Thursday 10 May 2018

Interim Targets Independent Expert Panel

Lodged to Climate.Change@delwp.vic.gov.au

# Clean Energy Council Submission to the Interim Targets Independent Expert Panel

**Executive Summary**

The Clean Energy Council (CEC) would like to thank the Interim Targets Independent Expert Panel for the opportunity to provide feedback on the panel's issue paper.

The CEC is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in solar, wind, hydro, bioenergy, marine and geothermal energy, energy storage and energy efficiency along with more than 5,000 solar installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The Clean Energy Council would like to congratulate the Victorian government on their commitment to emissions reduction and on the introduction of the *Victorian Renewable Energy Target (VRET)* as well as the *Victorian Renewable Energy Auction Scheme* which provides much needed policy certainty to the industry and will attract up to 10,000 jobs and $7.2 billion in investment[1]. With energy generation the single largest contributor to Victoria's emissions it is crucial that the Victorian government continues to encourage the deployment of renewable energy in Victoria.

The Victorian *Climate Change Act 2017*, through the Interim Targets Independent Expert Panel is looking to achieve a net-zero emissions, climate-resilient Victorian community and economy by 2050. This vision can be achieved through the following opportunities; increasing the renewable energy generation mix, utilising energy storage, promoting electric vehicles and associated infrastructure, establishing a regulatory framework to create policy certainty to sure up investment in renewables, and preparing for the needs of sector going forward.

We would be very happy to discuss these issues in further detail with the Interim Targets Independent Expert Panel. We look forward to contributing further to this important area for policy development.

*In response to questions raised by the Interim Targets Independent Expert Panel*

[1] https://reneweconomy.com.au/victoria-renewables-auction-attracts-3500mw-of-bids-as-state-warns-on-neg-15132/

What are the most significant opportunities and technologies for reducing emissions in Victoria during the period 2021-2030, and to reach net zero emissions by 2050?

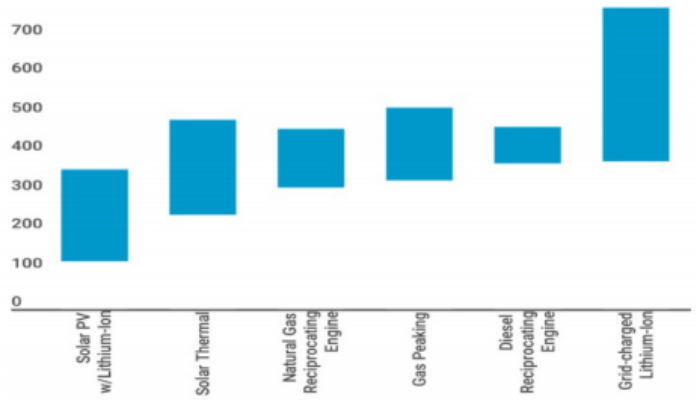
*Renewable Energy Generation*

As has been identified in the issues paper, energy generation from renewable sources is both the single largest contributor to Victoria's emissions and the sector with the largest, cost effective potential to reduce emissions. As well as this, reducing emissions from energy generation is a key enabler for reductions in other sectors such as transport and industry. Setting long term, renewable energy policy post 2025 to encourage investment and the steady deployment of renewable energy generation is therefore critical to reducing emissions in Victoria during the period 2021-2030 and is essential to achieving net zero emissions by 2050.

***Battery Storage***

The deployment of battery storage represents a major opportunity to enable substantially higher levels of variable generation such as wind and solar which is in turn essential to reducing emissions in the energy sector. The cost of battery technology is falling rapidly. Analysis by Reputex suggests that the cost of deploying battery storage combined with solar to provide dispatchable power is now cheaper than alternative methods of generation, as seen below:

**LCOE of peak electricity generation adjusted to consider storage ($/MWh)[4]**




2

Battery storage technology also represents a commerical opportunity for Victoria. The technology is undergoing rapid development, with the levelised cost of Lithium ion batteries reducing dramatically in the last decade.[3]Australia is the second largest producer of lithium, providing 34% of the worlds lithium production. The CEC believes that with the recent exit of car manafacturing in Victoria[4], there is a skilled workforce willing and able to take up the opportunity and the Victorian government should encourage the development of battery manafacturing in the state. Battery storage therefore, represents both a commercial opportunity and an important technology in the effort to reduce emissions in Victoria. Government support for energy storage projects is critical to identify barriers, grow confidence and familiarity with battery storage solutions, find innovative business and financing models, and build capability and capacity within the industry.

[2] https://www.cleanenergycouncil.org.au/dam/cec/policy-and-advocacy/reports/2017/charging-forward-energy-storage-paper.pdf

[3] Ibid

[4] http://www.abc.net.au/news/2014-02-12/long-road-comes-to-end-for-car-making-in-victoria/5253358

***Electric Vehicles***

Electric Vehicles represent another significant opportunity for reducing emissions in Victoria, offering near zero emissions from transport when vehicles are powered by electricity from renewable sources. With the right infrastructure in place, renewable energy can play a key role in the charging of electric vehicle batteries both at a household and a utility scale. At a household level, home and solar batteries can be used for electric vehicles charging, with ARENA recently announcing funding to explore ways to increase the uptake of electric vehicles combined with solar and storage units[5]. At a utility scale, charging electric vehicles during times of excess solar generation (late afternoon) or excess wind generation (overnight) can both reduce the emissions of the transport sector and reduce peak demand pressure on the grid, if smart charging controllers are used to make use of these periods of excess generation.

