



7 September 2016

Submission to the Senate Economics Legislation Committee re: Inquiry into Budget Savings (Omnibus) Bill 2016

The ACF welcomes the opportunity to provide a submission to the Senate Economics Legislation Committee on the Inquiry into Budget Savings (Omnibus) Bill 2016. This submission focuses on Schedule 5, Australian Renewable Energy Agency's finances, which "seeks to realise the savings from ARENA incorporated in the 2014–15 Budget".

Key recommendation:

Remove the ARENA budget cut of \$1.3 billion from the Budget Savings (Omnibus) Bill 2016 on the basis that the cut will have a significant negative impact on renewable energy research, innovation and development, stunting an economic growth sector that is important to Australia's jobs, economy, and ability to meet international climate commitments.

ARENA's objectives remain extremely important

The Budget Savings (Omnibus) Bill 2016 recently introduced into Parliament, includes a \$1.3 billion cut to the Australian Renewable Energy Agency's (ARENA) funding. If it eventuates, this cut will effectively mark the end of ARENA, and have serious implications for the many benefits it provides to pivotal research, technology innovation, Australia's ability to commercialise new renewable technologies, jobs, economic growth, and Australia's ability to rapidly transition to clean energy as part of our international climate change commitments.

ARENA has two main objectives:

- improve the competitiveness of renewable energy technologies
- increase the supply of renewable energy in Australia.

These objectives remain extremely important and should not be foregone in the name of budget repair. ARENA's objectives align with an economic growth sector and ARENA provides a positive economic contribution—both to the overall economy and to many regional areas through new jobs and renewable developments. It does not make sense to stunt an economic growth opportunity in the name of budget repair.



ARENA is only intended to operate another 6 years, but to provide benefits that extend much further

ARENA is not set up to operate indefinitely. It has a set timeframe for delivering its objectives, which only extends to 2022. During its short period of operation, ARENA intends to provide competitive energy solutions up to 2030-40. It is effectively laying the groundwork for longer term benefit to Australia by supporting innovation and commercialisation of renewable energy technologies.

ARENA plays a unique role driving innovation

ARENA plays a unique role in driving innovation in the renewable energy sector in Australia, and supporting the growth of Australia's renewable energy industry. There is no other organisation that replicates ARENA's grant making function for early stages of renewable energy projects and innovations.

Prime Minister Turnbull recognised the role of innovation in addressing climate when he made the following statement at the 2015 Paris Climate Change Conference.

"We firmly believe that it is innovation and technology which will enable us both to drive stronger economic growth and a cleaner environment."¹

Opposition Leader Bill Shorten has strongly supported the role of renewable energy including in the following statement from his media release of 2 July 2015.

"According to Tony Abbott's own review, more renewable energy will push down power prices. It will bring billions of dollars of new investment, creating jobs and reducing pollution."²

The typical innovation chain requires pre-commercial stages of research and development (R&D), demonstration, and sometimes near-commercial deployment. ARENA investment spans the commercialisation pathway and assists all of these pre-commercial stages. It is virtually impossible for these early stages to be financed on a commercial basis from debt and equity providers. The assistance needed to bridge this gap should be seen as an essential role of government.

¹ <http://www.malcolmturnbull.com.au/media/2015-united-nations-climate-change-conference-speech>

² <http://www.billshorten.com.au/labor-will-boost-renewable-energy-2>



A “clean energy valley of death” is a likely scenario if the critical early stage R&D support that only ARENA provides is cut out of Australia’s innovation chain, leaving a hole that will be difficult to bridge through other means.

The other key body that assists renewable energy projects through finance, the Clean Energy Finance Corporation (CEFC), only lends money to commercially viable projects.

Even the new Clean Energy Innovation Fund (CEIF) only targets businesses using technologies that have already “passed beyond the research and development stages” with the “primary purpose of earning income or a profitable return”.³

Innovation through research and development is critical to ensure that technologies reach commercial viability in the first place, so they can attract investment and drive the jobs and growth of the future while driving down the cost of energy.

Cutting ARENA’s funding could effectively see an end to innovation in the Australian renewable energy sector. This could stunt innovation and squander Australia’s huge competitive advantage in the sector, with great potential to be key exporter of renewable energy in the future. Instead other countries will generate innovative technologies and take them to scale, attracting industries in this emergent sector and cornering an emergent market while Australia lags behind.

Need for certainty

Research and development, and large-scale projects take time to establish. They need certainty over a period of time. Turning funding on and off will shut down key innovations and developments.

Proven track record

ARENA has driven most of Australia’s innovative renewable energy projects in recent years. This includes Australia’s [world-leading solar photovoltaics research centre](#) at University of NSW (UNSW), the [Carnegie wave energy pilot](#) in Perth, AGL’s [virtual power station trial](#) and UTS’s research into [local electricity trading and network opportunity mapping](#).

The world-leading research programs at UNSW and Australian National University (ANU), which have developed the world’s most efficient [solar photovoltaic](#) and [solar thermal](#) technologies, were both ARENA-funded. Neither could have been effectively funded by loans.

