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Pre-Budget Submissions: prebudgetsubs@treasury.gov.au

Pre-Budget Submission – Federal Budget 2020-21

The Clean Energy Council is pleased to provide a submission on priority investment areas to inform the development of the Federal Budget 2020-21.

The Clean Energy Council (**CEC**) is the peak body for the clean energy industry in Australia. We represent and work with over 800 of the leading businesses operating in renewable energy and energy storage. We also represent over 7000 accredited solar and battery installers and over 1000 businesses approved through our Solar Retailer Code of Conduct. We are committed to accelerating Australia's clean energy future.

The clean energy industries' priorities for the 2020 Federal budget are as follows:

- **Extend and strengthen the Australian Renewable Energy Agency, to deliver the Government's low-emissions innovation and technology agenda**
- **Establish a Hydrogen Co-ordinator-General to drive the delivery of Australia's National Hydrogen Strategy**
- **Establish a \$50 million package of measures to support the needs of Australia's clean energy workforce and to position Australia as the global leader in clean energy skills**
- **Establish a future transmission fund to accelerate investment in Australia's electricity network and unlock the next wave of renewable energy investment**
- **Place *A Clean Recovery* at the centre of Australia's economic recovery plan**

As Australia begins the challenging task of pulling itself out of its first recession in three decades, it has a golden opportunity to quickly stimulate jobs and private investment in the short term, and establish a globally competitive economic advantage in the long term by accelerating the transition to cheap, reliable, clean energy.

The clean energy sector has already delivered an enormous economic boost to Australia in just a few years as the 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. Since 2017, the sector has built or committed 186 large-scale renewable energy projects, valued at in excess of \$30 billion and providing more than 24,000 jobs.

Today the sector employs over 28,000 people, from project managers and construction workers on major project sites through to the 7,000 accredited installers of rooftop solar and household batteries in our towns and suburbs. Many of these workers are in rural and regional Australia.

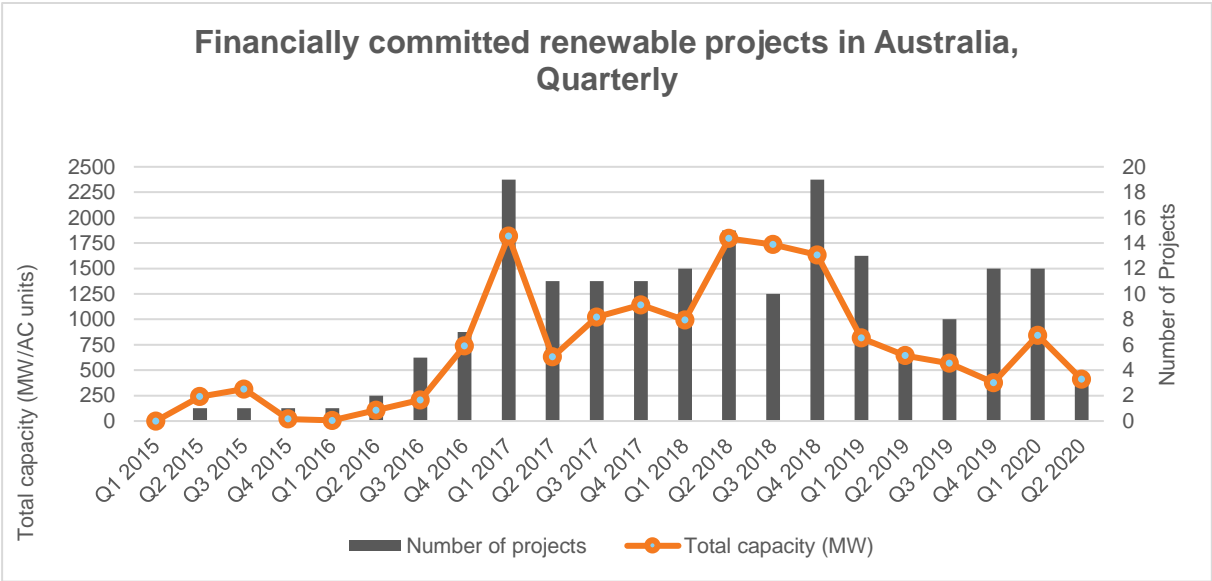
A Clean Recovery can ensure that no further jobs are lost in the sector while creating over 50,000 new construction jobs for large-scale renewable projects and a further 4,000 ongoing operations and maintenance jobs.

