



1 July 2024

To: Department of Government Services, Victoria

RE: Minimum Standards for Rental Properties and Rooming Houses

Thank you for the opportunity to comment on new minimum energy efficiency standards to be proposed for rental properties and rooming houses in Victoria.

Research by the Institute for Energy Economics and Financial Analysis (IEEFA) has shown that all-electric homes are the most cost-effective option for Victorians. However, renters are frequently locked out of the opportunity to access the benefits of electrification.

The introduction of minimum thermal efficiency standards, and the requirement to transition appliances to efficient electric alternatives when existing appliances reach their end of life are likely to result in material financial benefits to energy consumers in rental properties.

IEEFA supports the direction of the Victorian government's proposed updates, but has suggested several areas where the standards could be improved further. These suggestions would help to ensure energy consumers in rental properties can access the benefits of flexible electrification, and are not left to bear the costs of maintaining a gas distribution network in decline disproportionately.

Our detailed submission is summarised on the following pages. Please do not hesitate to contact us if you have any further questions about this submission.

Regards,

Jay Gordon – Energy Finance Analyst, Australian Electricity



Efficient electric homes the most cost-effective option for Victorian households

IEEFA's research has identified that all-electric homes are the most cost-effective option for Victorian homes, and supporting consumers to replace their inefficient appliances, including gas appliances, at end of life is a highly economical pathway. Our report, *Managing the transition to all-electric homes*, found:

"If gas appliances were required to be replaced with efficient electric alternatives at their end of life, the average Victorian home could save \$1,200 a year on their energy bills. If upfront costs were amortised as a 10-year loan, consumers would see net savings of over \$75 a month."¹

"Overall, Victorians could save a collective \$912 million in locked-in costs for each year that appliances were converted to electric at end of life rather than staying with gas, and be protected from the material risk that those appliances become stranded assets."²

Specifically, IEEFA has explored the role that standards can play in supporting consumers to access the benefits of efficient electric appliances. In addition to unlocking consumer cost savings, that research found:

"[...] a single intervention – minimum energy performance standards that require new household appliances to be both efficient and electric – could lead to two significant and complementary shifts in the way we use energy in the home.

"On the one hand, it would significantly reduce the stock of household gas appliances over time, gradually moving households over to electric appliances with lower running costs.

[...]

"On the other hand, it would also significantly reduce the stock of resistive electric appliances, replacing them with alternatives that consume less electricity. As well as increasing the savings for consumers, this has the effect of offsetting some or all of the added electricity demand from electrification."³

For Victoria – one-third of the added annual electricity load from full electrification of the gas appliance stock could be offset through coincident upgrades of the resistive electric appliance stock.⁴

While our analysis focused on the benefits of broader appliance standards, minimum rental standards can play an equivalent role that is targeted specifically at rental properties. This is typically one of the most difficult market segments to target via home energy upgrade policy measures.

On this basis, IEEFA supports the Victorian government's intention to update minimum rental standards to support renters to transition to efficient electric appliances.

Hot water systems

IEEFA's research has noted that heat pump hot water systems, which would likely represent the majority of new systems installed under the standards, can use up to 82% less energy than a gas hot water system, or 74% less energy than a resistive electric hot water system.⁵

¹ IEEFA. [Managing the transition to all-electric homes: An economical solution to Victoria's fossil gas dilemma](#).

² November 2023. Page 5.

³ Ibid.

⁴ IEEFA. [Appliance standards are key to driving the transition to efficient electric homes](#). 23 April 2024. Page 6.

⁵ Ibid.

⁵ IEEFA. [Appliance standards are key to driving the transition to efficient electric homes](#). 23 April 2024. Page 2.



IEEFA therefore supports the Victorian government’s preferred approach to require hot water systems in rental properties to be replaced with efficient electric options at their end of life (Option 4).

The electrification of domestic hot water systems presents the largest near-term demand flexibility capacity in the National Electricity Market, which is increasingly valuable under an electricity system with a high penetration of renewable generation.⁶

Specifically, if hot water systems are timed to operate during the middle of the day when solar generation is high and overall demand is low:

- This can mitigate any increase in peak electricity demand, avoiding the need to augment network and generation infrastructure to meet electrified loads, and;
- This can deliver greater savings to consumers who choose to opt into cost-reflective tariffs.

The significant potential of hot water systems as a future flexible load was explored in detail in a study by the Institute for Sustainable Futures. It found that, “The phasing out of gas water heaters in homes would provide consumers with combined annual savings of \$4.7-6.7 billion by 2040”, in scenarios where electrified loads are flexible.⁷

The Victorian government’s proposed approach in its regulatory impact statement does not require heat pump hot water systems to include appropriate controls that would enable their flexible demand potential.

By contrast, Solar Victoria mandates the following requirement for heat pump hot water systems to be eligible for their rebate programs:

“Hot water heat pumps, as a minimum requirement, must have an integrated timer that allows for the unit to run between a specified time window or is connected to a solar PV system and runs during periods of solar generation.”⁸

Similar requirements ought to be included in Victoria’s proposed minimum rental standards as a low-cost way to ensure Victorians can access the full benefits of electrification of hot water.

IEEFA recommends the Victorian government extends its proposed new minimum rental standards to require new heat pump hot water systems to be equipped at minimum with a timer control, and be set by default to operate during the midday off-peak period.