³ Australian Government, [Fact Sheet - Clean Energy Innovation Fund](#), March 2016, p.1



ANU's solar thermal research resulted in a world record of 97 percent efficiency for converting sunlight into steam. Their new design alone could result in a 10 per cent reduction in the cost of solar thermal electricity and help to provide power at night without fossil fuel power stations.⁴

ARENA-supported projects have helped speed innovation—bringing forward efficiencies not expected for decades and have brought solar PV closer to cost parity with fossil fuels for electricity generation.⁵ It is hard to overestimate the global impact of advancing a critical technology to viability a decade ahead of time. Cutting innovation in Australia's renewable energy sector would stunt innovation globally⁶ and squander Australia's huge competitive advantage in the sector, with great potential to be key exporter of renewable energy in the future.⁷

ARENA supports jobs and growth

The federal government has acknowledged that the economy is in transition, forecasting a 25.5 per cent decrease in mining investment from 2016-17 and recognising that the possibility of non-mining investment 'flatlining' is a critical risk.⁸

In contrast, renewable energy is a growth industry. By 2035 it is anticipated that US\$28 trillion will be invested globally in renewable energy and energy efficiency, more than coal, oil and gas combined.⁹

The renewable energy industry generates up to eight times as many jobs per KWh as coal fired power generation¹⁰ and Australia possesses some of the best renewable energy resources in the world.

The solar PV industry alone already employs more people in Australia than the rest of the electricity sector combined, providing 13,300 jobs as opposed 9,487.¹¹

Australia has the potential to attract a great deal of this crucial global investment which could provide a significant boost to the economy and jobs.

⁴ <http://newatlas.com/solar-thermal-record-anu/45027/>

⁵ ARENA, [Overcoming the fundamental performance limitations of commercial solar cells](#), June 2015

⁶ Beyond Zero Emissions, [Renewable Energy Superpower](#), April 2016, p.VII

⁷ Beyond Zero Emissions, [Renewable Energy Superpower](#), April 2016, p VI

⁸ Secretary of the Treasury, Pre-election Economic and Fiscal Outlook, May 2016, pp 13-14

⁹ Beyond Zero Emissions, [Renewable Energy Superpower](#), October 2015

¹⁰ WWF, [Busting the Myths: Debunking Myths About Renewable Energy](#), 2013, p 11

¹¹ Australia Institute, [Will we Let the Sun Shine in?](#), July 2014, p.3



Cutting ARENA funding will instead push investment overseas along with many of Australia's world-class scientists and researchers that rely on ARENA funding.

Over 190 members of Australia's solar research community signed a letter on 31 August 2016, making the case that if ARENA is abolished through the proposed funding cut Australia's leadership in solar energy will vanish. In the shorter term hundreds of researchers will lose their jobs.¹²

The funding cut will also impact 120 scientists at CSIRO that depend upon ARENA funding.¹³

Maintaining ARENA funding will protect these valuable research jobs and contribute to additional job creation, particularly in regional areas.

For example, ARENA's large-scale solar PV funding round received over 77 expressions of interest for funding assistance. Twenty were shortlisted representing around 5,126 direct jobs and around 808 MW of renewable energy.¹⁴ Only a portion of these will receive funding through the current round. The projects that remain unfunded represent a significant jobs opportunity, which could be lost with ARENA budget cuts.

ARENA has already funded [60 completed projects](#) and is managing a further 200.¹⁵ The 60 completed projects have helped leverage **A\$1.30 in private-sector R&D funding for every dollar of government funding** – a fact that is often overlooked, but is another indicator of ARENA's successful economic contribution.

Over 135 projects worth \$3.5 billion are in the ARENA pipeline, spread across every state and territory and multiple renewable energy technologies (see Figure 1).

¹² <http://theconversation.com/dear-politicians-please-dont-endanger-world-leading-solar-research-by-cutting-arena-64611>