At the same time, Australia with a globally significant advantage in its renewable energy resources can generate abundant, cheap, clean energy that helps households and businesses to lower their costs. It can also support the competitiveness and expansion of energy-intensive mining, minerals processing and industrial manufacturing, and the establishment of a renewable energy export sector.

We must seize this economic crisis as an opportunity to embrace our potential as a clean energy super power.

The decline in private sector investment in electricity generation can be reversed

Despite the remarkable achievements of the sector in the past three years, investment is now stagnating 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 deterred private investors and developers.



However, the long-term fundamentals of investment in clean energy remain strong and compelling. We can repeat the success of ‘the big build’ in this essential infrastructure to support Australia’s economic recovery with the Commonwealth Government leadership supporting a co-ordinated effort to remove the barriers to investment.

Significant levels (26-50 GW) of new private sector capital investment are required for Australia to replace the certain exit of more than 15 GW of thermal generation over the next 15 years. 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 (particularly in regional and rural areas) and over 50,000 new direct jobs (and many more indirect jobs).

The CEC has released a report entitled *A Clean Recovery*, which sets out a wide range of measures for consideration by the Federal, state and territory governments to unblock massive pent-up private investment, comprising smart regulatory reform as well as cost-effective initiatives that place minimal demands on government funding or impost on electricity customers.

Four budget priorities for A Clean Recovery

In this submission, we wish to draw your attention to four key areas where active Australian Government funding support is urgently required in the forthcoming Budget to enable Australia to realise its potential as a clean energy super power.

1. Extend and strengthen the Australian Renewable Energy Agency (ARENA), to deliver the Government's low-emissions innovation and technology agenda

The Australian Government has placed technology and innovation at the centre of Australia's emissions reduction strategy. Accordingly, the role for Australia's leading innovation and research institutions will only need to increase.

ARENA, which was established in 2012, has been crucial to the rapid rates of learning in the large-scale solar sector, the early deployment of utility-scale storage, and smart grid technologies. Now, Australia is also depending on it playing an important role in getting the country's first large-scale renewable hydrogen production facilities off the ground, as part of the vision to create an emissions-free molecule fuel that can decarbonise hard-to-abate sectors and open up zero-emissions export industries.

It is, without doubt, already providing a major competitive advantage in our ability to attract and shape private investment, and build local capability, together with CSIRO and the Clean Energy Finance Corporation, and its role should only continue to grow with the Government's increasing focus on technologies to drive emissions reductions.

Regrettably, ARENA will have exhausted the current funding available for new investments by the end of 2020, ahead of its statutory dissolution date of 2022. As such, the significant and deep expertise that ARENA has accrued over many years is now at considerable risk of being lost if its remit and funding are not extended and renewed as a matter of urgency.

We therefore urge the Australian Government to extend the life of ARENA for at least another decade (to 2030), and to equip the agency with at least \$2 billion over that time to ensure it can continue its important role in the delivery of the Government's Technology Investment Roadmap.

2. Establish a Hydrogen Co-ordinator-General to drive the delivery of Australia's National Hydrogen Strategy

The National Hydrogen Strategy has established a vision for Australia to become a top exporter of clean hydrogen within the next decade, with 57 associated actions being delivered by the Australian Government working in collaboration with states and territories.

While the economic potential of the sector is very large – up to \$26 billion a year in additional GDP and 16,900 new jobs by 2050¹ – the delivery of the strategy is currently suffering from the lack of a national body that can co-ordinate efforts across governments and industry, oversee progress against the delivery of the agreed actions, and ensure that we deliver on our stated objectives.

The potential size of the industry, combined with the size of the task in developing a large-scale industry from scratch, warrants the establishment of a national Hydrogen Co-ordinator-General who can spearhead the collective effort and maintain the momentum against the following key areas:

- developing production capacity,
- supported by local demand,
- responsive regulation,
- international engagement,
- innovation and research and development (**R&D**),
- skills and workforce, and
- community confidence.

We encourage the Australian Government to establish and appropriately fund a Hydrogen Co-ordinator General, supported by a well-resourced team, to ensure that Australia realises its clean hydrogen ambitions.

3. Fund a package of measures that ensures Australia can deliver the clean energy jobs of the future for Australia and for export to the world

The Australian Government has recently announced broad-sweeping reform to both the Higher Education and Vocational Education and Training (**VET**) sectors, plus the establishment of a National Skills Commission. Over time, these reforms may address some of the systemic issues that are creating barriers to the development and growth of the clean energy workforce. However, given the rapid pace at which renewable energy developments are taking shape and the enormous job creation opportunity, a package of measures that focuses specifically on the clean energy workforce is needed in the near-term.

