

ENERGY SECURITY SAFEGUARD OFFICE OF ENERGY AND CLIMATE CHANGE

ENERGY SAVINGS SCHEME **WATER HEATERS CONSULTATION**

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Contents

Background	2
Question 1:	3
1.1 Residential data not representative of addressable heat pump market.	3
1.2 Energy usage data doesn't account for existing heat pumps.....	4
1.3 There is not enough consideration for consumer incentives to replace gas.....	5
1.4 Ensure that the OECC and IPART are aligned.	6
Question 2:	7
2.1 Commercial Activities – we are in support of the additional co-payments.	7
2.2 Residential Activities – we are in support of additional co-payments.	7
Question 3:	9
3.1 Transition period	9

Background

Established in 2006, Emerald Group is a distinguished parent company to several key subsidiaries, namely Emerald Planet, Emerald Alarms, Emerald Home, and Emerald Energy. Its core function as a manufacturer and product supplier has been pivotal within the energy efficiency schemes implemented across Australia.

Throughout our extensive history, Emerald Group has consistently supplied high-quality products to accredited providers and installers engaged in an array of high-volume activities. Our diverse portfolio includes Water Heating, Weather Sealing, Low Flow Shower Rose, Residential Lighting, Commercial Lighting, Smoke Alarms, Standby Power Controllers, In-home Displays, Refrigerated Display Cabinets, and Cold Room activities.

Emerald Group's continuous involvement in these activities has afforded us the opportunity to forge meaningful relationships with a myriad of accredited providers, installers, and retailers. This broad networking has endowed us with a comprehensive understanding of the commercial aspects of various activities. Moreover, it has enabled us to interact with and meet the needs of a diverse range of stakeholders within the Energy Security Safeguard.

Question 1:

What are your views on amending the baselines for calculating energy savings from residential and small business hot water upgrades? Where possible, please provide evidence to support your position.

Emerald Group's view is that the proposed new baseline is not representative of the addressable heat pump market and requires further review with considerations of excluding energy users living in apartments, or who already have a heat pump or electric-boostered solar. In addition, we believe that there should be a review of gas incentives with consideration of long-term gas prices for consumers, not just energy savings. Lastly, the inconsistency of the OECC baseline with IPART recommendations regarding average water usage per person will cause confusion for both installers and consumers in picking the correct size system.

Our recommendations include:

- Further review of the baseline more aligned with the addressable heat pump market, with an implementation date of January 2025.
- Review of gas incentives and a possible multiplier to promote change.
- OECC and IPART align average water usage so that installers and consumers can make more informed decisions.

See considerations below.

1.1 Residential data not representative of addressable heat pump market.

- Apartment/Units should be deemed not applicable when measuring the baseline as these premises are not physically practical to install a heat pump.
 - This is supported by industry experience, as well as the report from the University of Technology Sydney, 'Domestic Hot Water and Flexibility' (2023): Main Barriers for heat pumps.
- Apartments/Units significantly decrease the daily average kWh per customer per day.
 - This can be seen as LGAs with a higher proportion of apartment/units compared to housing have significantly less daily usage – Sydney for example.
 - According to the data from Australian Bureau of Statistics, 'Regional Population' (2023), there is a direct correlation between high density areas and Ausgrid's reported areas with less average daily kWh usage.
 - (<https://www.abs.gov.au/statistics/people/population/regional-population/latest-release#:~:text=north%2Dwestern%20suburbs-.Population%20density,in%20Sydney's%20inner%20south%2Dwest>)

- According to another report from the Australian Bureau of Statistics, Census of Population and Housing (2016), the average people per apartment is 1.9, whereas the average number of people per house was 2.8 (67% increase of people from apartments to houses)
 - This is a critical issue in NSW compared to other programs, such as the VEU, because NSW represent the highest proportion of apartments relative to private dwellings (21%) and represents 47.2% of occupied apartments in Australia, compared to VIC who has the next highest proportion at 22.8%
 - (<https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Apartment%20Living~20#:~:text=New%20South%20Wales%20also%20had%20the%20most%20apartment%20visitors%20%2D%20at,in%20separate%20houses%20was%202.8.>)

