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Submission on Clean Energy Finance Corporation Amendment (Carbon Capture and Storage) Bill 2017

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The Australia Institute welcomes the opportunity to make a submission to the Environment and Communications Legislation Committee (the "Committee") regarding the *Clean Energy Finance Corporation Amendment (Carbon Capture and Storage) Bill 2017*.

In our recent submission to the Department of the Environment and Energy as part of the Clean Energy Finance Corporation Statutory Review, we highlighted the positive contribution the Clean Energy Finance Corporation (CEFC) has made to the Australian clean energy market.[1] Acting as a specialised clean energy financier in the Australian market, the CEFC helped to reduce the risks facing project developers and catalyse projects and emissions reductions that would otherwise been less likely to occur.

The Institute does not support amendment of the *Clean Energy Finance Corporation Act 2012* to remove the prohibition on the Clean Energy Finance Corporation investing in carbon capture and storage (CCS) technologies. There are four reasons for this:

- **Power sector CCS technologies are not low-emission**
- **Power sector CCS technologies have not yet been demonstrated at scale; despite substantial Australian government R&D financing, there are no plants operating at scale in Australia, the technology is far from commercial and requires substantial policy support, such as from a carbon price.**
- **This amendment would be yet another diversion of the CEFC's limited resources**
- **No substantial changes to the CEFC Act should be considered without strategic review of economy-wide opportunities to reduce emissions including consideration of funding adequacy.**

Power sector CCS technologies are not really low-emission

Carbon capture and storage technologies (CCS) do not reduce the emissions being produced by the energy source. Rather, they use significant energy, itself a source of emissions, to capture and store some of the emissions from the plant, rather than reducing them. The ultimate effectiveness of CCS in reducing the quantity of greenhouse emissions that enter the atmosphere relies on long term monitoring of any location used to sequester the emissions. These costs and risks are poorly understood in the long term and will likely be largely borne by the public.

Renewable energy technologies, by comparison, genuinely reduce the emissions of the energy sector if they replace generation that would occur from higher emissions sources. If we are looking for globally transformative technologies for the energy sector, greater focus should be placed on integrating high levels of variable renewable energy and the potential

[1] Campbell (2018) Clean Energy Finance Corporation Statutory Review: Submission, http://www.tai.org.au/sites/defualt/files/P492%20CEFC%20Review%20submission%20FINAL.pdf

for “firming up” of renewable energy sources through a combination of technological and geographic diversity and appropriate incentives.

Power sector CCS technologies have not yet been demonstrated at scale

CCS technologies are not yet developed and demonstrated sufficiently to fit the CEFC’s focus on technologies in the later stages of development and commercialisation.

More than $1.3 billion has already been spent by Australian governments attempting to develop CCS technologies, yet Australia has very little to show for it: there are still no large scale power plants operating with CCS.[2] More recently the Australian National Audit Office audited key CCS spending programs and found serious issues and poor outcomes.[3] We urge the Committee to consider the efficacy of this spending to date.

Just two large-scale power sector CCS projects exist worldwide.[4] CCS power projects require a combination of factors to be technically successful; suitable power plant conditions, transportation options and viable storage locations. This combination of attributes is rarely found anywhere and where they do exist, CCS has generally still been uneconomic except where reinjection of CO_2 is used for enhanced oil recovery purposes by increasing well pressure.

A wide range of CCS researchers and proponents have argued that CCS deployment at commercial scale will require a substantial carbon price or other policy support.[5] The CEFC itself has argued a carbon price would be needed to make CSS investable.[6]

This amendment would be yet another diversion of the CEFC’s limited resources

The challenge to decarbonize the energy sector alone remains substantial. With limited resources, the CEFC should remain focused on this sector and specifically technologies which are genuinely zero (or extremely low) emissions.

As we highlighted in our submission to the Clean Energy Finance Corporation Statutory Review, governments have in recent years allocated a portion of the CEFC’s $10 billion special account to particular programs. It is not inconceivable that, with an adjusted Act, a current or future government could allocate money to CCS using the Investment Mandate, directly reducing the potential funding available for renewable energy or energy efficiency opportunities.

Any substantial changes to the CEFC Act should be considered as part of a strategic review of economy-wide opportunities to reduce emissions including consideration of funding adequacy

There may be some benefit from allowing the CEFC to invest in industrial carbon capture and storage technologies, where the potential for industrial uses of captured CO_2 could displace fossil fuel derived sources and where zero emission alternatives to production processes are not yet known. This would be better considered, however, in a broader economy-wide consideration of non-energy sector emission reductions or negative emissions technologies

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[2] Browne and Swann (2017) *Money for Nothing: Carbon Capture and Storage in Australia*, http://www.tai.org.au/sites/defualt/files/P357%20Money%20for%20nothing_0.pdf

3 ANAO (2017) *Low Emissions Technologies for Fossil Fuels* https://www.anao.gov.au/work/performance-audit/low-emissions-technologies-fossil-fuels

[4] The Boundary dam project and the Petra Nova project

[5] See page 29 Browne And Swann (2017) *Money for Nothing* http://www.tai.org.au/sites/defualt/files/P357%20Money%20for%20nothing_0.pdf

[6] *Clean Energy Finance chief raises doubts about 'clean coal' solution* https://www.smh.com.au/environment/climate-change/clean-energy-finance-chief-raises-doubts-about-clean-coal-solution-20180227-p4z1xx.html

and sectors for the CEFC. Such a review should include consideration of increasing the CEFC's special account from the current $10 billion.

Broadening of the CEFC's mandate beyond strictly energy may be desirable at some point in the future. But this should not occur without greater rigour and analysis than has been shown with the *Clean Energy Finance Corporation Amendment (Carbon Capture and Storage) Bill 2017*.

In this context it is important to note how CCS has been framed in public debate, and by some government Ministers, as a form of 'clean coal' -- this appears to be the motivation for the current amendment. However coal, as the most carbon intensive power source, is unlikely to be the most efficient use for scarce funds and storage capacities for CCS. The CO2CRC finds that coal with CCS will be more expensive than gas with CCS, a result foreshadowed in 2011 Treasury modelling. This demonstrates the poor framing of the current amendment.

We will append to this submission the Institute's 2017 analysis of CCS projects in Australia.