

Level 15, 222 Exhibition Street T: +61 3 9929 4100  
Melbourne VIC 3000 F: +61 3 9929 4101  
Australia E: info@cleanenergycouncil.org.au  
cleanenergycouncil.org.au  
ABN: 84 127 102 443



10 November 2016

Committee Secretary  
Senate Standing Committees on Environment and Communications  
PO Box 6100  
Parliament House  
Canberra ACT 2600

Dear Committee,

**RE: Inquiry into the retirement of coal-fired power stations**

The Clean Energy Council is the peak body for the renewable energy and energy storage industry in Australia. We represent and work with hundreds of leading businesses operating in solar, wind, energy efficiency, hydro, bioenergy, energy storage, geothermal and marine along with more than 4000 solar installers. We are committed to accelerating the transformation of Australia's electricity system to one that is smarter and cleaner.

Decarbonising the electricity sector is imperative to meeting Australia's medium- and long-term emissions reduction targets. In order to restrict global warming to less than two degrees Celsius, the global electricity sector will need to be at or close to zero emissions by 2050. Many countries have already made statements in support of this principle.

The effective transition of the Australian electricity sector to a 21<sup>st</sup> century system will be delivered through:

- Greater energy productivity, delivered through improved energy efficiency, energy conservation and smarter use of electricity. The many regulatory, technical and information challenges and the appropriate policy responses to deliver this are beyond the scope of this paper.
- The accelerated deployment and development of proven and emerging renewable energy technologies.
- The phase-out of Australia's most carbon intensive and marginal fossil fuel-based electricity generation.

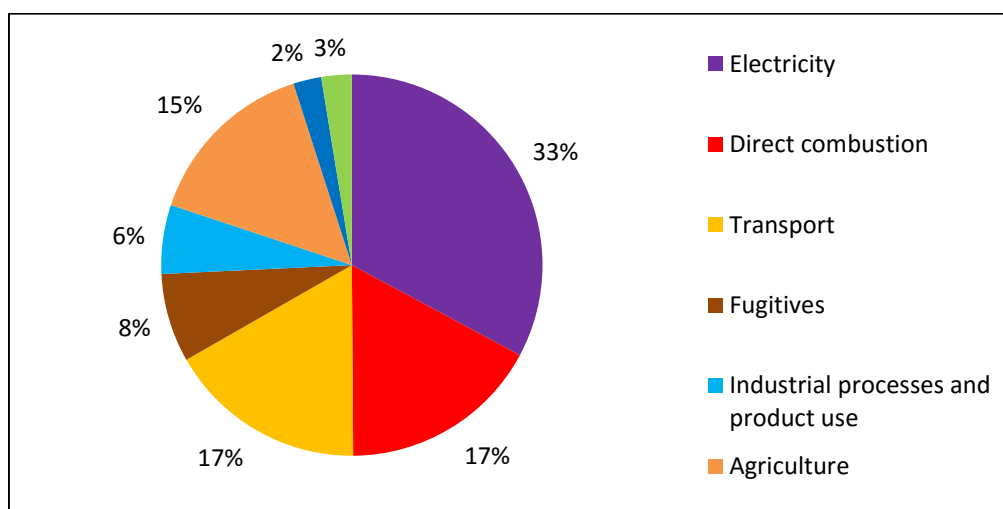
Electricity generation assets typically have investment horizons of several decades. Transforming Australia's electricity sector therefore requires both long-term planning and policy stability. This can ensure investment decisions do not lock in an unnecessarily high emissions profile, and that the transition takes place in a timely manner.

Long-term and clear energy and carbon policies will enable the achievement of this goal, while making the structural adjustments that will ensure Australia remains internationally competitive and is prepared for an increasingly carbon-constrained world.

### The current challenge for Australia's electricity system

Australia's electricity system was founded on centralised, carbon-intensive coal-fired generation. The sector is the single largest contributor to greenhouse gas emissions, and contributes approximately a third of our country's total emissions. This trend is expected to continue out to 2020 and beyond.