1.2 Energy usage data doesn't account for existing heat pumps.

- According to the report from the University of Technology Sydney, 'Domestic Hot Water and Flexibility' (2023), "In 2021, electric resistance units comprised an estimated 42% of sales, followed by instantaneous gas (30%), gas storage (14%), heat pumps (7%) and solar (5%)."
- In the report cited by the OECC: 'Quantitative Analysis of Electricity Savings from The Home Savers Rebates Program', from the University of Technology Sydney (2013), the average household savings for heat pumps and electric boosted hot water systems is 1500kWh/year and 1347kWh/year respectively, as seen in Table 1 of the report.
- Therefore, an existing savings factor should be considered when calculating the baseline as replacing existing heat pumps or electric boosted solar is ineligible under the program.
- This factor should be:
 - (Heat Pump avg household saving kWh per year x % of heat pumps installed) + (electric-boosted solar avg household saving kWh per year x % of electric-boosted solar installed)
 - = (1500 x 5%) + (1347 x 7%)
 - 169.29
 - Therefore, there should be 169.29kWh per year added to the baseline.
- It is also worth noting that the energy savings report for heat pumps and electric-boosted solar done in 2013 is relatively outdated, as we have seen exponential technological advancements in these products such that existing energy savings for any units installed after 2013 would be considerably higher than what is calculated above.

1.3 There is not enough consideration for consumer incentives to replace gas.

- We understand the methodology used to calculate savings for replacing gas hot water however, we would encourage the OECC to consider introducing other factors outside of pure energy savings that may affect consumers, such as increasing gas prices and market sentiment by the traditional plumbing industry.
 - According to the report from the University of Technology Sydney, 'Domestic Hot Water and Flexibility' (2023): "The phasing out of gas water heaters in homes would provide consumers with combined annual savings of \$4.7–6.7 billion by 2040. While the average user of gas hot water had lower annual bills than those with electric water heating in 2020, by 2030 they were projected to be significantly worse off. The gap between gas and electric household will further increase by 2040, with gas households then paying \$660–960 per year more than those with a heat pump water heater."
 - According to the same report, the starting price for installing gas is from \$1000, and with the proposed incentives to replace gas with heat pumps, we estimate the cost to upgrade to a heat pump would be between \$2500 - \$4500 including installation, with incentives.
 - This large price variance may be justifiable for a small segment of the market who are energy conscious and have disposable income, however we believe that for low-income households, emergency hot water upgrades, or tenanted households where a landlord is making a purchase decision, consumers will suffer in the long-term due to a lack of incentive to change from gas to heat pumps now.
 - In addition, there is still an extreme segment of the plumbing industry who continue to push consumers toward gas rather than electric, which can be attributed to traditionalism and lack of knowledge about new electric technology, and/or increased financial incentive to keep consumers on gas. Examples can be seen in the following article by SwitchedOn in September 2023: 'Electrical installers peddling misinformation to people wanting to switch from gas to electric hot water' (<https://switchedon.reneweconomy.com.au/content/electrical-installers-peddling-misinformation-to-people-wanting-to-switch-from-gas-to-electric-hot-water>)
- We believe that the Energy Security Safeguard has a great opportunity to stimulate this change in the short term so that there are exponential long-term benefits for consumers and can encourage a 'market shift' over the next 4-years.
- One approach that could be possible is a tapered, year on year multiplier that would incentivise both installation companies and consumers to make the shift off gas much sooner, such as:
 - Year 1 = 3 x gas multiplier (2025)
 - Year 2 = 2 x gas multiplier (2026)
 - Year 3 = 1.5 x gas multiplier (2027)

- Year 4 = 1 x gas multiplier (2028 and onward)
- This methodology has been used in the Retailer Energy Productivity Scheme (REPS) in SA to incentivise initial uptake of residential lighting, weather sealing, standby power controllers and showerheads for priority homes.

