

13 May 2022

Re: Independent Expert Panel's 2035 Victorian Emissions Target Issues Paper

Dear Martijn, Emma and Tennant

Thank you for the opportunity to comment on the Independent Expert Panel's 2035 Victorian emissions target Issues Paper.

The Energy Efficiency Council (EEC) is the peak body for managing how energy is used, which covers energy efficiency, load shifting and demand response. Our members include research organisations, non-profit organisations, governments and companies that provide energy management services and products.

The EEC recommends that the Victorian Government:

1. Set an ambitious emission reduction target for 2035, due to the economic opportunities of decarbonisation and importance of cumulative emissions;
2. Put energy management at the heart of its decarbonisation strategy and adopt the European principle '*Energy Efficiency First*'. *Energy Efficiency First* does not mean that government should prioritise energy management over other decarbonisation strategies – it means that the government should review energy management options before finalising decisions to invest in supply-side policies or infrastructure; and
3. Learn from global best-practice and introduce comprehensive programs to improve the energy efficiency of homes, commercial buildings, manufacturing sites and vehicles.

The EEC's recommendations are based on five key points:

- **Victoria has significant opportunities to reduce emissions by 2035**

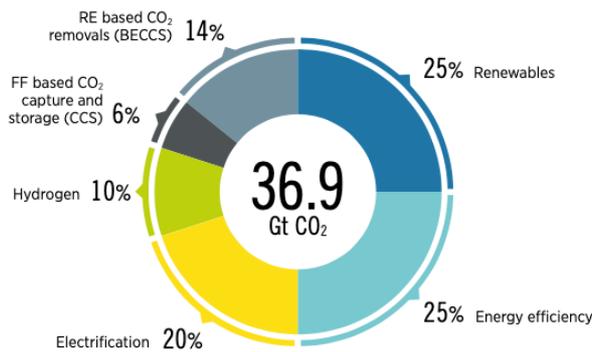
Victoria has high per capita emissions by world standards, largely due to our brown coal generators and inefficient homes and vehicles. As a result, Victoria has substantial opportunities to reduce its emissions in ways that are either low-cost or provide a net economic benefit. These opportunities should be deployed as early as possible to maximise their impact on Victoria's cumulative emissions. Reducing cumulative emissions over the next 30 years is far more important for mitigating climate change than emissions in any one year.

- **Energy management is critical for emission reductions**

In 2022, the International Renewable Energy Agency (IRENA) estimated that energy efficiency could deliver around 25 per cent of the abatement required to deliver a net zero global economy by 2050 (see Figure 1). The potential in Victoria is likely even larger, as we are far less energy efficient than our major trading partners. In 2022 Australia was ranked as the worst developed economy for energy efficiency policy and practice.¹ This means that we can dramatically reduce our emissions simply by catching up with international best-practice on smart energy use.

¹ American Council for an Energy Efficient Economy 2022 *International Energy Efficiency Scorecard 2022*, ACEEE, Washington.

Figure 1. Reducing emissions by 2050 through six technological avenues



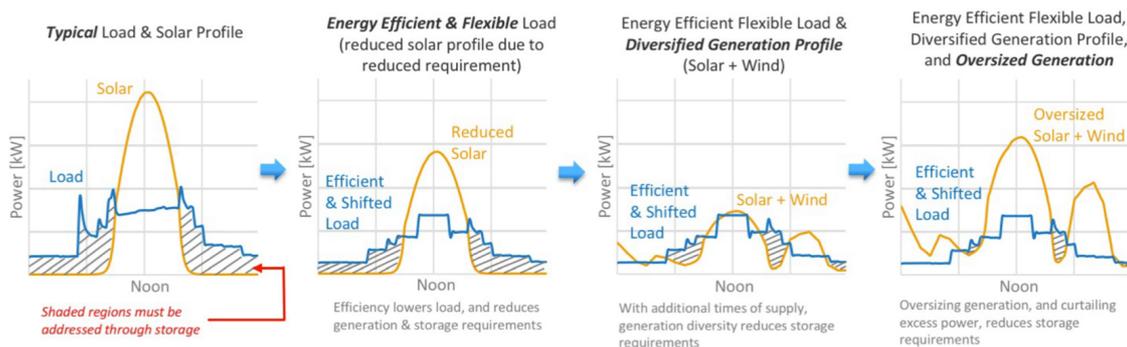
Source: IRENA (2022) *World Energy Transitions Outlook 2022: 1.5C Pathway*, IRENA, Abu Dhabi.

- **Energy management is critical for the renewable transition**

Over at least the next decade, our generators, vehicles and buildings will still be dependent on carbon-intensive fuels, and energy management will deliver direct abatement. However, energy management will also be critical to support the replacement of our coal and gas plants with renewable generation.