A recent study of the renewable energy workforce commissioned by the CEC found that:

- **A STEM skills deficiency** is already affecting the clean energy workforce through a shortage of engineers, in particular grid engineers, electrical engineers and civil engineers. This issue has been exacerbated by COVID-induced border restrictions and is only likely to increase with the growth in renewable energy projects.
- **VET systems are not geared towards the needs of renewable employers.** There exists a misalignment between the needs of renewable energy employers – at both the household and utility-scale – and the offerings of the VET sector. A fifth of the renewable energy workforce consists of electricians or electrical trade assistants, and for some technologies, such as rooftop solar, this is closer to two-fifths. Yet there is shortage of electricians with the skills and experience to work in renewable energy. The study also found that by 2035, up to 70 per cent of the clean energy workforce will be needed in remote and regional Australia. A genuine opportunity exists to create employment for regional Australia; however this will only be possible if training systems are designed up to support this.

¹ Deloitte (2019) *Australian and global hydrogen demand growth scenario analysis*; COAG Energy Council – National Hydrogen Strategy Taskforce, November

- **The jobs and skills of the future are poorly understood.** The CEC's study of the renewable energy workforce, which included projections to 2035, was the first comprehensive survey of its type for Australia. Jobs and skills analyses have generally not been incorporated into energy technology policy and planning. Integrating job numbers and occupation types into energy policy ensures that the building blocks can be put into place to support the technology needs. It can also highlight gaps, avoid unsustainable career pathways, and identify opportunities for further employment, for example upstream or downstream of renewable energy. Finally, planning for the workforce of the future makes it possible to ensure that the fundamental elements of diversity and equity are integrated into that workforce from the start.

A package of measures that focusses on the clean energy jobs of the future could address these barriers by targeting specific issues. The package should seek to increase the number of engineering enrolment in universities. This type of effort could take place at multiple levels:

1. At the primary and secondary school level, it could take the form of a communication strategy to drive more interest in engineering careers. Such efforts have been successful in other countries that have sought to raise the number of STEM graduates.
2. It could seek to incentivise universities to offer engineering degrees both at the undergraduate and post-graduate levels. The reshaping of the Commonwealth Grant Scheme seeks to better match university funding to the cost of delivering subjects. In principle this is sound reform, however, in practice the redesign will result in engineering total base funding per EFTSL being reduced by 16.4 per cent (CGS + SCA – down from \$28,958 to \$24,200). Special measures to ensure that this does not reduce the number of Australian engineering graduates should be included in the package.
3. At the post-graduate level funding could also be used to create a special category of Industrial Transformation Training Centres specifically for clean energy.

The package should seek to support VET systems in meeting the needs of the clean energy sector in the near- and medium-term. The CEC is working with registered training organisations (**RTOs**) across Australia to help them build strategies and offerings that meet the needs of the renewable energy sector. The CEC is also working with state governments to ensure that renewable energy training is included on the subsidised lists of courses. However, there is also a role here for the Australian Government as indicated by these three suggestions:

1. The Australian Government can help fund RTOs in their efforts to establish new offerings in the clean energy space. This could take the form of a competitive grant scheme that is available for RTOs to finance new equipment, such as electrolyzers for fuel cell courses or towers for wind turbine training courses, new licenses for globally recognised training, or to fund market research into the need for certain training types. This would reduce the financial risk for RTOs seeking to establish new offerings in the clean energy space. The scheme should be available to both TAFEs and independent providers with a preference given to regional institutions.
2. The Australian Government could financially support the creation of mobile clean energy RTOs that would travel to regional areas, particularly those located within proposed renewable energy zones, to provide the skills base needed to support new projects. By 2025, more than two thirds of the clean energy workforce could consist of remote and regional Australians if the skills base exists. In the electrical trades many elements of the training cannot be done remotely as they require a physical presence. This puts remote and regional Australians at a disadvantage when there are no local RTOs.
3. The Australian Government can play a role in improving the diversity of students in the clean energy VET system. Incentives could be offered for women and other marginalised groups to undertake clean energy training. Incentives could also be offered to employers that employ a more diverse workforce.