1.4 Ensure that the OECC and IPART are aligned.

- The OECC are modelling the baseline based on average water consumption of 45 litres per person per day.
- IPART have recently released a Draft HEER Fact Sheet for consumers ('Thinking of installing a heat pump water heater?') that indicates a guide for consumers of 100 litres per bedroom or household member.
 - "What tank size should I choose? While a rough guide is 100 litres per bedroom or household member, factors like spa baths, long showers and cold climates may require a larger tank. We recommend you discuss your needs with your installer to determine the optimal tank size."
- This can create significant confusion for both installers and consumers as to what size systems to choose due to such a large discrepancy.
 - For example, in a 5-person house, based on 45 litres per day, a 225L tank would suffice, however as per the IPART sizing guide, a 5-person house should have 500L or possibly more.
- This could result in two possible issues:
 - 1) Installers are over-sizing and installing larger systems than what is required, resulting in a reduction in energy savings and being disadvantaged by reduced incentives
 - 2) Installers are under-sizing and installing smaller systems which may be more cost-effective and receive additional incentives, however, are not installing products to the service levels required for consumers.
- Our recommendation is that the OECC and IPART are aligned with assumptions on average water usage per person per home for installers and consumers to make informed decisions.

Question 2:

What are your views on the additional co-payments for hot water system installations and upgrades? Where possible, please provide evidence to support your position.

Emerald Group is in support of a co-payment in both residential and commercial, however with an extended transition period.

See considerations below.

2.1 Commercial Activities – we are in support of the additional co-payments.

- We believe that a \$200 co-payment for commercial hot water upgrades is fair and reasonable and will encourage an increased level of customer engagement.
- Incentives in these activities are such that there is relatively level-playing field in that companies can offer \$200 to customers without the need to compromise on quality product, installation, or sales processes.
- We would encourage an extended transition period to allow for this change due to suppliers and installation companies committing to and purchasing stock based on a free installation. Although there is precedent for an expedited change as seen in 2022 for Refrigerated Display Cabinets, we believe it is beneficial for consumers and scheme stakeholders to manage this transition over a longer period than what was seen for RDCs. See question 3 for more.

2.2 Residential Activities – we are in support of additional co-payments.

- We believe that an additional co-payment for residential hot water upgrades is fair and reasonable and will encourage an increased level of customer engagement.
- However, with the proposed reduction in the baseline resulting in reduction between 27% and 54% of the energy savings calculations, we believe that a \$200 co-payment may act as a benchmark for companies to achieve, which given the proposed reductions, is currently unachievable given the current costs of product, installation, and sales.
- A co-payment of \$200 may encourage:
 - Suppliers to cut corners to reduce product costs.
 - Installers to cut corners to reduce installation costs.
 - Salespeople to use high-pressure tactics to increase marginal volumes.
- We recommend that the department consider the following options:
 - 1) Introduce a \$200 co-payment with **no change** to the current energy savings calculations

- 2) Introduce a higher minimum co-payment (between \$500-\$1000) with the proposed reductions in energy savings calculations
 - This would allow for a more even playing field for suppliers, installers, and salespeople to compete, while maintaining quality practices.
 - However, this will **disadvantage low-income homes** who may not be able to afford the upfront cost of installation.

Question 3:

What are your views on the two transition options? Where possible, please provide evidence to support your position.

Emerald is in support of option 1 for transition, however with an extended period of at least 6-9 months.

See considerations below.

3.1 Transition period

- We encourage the department to consider a minimum 6-month transition time from the commencement date.
 - The manufacturing of hot water heat pumps is different to other high-volume activities that have been prevalent in the scheme in the past, such as lighting or RDCs, in that the lead times for manufacturing and logistics are far longer.
 - For context, lighting lead times from time of order to time of delivery is generally 8-10 weeks, whereas heat pumps can be anywhere from 20-24 weeks.
 - In addition, due to the size and therefore logistics requirements for heat pumps, both suppliers and installation companies are encouraged to take stock positions to maintain continuity of supply, which can be anywhere from 1-3 months' worth of stock.
- Therefore, stakeholders within the scheme need to plan 6-9 months ahead and have done so based on the current provisions. A swift change to the provisions from the department would have significant impacts to many stakeholders that could result in stock challenges, cash flow challenges, and loss of jobs. It may also exacerbate the issues that the department is trying to solve in the short term, as companies may resort to high-pressure sales tactics and low-quality installations to avoid these challenges. A 6-month cooling off period would allow for stakeholders to transition their businesses responsibly and represent the program as intended.

For more information regarding this submission, please email zachary@emeraldplanet.com.au.