**What further steps can the Victorian Government take to support emissions reduction opportunities and the uptake of low carbon technologies?**

***Policy Certainty***

To deliver the transformation of the energy sector into one dominated by low emission generation, policy certainty is required to ensure that investment continues in this sector. Considering the capital intensive and long-term nature of energy infrastructure, investors require consistent and effective policy to provide confidence in investment. The renewable energy industry is on track to meet the Renewable Energy Target by 2020, revealing the success and importance of long term bi-partisan policy support.

The renewable energy industry is growing rapidly, with 52 projects under construction since the beginning of 2017, representing $10 billion in investment, 5206 MW of new generation and more than 5470 direct jobs[6]. This growth has been underpinned by cost reductions in renewable energy but also the Renewable Energy Target, which is fully subscribed and has been a major factor in the growth of the industry. The Renewable Energy Target however, is set to be met by 2020.

The cost of renewable energy has fallen considerably and should wholesale energy prices remain higher than the cost of new renewable energy generation in the long term, then it would be expected that new investments in renewable energy would come forward without the need for policy support. However, long term market confidence and prices are difficult to predict and subject to many factors, including:

- Energy demand, particularly considering changes to the structure of the Australian economy, including the future of Australia's manufacturing base.
- Supply and demand dynamics in the wholesale energy market particularly considering the continued expected closure of existing coal fired generation.
- Expected continued shift toward electrification both in response to higher gas prices and structural shifts towards electric vehicles and other new technologies.
- Continued policy uncertainty and limited political bipartisanship that could continue to distort investment decisions.

[5] https://arena.gov.au/news/driving-australians-embrace-electric-vehicles/

[6] https://www.cleanenergycouncil.org.au/policy-advocacy/renewable-energy-target/jobs-and-investment.html (figures accurate as of Jan 31st 2018)

There is a clear need for policy post-2020 to continue the trend of investment in the renewable energy industry. Without this policy certainty there is a significant risk that investment and production in renewable energy will stall at a time when emissions reductions targets will rely on the energy generation sector to reduce emissions considerably.

The Victorian Renewable Energy Target (VRET) does provide much needed policy certainty post-2020 and the CEC commends the target and the 10,000 jobs and up to $7.2 billion in capital expenditure that will result from the scheme by 2025[7]. This is encouraging, however more could be done to support the uptake of low carbon technologies. The issue of policy certainty and the resulting drop off in investment will be present post-2025 should the Victorian government decide not to extend the scheme or increase the target.

The CEC encourages the Victorian government to continue driving renewable energy investment and innovation through the VRET reverse auction mechanism. The recent VRET reverse auction demonstrated the potential of a more ambitious target, with over 15 proposals offering 3,500 MW of new wind and solar projects coming forward for the 650 MW reverse auction[8], the program was six times oversubscribed.

***Electric Vehicle Infrastructure***

The emergence of Electric Vehicles represents a real opportunity for emissions reductions in Victoria, however the government must take steps to enable the growth of the electric vehicle market.

There are two steps the Victorian government can take to facilitate this growth:

1. Assess the capability of the electricity grid in Australia to cope with an influx of Electric Vehicles
2. Stimulate demand with government fleet purchases

Increased uptake of electric vehicles will have implications for demand and load profile of the electricity grid in Victoria. To support the uptake of electric vehicles, the CEC urges the Victorian government to undertake an assessment of the electricity grid's readiness for increased electric vehicle uptake, focusing specifically on the following:

- Which parts of the Victorian electricity transmission and distribution grids in their current state could support fast-charging stations for electric vehicles?
- What changes to Victoria's electricity grid would be required to enable widespread availability of fast-charging capability through the low voltage and/or high voltage parts of our electricity networks?
- What investments and changes to the regulatory framework (if any) are required to ensure that our electricity grid does not present a barrier to the uptake and effective utilisation of electric vehicles?

The Victorian Government should also encourage the uptake of electric vehicles by stimulating demand through investment in electric vehicles for public transport usage, as seen in the ACT

[7] https://www.energy.vic.gov.au/__data/assets/pdf_file/0025/90925/2017-VRET-Information-Session-Presentation-28-November.pdf

[8] https://reneweconomy.com.au/victoria-everything-place-time-go-big-vret-99436/

through the trial of two electric buses in Canberra[9]. The Victorian government should also make it policy to purchase electric vehicles for the government fleet whenever practical.

***Skilled Workforce***

For the successful uptake of low carbon technologies in the energy generation sector to occur, there will need to be a skilled workforce available to meet the new requirements of the industry. Considering the highly skilled nature of the electricity workforce, it is important that the Victorian government prepare now for the needs of sector going forward so as not to stall the progress of the renewable energy industry and the emissions reductions that come with it.

***Funding and Investment***

The Victorian government must also make investments to support innovation in the clean energy industry to help advance the uptake of low carbon technologies. Strategic investment and pilot programs from the Victorian government are essential to innovation and knowledge sharing within the industry. With no new money allocated for renewable energy in the 2018 Victorian budget[10], the government should not ignore the value of investing in innovation and R&D in supporting emission reduction opportunities.

[9] https://www.transport.act.gov.au/news-and-events/items/august-2017/transport-canberra-welcomes-alternate-fuel-buses-to-the-fleet

[10] http://www.abc.net.au/news/2018-05-01/victoria-budget-2018:-winners-and-losers/9696920