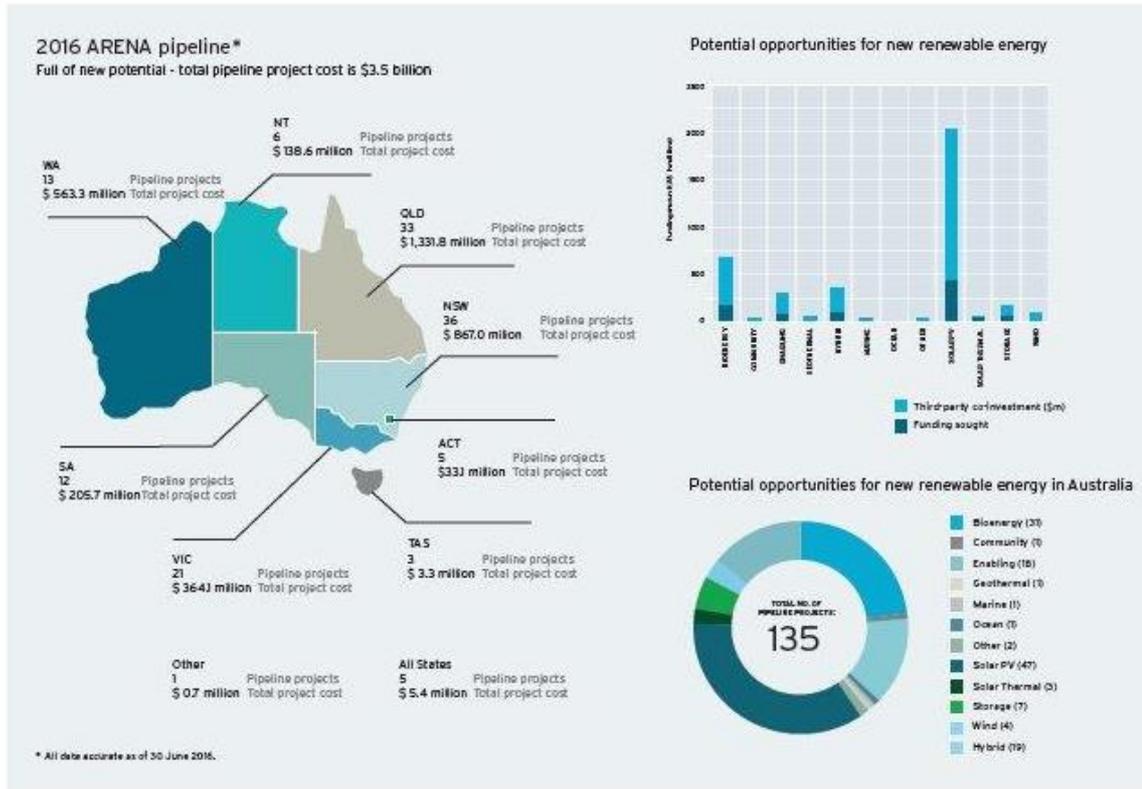
¹³ : <http://www.canberratimes.com.au/national/public-service/120-csiro-jobs-face-the-axe-if-clean-energy-cuts-go-through-20160831-gr5hxc.html>

¹⁴ Based on IEEFA analysis including the following: Every MW of large scale solar PV capacity attracts more than \$2 million of investment. Each \$1 million in turn is estimated to create three construction and related service sector jobs. For each one of these direct jobs in the solar industry, it anticipated another 13 indirect jobs are created.

¹⁵ ARENA, [Completed Projects](#), May 2016 and ARENA, [Investment profile](#), June 2016



Figure 1: 2016 ARENA Pipeline (sourced from ARENA website)



Meeting the moral challenge

Budget repair has been called a ‘moral challenge’ by the Prime Minister. Australia also has a moral commitment to address climate change and that requires transitioning our energy sector. The generation and use of energy in Australia is responsible for about two-thirds of our climate pollution. Electricity generation alone is responsible for about one-third of our climate pollution. Given the significant role that energy generation plays in Australia’s contribution to global warming, renewable energy is an essential part of Australia’s climate solution.

Australia’s current 26-28 per cent climate pollution reduction targets based on 2005 levels by 2030 are inadequate. If all governments showed similar low ambition, global average warming would likely exceed 3-4°C. The consequences of that would be disastrous for future generations.

Despite having an inadequate target, if Australia fails to transition our energy sector away from fossil fuels to renewable energy, we will not be able to meet even our current COP21 commitments.



Australia's climate pollution has been rising since the carbon price was abolished and this provides a clear indication that the Direct Action Plan is not driving the pollution reduction that is needed. Effective, durable policy and stronger support to transition the energy sector is needed.

The moral case for cutting ARENA funding is indefensible when considered in light of climate change. If we abolish ARENA's funding we add to the risk of comprehensively failing our children and grandchildren, by both failing to do our bit to avert climate change and to develop a sector that will be critical to jobs and growth in the future.

Budget repair from proposed ARENA cut is very small

The budget repair that will be gained by cutting \$1.3 billion from ARENA is extremely small. The overall forecast/projected budget deficits for the 4-year budget period has been estimated to total nearly A\$70 billion. The small benefit that \$1.3 billion provides to budget repair is far outweighed by the economic opportunity offered by ARENA's support for research, innovation, new technological advances, and viable projects that provide jobs.

ARENA has already sustained cuts

ARENA has already sustained a \$435 million budget cut and this additional \$1.3 billion cut would wipe out the majority of ARENA's remaining budget, likely making the agency unviable.

Australians support ARENA

A recent poll of over 10,000 people showed the majority are against the proposed cuts to ARENA.¹⁶

Recommendation

The ARENA budget cut of \$1.3 billion should be removed from the Budget Savings (Omnibus) Bill 2016.

For more information:

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The ACF community speaks out for a healthy environment, Australia's special places, climate action and for lasting social and economic change.

¹⁶ <http://www.brisbanetimes.com.au/federal-politics/political-news/new-poll-puts-pressure-on-senate-labor-to-save-renewable-energy-agency-20160831-gr5f6f.html>