The package should fund and steer research that supports a forward-thinking agenda around clean energy jobs. Energy policy discussions, roadmaps, and modelling should all be accompanied by research into the jobs and skills needed to complement and support those technology visions. In particular, and in the immediate, the Australian Government should fund a suite of research that seeks to understand:

1. The size and characteristics of the workforce supporting an Australian hydrogen economy;
2. The employment challenges and opportunities of an expanded Australian bioenergy strategy;
3. The reskilling needs of moving from thermal energy to renewable energy, natural gas to hydrogen and internal combustion vehicles to electric vehicles;
4. The employment challenges and opportunities of developing a green manufacturing industry based on cheap Australian renewable energy;
5. The potential size and location of a strong offshore wind industry and the size and characteristics of the workforce to support it; and
6. Employment associated with all AEMO ISP modelling

We recommend that the Australian Government establish a \$50 million package of measures to support the needs of Australia’s clean energy workforce and to position Australia as the global leader in clean energy skills.

4. Establish a future transmission fund

Australia’s transmission network has simply not kept pace with the transition to a 21st century energy system and is causing major concerns for investors in clean energy. The lack of transmission is now one of the most critical challenges facing the transition of Australia’s energy system. This underinvestment in transmission is now stifling new generation investment, constraining existing generation and resulting in increased energy security and reliability risks and higher power prices.

The 2020 Integrated System Plan (ISP) developed by the Australian Energy Market Operator identifies the highest priority transmission projects and with a clear business case to benefit electricity customers in respect to prices, security and reliability of the energy system.

Project	Cost range
VNI Minor	\$74m - \$137m
EnergyConnect	\$1,393m - \$2,587m
HumeLink	\$1,470m - \$2,730m
Central-West Orana REZ	\$450m - \$850m
VNI West	\$1,211m - \$2,249m
Marinus Link	One 750MW cable: \$1,292m - \$2,399m Two 750MW cables: \$2,209m - \$4,102m

The challenge remains, how to deliver these projects as quickly as possible. While network service providers and private investors have demonstrated a strong willingness to own and operate new transmission infrastructure, the regulatory regime is not fit-for-purpose in providing certainty for them to make the necessary substantial financial investment in these long lived assets, in a timely manner.

For over a decade the clean energy industry has suggested reform is required, particularly to the Regulatory Investment Test for Transmission (**RIT-T**), to speed up transmission build for the benefit of consumers. The recent rule change to integrate the ISP into the first stage of the RIT-T is a step forward but more is still required. This has been clearly recognised by governments as demonstrated by the more direct and recent initiatives from governments to accelerate and underpin transmission investments such as:

- The Commonwealth Government's support to fast-track the development of Marinus Link.
- The South Australian Government's support to accelerate the new SA-NSW interconnector.
- The Commonwealth Government's new \$1 billion Grid Reliability Fund to be administered by the Clean Energy Finance Corporation.
- The Victorian Government's legislation to allow it to fast-track projects like grid-scale batteries and transmission upgrades.
- The Commonwealth and NSW Governments' commitment to jointly underwrite the Queensland-NSW upgrade and HumeLink.
- The NSW Government's strategy to deliver Australia's first coordinated pilot Renewable Energy Zone (**REZ**) in Central-West NSW with seed funding support from the Commonwealth Government.

However, there is still need for a greater role for the Commonwealth Government to accelerate these strategic transmission projects in order to unlock the next wave of renewable energy investment, drive down power prices and deliver an economic and jobs boost through the construction of these transmission projects and related renewable energy projects throughout regional Australia.

The Government's Grid Reliability Fund can provide competitive or concessional finance but its scope is broad given it is intended to support new energy generation, storage and both transmission and distribution infrastructure, including eligible projects shortlisted under the Underwriting New Generation Investments program. The Australian Government should provide a dedicated capital funding program focused on accelerating priority transmission projects. This funding could be used in any number of ways and is likely to vary given the status and nature of each of the transmission projects:

- Fund early works on a no-regrets basis, including siting works, environmental assessment and approvals, project design, early ordering of critical equipment.
- Capital support for accelerating through the early stage project assessment and/or design
- As a direct capital commitment underpinning the project, on the basis that private investors would later acquire part or all of the project once it nears completion.
- A capital co-contribution and/or private-public partnership model with government equity to leverage private sector investment

It is critical that any such direct intervention and support from Government is broadly consistent with the ISP and delivers a clear benefit to electricity consumers over the long-term. As equity is sold down in these projects once complete, the funding could be recycled to fund the subsequent round of transmission projects that will build Australia's electricity backbone of the future.

In closing, we urge the Australian Government to place A Clean Recovery at the centre of the 2020-21 budget response. 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 super power.

We would welcome the opportunity to discuss these proposals further.

Yours sincerely,

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

Kane Thornton
Chief Executive