Space heating

Victoria’s existing minimum rental standards incentivise rental providers to install the lowest-cost fixed heating option, regardless of its efficiency.⁹ In most cases, this will be a resistive electric heater, unless there is an existing gas heater.

IEEFA’s research has found that reverse-cycle air conditioners, which would likely represent the majority of new systems installed under the proposed standards, can consume up to 88% less energy than a gas ducted heater, or 80% less energy than a gas room heater or resistive electric heater.¹⁰

⁶ IEEFA. [DER could provide \\$19 billion economic boost by 2040](#). 15 February 2024. Page 28.

⁷ UTS Institute for Sustainable Futures. [Domestic Hot Water and Flexibility](#). 5 June 2023. Page 1.

⁸ Solar Victoria. [Notice to Market 2023-24. Section 6: requirements for hot water rebates](#). 18 May 2023.

⁹ Consumer Affairs Victoria. [Rental properties – minimum standards](#). Heating.

¹⁰ IEEFA. [Appliance standards are key to driving the transition to efficient electric homes](#). 23 April 2024. Page 2.



IEEFA therefore supports the Victorian government’s proposed approach to minimum standards for heating and cooling systems in rental properties and rooming houses, which would require systems to be replaced with minimum two-star electric-only heating appliances at end of life (Option 4 and Option 1 respectively).

IEEFA notes that moving to three-star standards would deliver greater energy savings to consumers, and in the analysis completed for the Victorian government, this option offers a higher NPV (Option 3 and Option 1 for rental properties and rooming houses, respectively). The Victorian government has not identified this as the preferred option, citing supply-chain constraints.

IEEFA recommends the Victorian government consider whether it would be appropriate to move towards minimum three-star electric heating standards in future.

Cooktops

In its regulatory impact statement, the Victorian government has not considered introducing minimum rental standards for cooktops.

Gas cooktops do not consume nearly as much energy as gas heaters or hot water systems. However, they are significant as they can often be the last remaining gas appliance left in a household that switches to electric heating and hot water systems.

If Victoria’s preferred approach to updating minimum rental standards is implemented, the stock of gas heating and hot water appliances in Victorian rental properties will decline over time. This will deliver significant energy cost savings to those households. However, it is likely to result in a very large proportion of rental properties that are left bearing the cost of maintaining a gas connection in order to power only their gas cooktop.

This leaves renters exposed to higher gas network charges in future, for example:

- Increases due to the impacts of accelerated depreciation charges. IEEFA research recently highlighted that the Australian Energy Regulator has moved to approve such charges to Victorian gas consumers, despite consumers having already compensated networks well above their regulated profit allowance.¹¹
- Increases due to the costs of maintaining the gas network being distributed across a declining customer base. IEEFA research has found that this is likely to lead to unprecedented distribution price rises for consumers who cannot leave the network.¹²

It is inefficient and inequitable for renters to disproportionately bear the rising costs of accessing the gas network, if they are not consuming significant volumes of gas.

IEEFA therefore recommends the Victorian government extends its proposed minimum rental standards to require cooktops to be replaced with an efficient electric alternative at end of life, such as induction cooktops.

Thermal efficiency improvements

Research has shown that thermal efficiency upgrades typically produce the greatest energy savings of all household energy upgrade solutions.¹³ Thermal efficiency upgrades can present significant cost

¹¹ IEEFA. [Gas networks are making persistent and significant supernormal profits](#). 6 June 2024. Page 29.

¹² IEEFA. [Managing the transition to all-electric homes: An economical solution to Victoria’s fossil gas dilemma](#). 2 November 2023. Page 11.

¹³ For example, see Climateworks Centre. [Climate-ready homes: Building the case for a renovation wave in Australia](#). December 2023. Page 34.



savings that can amplify the benefits of upgrading to efficient appliances. Houses with higher quality thermal insulation may require lower-capacity heating and cooling appliances, and lower overall energy consumption.

IEEFA therefore supports the Victorian government’s proposal to introduce minimum requirements for ceiling insulation and draught sealing in rental properties.

However, we note that the Victorian government’s preferred approach to ceiling insulation standards (Option 3A) would only apply to existing dwellings with no ceiling insulation. This is likely to exclude a material number of properties in Victoria that may either have incomplete ceiling insulation or very low levels of ceiling insulation.

Data from the CSIRO’s Australian Housing Data portal suggests that 8.3% of Victorian dwellings have no ceiling insulation, but a further 56.7% of dwellings have ceiling insulation with an R value below the most common level for new seven-star dwellings (R5.0).¹⁴ Of these, 21% have ceiling insulation with an R value below 3.0, meaning they are likely to experience more than 67% additional heat loss compared with a house with R5.0 insulation.

The real proportion of households affected by low insulation is likely to be higher, as this CSIRO data is based on Nationwide House Energy Rating Scheme certificates, and biased towards new builds that are subject to greater energy efficiency standards than Victoria’s older housing stock.

IEEFA recommends the Victorian government introduce minimum standards for ceiling insulation in rental properties that would apply to dwellings with incomplete or low levels of insulation. This would more closely align with Option 3B – although a higher minimum insulation threshold of R1.5 should be considered.

¹⁴ CSIRO. [Australian Housing Data portal – Insulation – Ceiling insulation](#) – VIC – All NCC classes and project types.