



**SUBMISSION ON
PRODUCT PROFILE: RESIDENTIAL SPACE HEATERS
IN AUSTRALIA AND NEW ZEALAND**

July 2021

This submission represents the views of AREMA and the New Zealand Heat Pump Suppliers Association. We represent companies that supply in excess of 80% of all heat pumps sold across Australia and New Zealand.

We support the development of policy approaches for heaters in relation to their energy efficiency. In particular, we

- Recognise and agree with the imperative to support consumers' desire to understand different efficiencies and capacities both between and within product categories.
- Note that MEPs has been applied (repeatedly) on heat pumps. We believe that labelling of heaters alone is insufficient and performance standards need to be set to cover various equipment types. The current approach, which enables manufacturers of some equipment types to sell inefficient equipment, creates an unfair basis for competition.
- Ask you to consider that ducted systems enable building occupants to heat rooms as necessary, increasing efficiency of heating delivered. Assessments that do not look at use patterns unfairly disadvantage ducted systems.
- Note that figures used are from old studies. For example, the estimate of split system air conditioners installed in Australia is likely significantly low. Estimates provided by the Expert Group (Cold Hard Facts 2020) are more than double. We recommend contacting the Ozone Team for confirmation of the most recent numbers. Also, projected sales (p 35) are well below what was sold into Australia. Cold Hard Facts and the Ozone Team can provide updated information.
- Also note that greenhouse gas emission factors vary considerable by region and will change in the future as electricity supply progresses to renewable sources. Individual consumers influence their electricity greenhouse gas contributions by on site generation and purchasing green power. A greenhouse gas rating may be counterproductive because it could penalise technology with future decreasing emissions because the fuel source progressively shifts to renewable fuels. In particular, it is less suitable for labelling but could be incorporated into an online calculator.

We also have specific comments on the text, namely:

1. Characteristics of electric in-slab heaters makes reference to “gas boiler or electric heat pump to heat water”, page 23. We believe this should be deleted because it is covered under next section – Hydronic.
2. We think consideration should be given to provide a forecast to 2030 for greenhouse gas emissions by state. Data can be sourced from report “Australia’s emissions projections 2020” – Department of Industry, Science, Energy and Resources. Reference <https://www.industry.gov.au/data-and-publications/australias-emissions-projections-2020>

3. The New Zealand greenhouse gas contribution of electric heating appears high because electricity is mostly hydro electric with an implied generation factor of approximately 0.1 kt CO₂-e/GWh in year 2018. Application of this emissions factor with data from the energy pie chart suggests reconsideration of the greenhouse gas emissions pie chart. Reference <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/new-zealand-energy-sector-greenhouse-gas-emissions/>
4. Product specific requirements, page 65. New Zealand recently harmonised air conditioner minimum standards with Australia. The requirements are currently directly referenced in the regulation instead of industry standards.
4. Reverse cycle air conditioners, technical potential for consumers to choose higher efficiency split systems, page 93. Consideration should be made to segmenting the analysis to GEMS product classes because smaller air conditioners have a higher efficiencies than larger air conditioners. Application of an appropriate size for the heating demand is important for consumer satisfaction. It would be counterproductive to compare a 8kW system at 400% efficiency with a 2kW system at 500% efficiency because the smaller system would not heat the space sufficiently.
5. Gas heater efficiency, page 95. “if no heat is lost in the exhaust gases, the heater will be rated at 100%”. Should this be if all heat is lost in the exhaust gases the heater is 100% efficient.
6. The new flexible duct standard AS 4254.1:2021 was published during the last few weeks. The previous standard allowed the duct rating to be as per the insulation blanket supplier rating. Duct manufacturers were purchasing 70mm R1.0 thick low density blankets. They then compressed the blanket into a 40mm annulus gap between the inner duct and outer jacket. The resulting actual insulation performance became R0.6. The new standard requires the insulation blanket to be removed from the finished duct and tested at the actual annulus gap. This should promote actual R1.0 ratings by thicker higher density insulation blankets and increasing the annulus gap to 70mm. The new standard will be referenced in the NCC 2022. The Space Heating consultation makes reference to significant duct thermal loss. It is worth noting the new standard in the consultation response should reduce the loss to about half of the previous standard.