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**Feedback to Department of Industry, Innovation and Science** – Consultation Regulation Impact Statement – Air Conditioners and Chillers

**Industry Consultation**

Submitted to:

**The Department of Industry, Innovation and Science**

By

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## AIRAH Submission

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This submission is in response to the Australian Government Department of Industry, Innovation and Science consultation through the Consultation Regulation Impact Statement – Air Conditioners and Chillers.

## About AIRAH

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The Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) is an independent, specialist, not-for-profit technical organisation providing leadership in the HVAC&R sector through collaboration, engagement and professional development. AIRAH works with all sectors of the industry and all levels of Government as a trusted partner in HVAC&R related issues.

The Institute's mission is to lead, promote, represent and support the HVAC and related services industry, and membership. The Institute produces a variety of publications and communications aimed at championing the highest of industry standards. AIRAH encourages world's best practice within the industry, and has forged a reputation for developing the competency and skills of industry practitioners at all levels.

The top five AIRAH strategic issues for HVACR in 2016 are:

- Resilience;
- Compliance;
- Sustainability;
- Innovation; and
- Refrigerant transition.

## **AIRAH recommended policy option**

AIRAH agree that the preferred policy option is **Option B2**.

This option provides the greatest net benefit and the largest energy and greenhouse gas emissions savings.

AIRAH agree with all of the individual elements of this option.

AIRAH strongly support moving MEPS for chillers out of the NCC, increasing stringency of MEPS and standardising on International test methods. AIRAH also support the zoned energy label.

AIRAH have the following comments and additional recommendations.

### **Minimum standards trajectory**

AIRAH recommend that MEPS continue to increase in efficiency requirements in line with the 2011 RIS recommendations. Specifically a 10 to 20 per cent increase to the current MEPS levels for air conditioners.

Residential buildings account for around 50% of all the electrical energy used in buildings or about 12% of all electricity generated in Australia. Air conditioners are now used in nearly 60% of all Australian households. Residential air conditioning continues to grow and although it is not as challenging for peak demand as it once was it is still a significant contributor to overall household and National energy consumption.

As the Australian Government moves to meet international obligations in regards to national emissions reductions this is not the time to be abandoning increases in minimum standards. AIRAH recommend that the E3 committee reconsider the introduction of the 2011 RIS recommendations with a view to assisting Australia meet committed emission reduction targets.

AIRAH notes that there is an expectation in many sectors that MEPS and GEMS are set up for an increasing trajectory for efficiency and energy productivity. The decision to level out efficiency increases should be revisited in regards to the wider National and International policy settings.

### **Highest efficiency standards**

The focus is always on minimum standards which in some cases can become common or even best practice. While it important to remove the lowest performers from the market it is also important to incentivise and support best practices. The E3 committee needs to do more to focus the program and its users on the highest achieving appliances.

One approach would be to reward the Top-of-Class.

Tax breaks or other incentives such as advertising or endorsements could be developed for Best-in-Class. We need to get consumers and specifiers used to thinking about optimising their air conditioning and

minimising their energy consumption. Promoting those products that excel in their category is one way of achieving this.

## Climate data files

AIRAH recommend the LATEST NatHERS 2016 climate files be adopted by the program, and suggest that these be reviewed every 4 years to capture current climate. AIRAH note that the American society of Heating Refrigeration and Air conditioning Engineering (ASHRAE) reviews climate data every 4 years and updates design data.

The latest NatHERS 2016 climate files that the Commonwealth has commissioned NIWA to produce should also be converted into EnergyPlus weather format as was the case for NatHERS2012 files.

## Specific Consultation questions

**Will the proposed policy options address the identified problems? Have all relevant policy options been considered?**

The proposed policy options address the identified problems but do not address the problem of increasing energy consumption of residential and commercial air conditioning into the future or how the sector can help Australia meet its international obligations.

**Is the cost benefit analysis of the policy options based on accurate data and realistic assumptions?**

In regards to the costs and benefits of increasing stringency in line with the 2011RIS recommendations AIRAH believe that there was too much focus on the costs in relation to maximum demand considerations and impacts and not enough focus on the benefits in the cumulative reduction in overall future energy use. While it is true that the maximum demand implication of air conditioner energy use have reduced in recent years, cumulative energy consumption is still on the rise and is a growing emissions related concern.