To ensure that supply is sufficient for demand as we decarbonise our grid, we will need to invest in generation, storage and networks. However, we should reduce this infrastructure spend to the minimum necessary in order to minimise energy bills. Adjusting our energy use patterns will be critical to minimising infrastructure needs. This includes moving demand to times when renewable generation is plentiful (e.g. running water heaters in the middle of the day), reducing demand at times when renewable generation is scarce (e.g. ensuring homes are thermally comfortable in winter) and using demand flexibility to ensure grid stability.

Figure 2. Demonstrating energy storage needs and methods for reducing



Source: Houssainy, S. and Livingood, W. (2021) "Optimal strategies for a cost-effective and reliable 100% renewable electric grid", *Journal of Renewable and Sustainable Energy*, 13, 066301.

- **Energy management is critical for electrification**

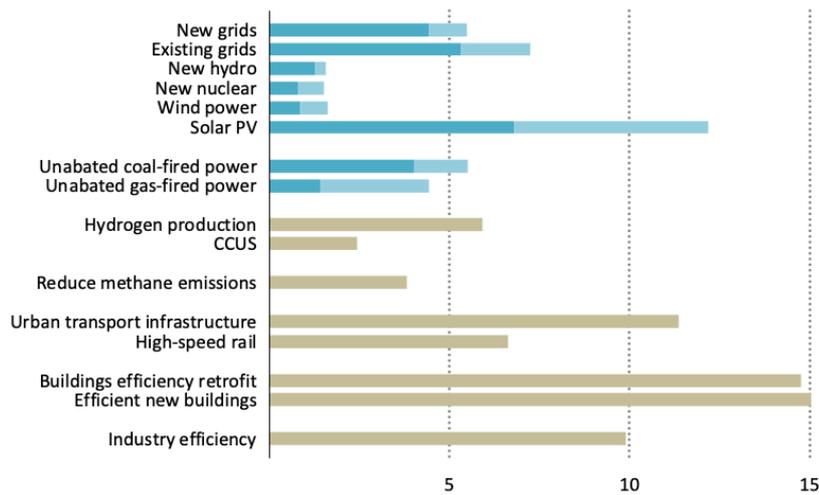
Electrification is often accompanied by significant increases in efficiency, but efficiency is also critical to support electrification. For example, at the site level it is substantially cheaper to replace a home's gas heater with a reverse cycle air conditioner if steps are also made to improve the home's thermal envelope. Efficiency will also be critical at the system level, to ensure that the electricity grid can cope with the addition of substantial load from new electric vehicles, space heaters and water heaters.

- **Energy management delivers huge co-benefits, including economic growth**

Improved energy efficiency often delivers massive co-benefits. For example, fixing uninsulated and leaky homes in Melbourne will not only reduce energy use and emissions, but also reduce deaths in heatwaves by an estimated 90 per cent.²

In 2020 the International Energy Agency identified energy management as the most jobs-intensive part of the energy sector (see Figure 3) Accordingly, Europe has placed renovating existing buildings at the heart of its climate and economic strategies.

Figure 3. Jobs per millions of dollars of investment



Source: International Energy Agency (2020) *Sustainable Recovery - World Energy Outlook Special Report*, IEA, Paris.

- **Energy management is critical for public support.**

Using energy management to keep energy bills low during the rapid decarbonisation of our economy will be critical to maintain public support for decarbonisation. In addition to keeping bills low, there is extraordinary public support to improve energy efficiency.

Figure 4. A survey of the views of 1,000 Australians on various policy measures

POLICY	SUPPORT	OPPOSE
Fund experts to help businesses save energy and money	69 %	18 %
Provide grants for businesses for energy-saving equipment	70 %	16 %
Incentives to upgrade commercial buildings	79 %	10 %
Minimum standards for rental homes	80 %	10 %
Energy efficiency ratings for homes	83 %	6 %
Strengthen minimum standards for new commercial buildings	83 %	7 %
Upgrade the homes of vulnerable households	84 %	9 %
Incentives for upgrading homes	85 %	6 %
Require energy companies to help households save energy	86 %	6 %
Strengthen minimum standards for new homes	88 %	5 %
Upgrade public buildings like schools and hospitals	92 %	2 %

Source ACOSS, Property Council of Australia, EEC 2018, *Energy Bills and Energy Affordability – A Survey of Community Views by YouGov Galaxy*.

² Alam, M. Sanjaya J., Zou, P., Stewart, M. and Wilson J. 2016 “Modelling the correlation between building energy ratings and heat-related mortality and morbidity” *Sustainable Cities and Society*, Vol. 22 (Apr 2016), pp. 29-39

We look forward to working with the Independent Expert Panel. For further information please contact me on rob.murray-leach@eec.org.au or 0414 065 556.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Rob Murray-Leach', with a stylized flourish at the end.

Rob Murray-Leach
Head of Policy
Energy Efficiency Council