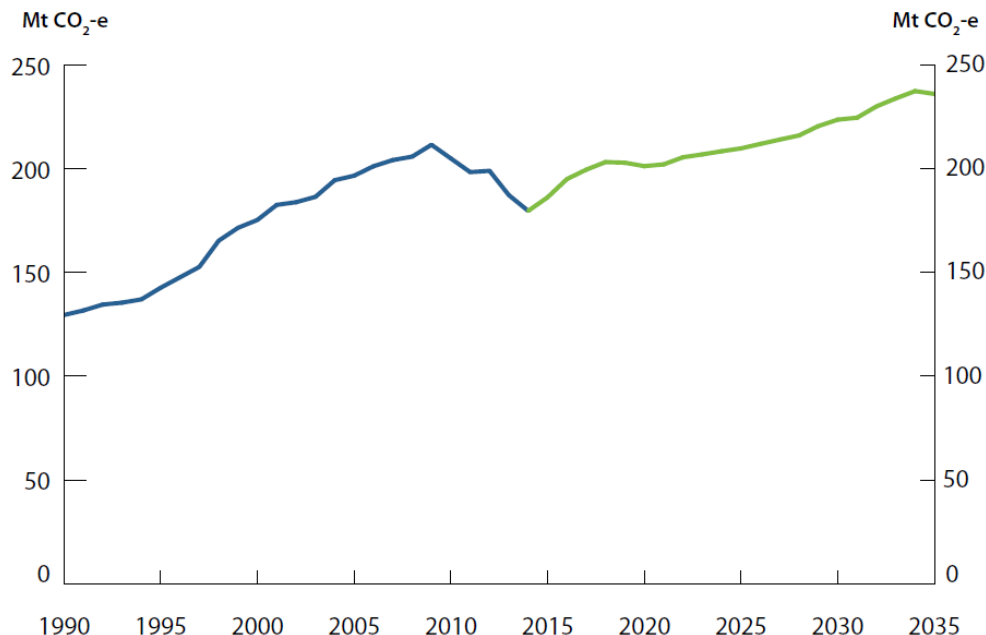
**Figure 1 - Australia's domestic emissions by share, 1990-2014<sup>1</sup>**



Any meaningful and lasting response to climate change needs to recognise the importance of significant change in our electricity sector. Current projections reveal that carbon emissions from Australia's electricity systems are expected to continue to increase over the next two decades.

<sup>1</sup> Department of Environment, *Australia's emission projections 2014-15*, March 2015, page 9

**Figure 2 - Historical and projected electricity emissions, 1990-2035<sup>2</sup>**



Australia's most emissions-intensive power stations will need to close if the transition of the electricity system is to occur in a controlled and timely manner. The current oversupply of power generation capacity, in part a consequence of the absence of any long-term carbon price signal, makes investment in new renewable energy infrastructure more challenging.

Declining demand for power, the extended operation of outdated power plants and the steady legislated increase in renewable energy generation has led to a surplus of generating capacity in the National Electricity Market (NEM) and Western Australia's Wholesale Electricity Market. The Australian Energy Market Operator's (AEMO) most recent forecasts concluded that no new generation is needed in the next 10 years to meet projected electricity demand.<sup>3</sup> The Independent Market Operator in Western Australia has issued similar statements, declaring that "no new capacity will be required in the SWIS (South West Interconnected System) until 2023-2024"<sup>4</sup>.

Recent energy and climate policy uncertainty, combined with barriers to exit for Australia's legacy coal-fired power fleet, has resulted in these assets continuing to operate beyond their original design life, resulting in surplus capacity that is stifling signals for new investment in the energy supply sector.

Ensuring a smooth transition to a low-carbon future for Australia's electricity sector requires that clean electricity generation must be in place before the most inefficient and polluting generation can be phased out. This is not a new concept: one of the primary objectives of the NEM is to ensure supply in excess of demand to avoid blackouts caused by a major plant failure. Moreover, the express purpose of the Renewable Energy Target (RET), legislated in

<sup>2</sup> Department of Environment, *Australia's emission projections 2014-15*, March 2015, page 18

<sup>3</sup> AEMO, *No New Power Generation Needed for Next 10 Years*, Media Release, August 14.

<sup>4</sup> Independent Market Operator, *SWIS Electricity Demand Outlook*, June 2014, page 3.

2000 and again in 2009, was to encourage the introduction of new clean technologies to transform Australia's electricity generation system into one less reliant on fossil fuels.

Although many analysts have anticipated the permanent closure of Australia's oldest and most greenhouse-intensive power stations, the uncertainty created by major changes to national energy and climate policies, along with barriers to exit (both real and perceived) mean this has only just begun to take place. Addressing barriers to exit for the oldest and most polluting power stations needs to be part of the policy solution for the increased deployment of renewable energy.