**Are there any implementation barriers or possible unintended consequences in relation to any of the policy options under consideration?**

Given that Australia is, with relatively few exceptions, an importer of unitary air conditioners and chillers there seems to be an 'international market' aspect missing from the analysis.

There have always been issues around the small Australian market setting standards in a much larger global market. There have been observations in the past about where our various MEPS lined up against the global technology providers product range and whilst at one end, at least in the early days, MEPS certainly stopped the dumping of low efficiency equipment into the Australian market, at the other end we didn't encourage the importation of the best we could (or help drive global standards up, notwithstanding size of market, affordability etc.).

This is not about aligning GEMS to ISO standards etc, it's more about where the 'stars align' for various different global jurisdictions. Given the observations made about MEPS having 'done their job' do we now we need a tidy up some of these global market considerations?

How aligned are our MEPS requirements with international countries like Japan, USA and Europe? Has international alignment been assessed or analysed by anyone?

**Do you agree the MEPS requirements for air conditioners and chillers in the NCC should be removed and included under the GEMS Act/New Zealand regulations? Do you have data or information about products that do not meet the NCC MEPS levels being supplied in the replacement market for either or both of these products?**

AIRAH strongly support moving MEPS for requirements for air conditioners and chillers out of the NCC. Note that the NCC has moved to a 3-year revision cycle and the two regulations are very out-of-step creating inefficiencies and both voluntary and involuntary non-compliance.

**Do you agree that SEER rating should be applied to air conditioning products greater than 30 kW capacity?**

AIRAH agree with this.

## Technical/administrative questions

**Fully aligning to international test standards when appropriate:** AIRAH support that future GEMS Determinations for air conditioners could call the three ISO test standards up directly.

**Updating international based test standards:** AIRAH support the adoption or use of the three ISO test standards without a formal RIS process?

**Water-source heat pumps:** AIRAH support:

- a) New Zealand considering the costs and benefits of aligning with Australia by regulating water-source air conditioners under the scope of AS/NZS 3823.1.3 for MEPS subject to a further RIS; and
- b) Updating AS/NZS 3823.1.3 if ISO 13256 is updated?

**Remove H2 MEPS requirements:** AIRAH agree that if a SEER rating is implemented, a separate H2 MEPS is no longer required.

**Simulation testing of  $\geq 30$  kW units under a SEER scenario:** No comment

**Multi-split registration:** AIRAH support that the next update of air conditioner regulations will only require the registration of the base modules of a VRF multi-split system.

**'Add-on' coolers:** AIRAH support option b)

**Supply of outdoor units only:** AIRAH believe this proposal is reasonable

**Noise test standard:** AIRAH strongly support the disclosure of indoor and/or outdoor sound power on the label. AIRAH support the use of either EN 12102:2013 or ISO 3741 but suggest that only one of the standards be nominated, to ensure consistency in the results provided. This decision on test standards should be taken in consultation with manufacturers/suppliers.

**Noise test points:** AIRAH agree to follow the EU’s practice of testing at the standard full load T1 (35 °C) test point or H1 (7 °C) for heating only units for noise testing.

**Noise test requirements:** AIRAH agree with this proposal.

**Fixed speed air conditioners - degradation coefficient:** In order to promote reproducibility and repeatability AIRAH agree that the default  $C_D$  value of 0.25 should be used for all registrations and this should not be able to be changed by an applicant.

**Measurement of non-operative power consumption:** AIRAH agree with the proposal to fully align with the new ISO SEER standard (AS/NZS 3823.4:2014) and use it for both AEER/ACOP and SEER.

**Capacity correction for single duct portable air conditioners:** AIRAH support the development of the capacity correction method outlined for single exhaust duct portable products including the use of the proposed temperature points. AIRAH note that the ways this equipment is used in practice will significantly impact its energy use, more so than in any other product category.

**Heat pump and reverse cycle liquid chilling packages:** AIRAH support E3 investigating the merits of including heating only and reverse cycle liquid chilling packages under the GEMS Act/New Zealand regulations through a future RIS process.

**Inverter over-capacity:** AIRAH agree that the inverter over-capacity issue warrants further investigation by E3, to inform future policy action. It is important the energy rating reflects the energy use in practice.

**End of submission**