogen and other emerging clean energy technologies, enablers and applications. Create renewable hydrogen zones to be a co-ordinated effort between several stakeholders, including the relevant planning departments and electricity and gas network providers. This will allow the acceleration of development approval processes and the connection to the electricity and gas network.