Most of these power plants were built and funded decades ago by state governments and are now fully depreciated. Therefore the cost of the electricity they produce is mainly based on short-run costs (primarily fuel costs).

This contrasts with all new investments – renewable energy or otherwise – that must recover all of their costs over the life of the investments. This is a significant barrier to the deployment of new low or zero emission generation, which must compete with these legacy assets.

While surplus generation capacity remains in the electricity market, complementary mechanisms like the RET are important to drive the construction of new renewable energy generators. An additional complementary mechanism is needed to allow for an orderly closure and withdrawal of the most polluting power stations.

The closure of coal-fired power generation must also recognise the substantial reliance on these projects by some regions and communities for employment and local economic activity. The phase-out of these generation assets needs to be accompanied by a careful and comprehensive strategy to support these communities, including workforce training and re-deployment to minimise the social and economic disruption.

### **Policy options to facilitate a zero emissions energy system**

Setting a clear goal of decarbonising the electricity generation sector is important to achieve an orderly transition. Strong, stable policies that provide a clear investment signal can support this objective by encouraging the re-allocation of capital resources from fossil fuel-based generation toward renewable energy generation. Accompanying policy support that encourages the closure of the oldest and most carbon-intensive generation is also necessary.

There are a range of policy options to achieve this. In assessing policies it is important to consider the following objectives:

- Constrain high emission generation resulting in reduced output and closure.
- Deliver a long-term investment signal that supports the financing of new renewable energy generation capacity.
- Public and political acceptance.
- A smooth policy transition that leverages current policy settings including the RET.

- Managed electricity system transition considering supply security as well as local communities and workforce redeployment.

A number of policy options exist to allow State or Federal Governments to place a carbon constraint across the energy sector, or more directly facilitate the closure of legacy and high emission generation. These include:

- A market-based approach such as an emissions trading scheme. This would eventually push the most polluting coal-fired plants out of the market.
- Direct regulation that sets greenhouse gas emissions limits (total for the facility or emissions intensity). This mechanism would give the government significant control over the timetable for withdrawal of capacity, which would give the market confidence about the future supply/demand balance.
- State governments committing to discontinuing the operating licence of existing thermal generators. This would be a slower process as many plants already have licences to operate beyond 2020. As this period spans a number of state and federal elections, investors would experience lower levels of certainty until closer to the expiry date.
- Providing direct financial incentive or a 'contracts-for-closure' scheme. This could be managed in a variety of ways, either running an auction for the lowest cost-per-megawatt retired, or targeting the most emissions-intense generation. Equally, contracts could focus on whole plants or partial decommissioning of multiple plants to prevent windfall gains by remaining generators. This could become part of the Commonwealth's Direct Action Plan through the Emissions Reduction Fund (ERF). However, the limited funds allocated to the ERF, the amounts available in any given year, and competition from other abatement reduction projects could limit the extent to which the ERF could address this issue.
- On a variation of the above model, a closure levy or other revenue-raising instrument could be introduced via the electricity market. This could be delivered in a number of ways with minimal impact on electricity prices.

Each of these approaches would require careful further investigation and consideration to fully understand the extent to which they would achieve the closure of existing fossil fuel based generation over time. It is clear that a range of policy mechanisms are likely to be required to effectively phase out the use of coal fired generation while at the same time incentivise the deployment of new clean energy sources.

While some of the above policy options could be designed to achieve both of these outcomes in the long term, it is crucial that the existing RET remains in place to drive the ongoing deployment of new renewable energy in the short to medium term.

Should an effective carbon policy be implemented in the energy sector, it could potentially phase out the requirement for a complementary renewable energy deployment policy. However, this must only be considered once the carbon policy is designed, implemented and proven to be effective in both achieving the closure of existing coal fired generation and incentivising new renewable energy investment. Indeed the RET was designed as a market based mechanism that will simply phase down as other carbon or energy sector policies stepped up to incentivise renewable energy deployment.

An orderly and planned transition will require a clear framework providing strong investment signals for new zero and low emissions technologies, and strong exit investment signals for

the highest-polluting technologies. A planned transition will also achieve the best economic and environmental outcomes for the country.

We would welcome the opportunity to discuss this important policy issue further with the committee. Please contact Alicia Webb [REDACTED] with any questions or to seek further discussion.

Yours sincerely,

A solid black rectangular box used to redact the signature of Kane Thornton.

Kane Thornton  
Chief Executive