

August 31  
2016

**AIRAH Response to –**

**Consultation Regulation Impact Statement**

# Refrigerated display and storage cabinets

Submitted to: **Department of Environment and Energy**

By: **Australian Institute of Refrigeration Air Conditioning and Heating  
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## Refrigerated display and storage cabinets

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## About AIRAH

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AIRAH is the recognised voice of the Australian air conditioning, refrigeration and heating industry. We aim to minimise the environmental footprint of our vital sector through communication, education and encouraging best practice.

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## Refrigerated display and storage cabinets

### Introduction

Please find the following as AIRAH comments on the **Consultation Regulation Impact Statement for Refrigerated display and storage cabinets** prepared by the Department of Environment and Energy for the E3 Program.

AIRAH has consulted with our membership base in the development of these comments. AIRAH's members work across all sectors of the built environment, including residential and commercial refrigeration systems through to complex system design and construction associated with the cold chain and industrial refrigeration.

The work of AIRAH's members has significant impact on the productive use of refrigeration assets over their lifetime.

These comments are offered in good faith by AIRAH as a constructive submission in support of the Equipment Energy Efficiency (E3) program efforts to develop and continue to support a meaningful MEPS/GEMS strategy.

### AIRAH

The Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH) welcomes the opportunity to work with the Department of Environment and Energy and the E3 program to make the transition to a low-carbon future in practical and productive ways. AIRAH is an industry-led organisation that represents the entire refrigeration value chain, from the tradesperson on site to university-educated engineers and business leaders. This overarching perspective – and reach to more than 25,000 industry participants – positions AIRAH to promote and develop the most efficient, productive and resilient heating, ventilation, air conditioning and refrigeration (HVAC&R) industry for Australia's future.

The 21<sup>st</sup> century imperatives of emissions reductions and energy productivity present our nation with significant change, challenges and opportunities. It is important that all stakeholders from the refrigeration sector to come together to meet these challenges, because all of us have a part to play in the move towards low emissions. AIRAH is keen to work with the all levels of government to improve the environmental performance of existing and new HVAC&R (heating, ventilation, air conditioning and refrigeration) systems. We envisage a collaborative effort to get and keep energy action firmly on the agenda.

### The role of HVAC&R

Australia, as a signatory to the Paris Climate Change Agreement, has now committed to the global transition to net-zero emissions, and to reaching net-zero emissions nationally around 2050. The Australian built environment sector – and within that, the HVAC&R industry – can make a major contribution to meeting this 2050 goal, as well as improving energy productivity, supporting innovation, and creating healthier, more liveable cities. AIRAH members can play a huge part in this transformation.

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# AIRAH responses to the listed questions

### **1. Do you think further regulatory intervention is needed to make energy efficiency changes in the market? Please explain. (Status Quo)**

Yes, AIRAH supports Options 4 and 3, in that order of preference.

Regulatory intervention addresses market failures and provides a level playing field while improving the environmental footprint of an energy intensive sector of the industry.

AIRAH also believe that increased monitoring and enforcement should be in place to support the regulations and ensure that the regulations produce their anticipated outcomes for this category of refrigeration equipment.

### **2. If you answered 'yes' – which option suits you best, and why? (Status Quo)**

AIRAH supports Option 4.

Both suppliers and customers should be required to report the MEPS rating of refrigerated display and storage cabinets sold/purchased. Some suppliers and many customers are still not aware of MEPS.

Option 4 improves Australia's ability to export and import compatible technologies.

Option 4 should be supported by more intervention in terms of monitoring.

### **3. Do you think we have adequately captured the major factors that buyers consider when buying commercial cabinets? (Buyers/users)**

Yes

### **4. Are buyers optimising their ownership costs (including running costs?) If not – why not? (Buyers/users)**

Buyers are not currently optimising their ownership costs. This represents a market failure in the sector due to insufficient information being available to purchasers to make informed choices that includes energy performance.

Significant sectors of the buying community are focussed on initial capital cost outlay as the single major selection criteria.

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Running costs may have little effect on owner purchasing behaviour, when the lifetime power costs of specific units are not visible.

Other appliances such as ovens and air conditioners are sometimes seen by purchasers as having a larger power use, while refrigeration is seen as a smaller component of energy use with an overall lower marginal benefit for energy efficiency investment.

Only informed buyers are optimising their ownership costs. An education campaign to encourage users to assess ongoing energy costs using life-cycle cost analysis (LCCA) or total equivalent warming impact (TEWI) comparisons should be encouraged.

### **5. We assume that buyers don't know how much saving they could achieve from using a more efficient cabinet. Do you agree, if not, please explain. (Buyers/users)**

Yes. Agree wholeheartedly.

However using life-cycle cost analysis (LCCA) or total equivalent warming impact (TEWI) comparisons is a great tool and buyers also need education on this holistic approach.

### **6. What impact would efficiency labelling of cabinets in literature/websites/on the cabinet itself, have on buyers and users? (Buyers/users)**

This should see a partial improvement.

Efficiency labelling of cabinets in literature/websites/on the cabinet itself would help to start an energy efficiency conversation between purchasers and suppliers.

Improvements on buyer behaviour could be more significant if the E3 program is supported by good communications and underpinned by strong enforcement.

For optimum effectiveness, efficiency labelling or associated communications would need to reference LCCA or TEWI comparisons.

### **7. What portion of cabinet buyers actively consider energy use in their search for cabinets or their choice criteria when looking for cabinets? (Buyers/users)**

AIRAH members estimate that only 20-30% of buyers consider energy consumption in their purchasing decisions. Far too few!

For the vast majority of purchasers that our members deal with, capital expenditure (CAPEX) seems to have a greater priority and receive much greater attention than operating costs (OPEX).

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### **8. What proportion of buyers could benefit from considering energy use in their purchase decision? (Buyers/users)**

AIRAH members estimate that almost every single purchaser, or 99% of buyers, would benefit from considering energy use in their purchase decisions.

The total cost of ownership of a cabinet far outweighs initial the initial CAPEX.

Anyone intending on owning the equipment for more than 2 years would benefit, which is estimated to equate to almost every single purchaser.

### **9. What are the most important things that buyers search for in cabinets? (Please explain and rank). (Buyers/users)**

Apart from cabinet Price or Cost, which is generally where purchasing decisions are made -

The most important thing that buyers search for in cabinets is Merchandising Appeal

Second would be Aesthetics,

Third would be any and all of the following:

- Lighting;
- Ease of use/Access;
- Noise;
- Health & Safety;
- Reliability;
- Clean ability;
- Maintenance levels required.

### **10. We assume that the price of cabinets won't change significantly from proposed changes to regulation. Do you agree with this assumption? If not why not? Please explain. (Cabinet price)**

Changes to regulation should be focused on non compliant products, so there should be no administrative cost increases towards companies already complying.

The proposed changes and increased stringency may increase cabinet costs. More efficient cabinets will have larger coils hence more copper, more insulation, better controls, high performance components etc.

Higher cost components would push up overall cabinet price.

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**11. We assume that suppliers sell into a 'cabinet-type-price' bracket – meaning that suppliers market similar types of cabinets at a similar cost, irrespective of whether they contain potentially more expensive, efficient components. Do you agree with this assumption? If not please provide evidence if possible. (Cabinet price)**

AIRAH believe that the CAPEX price focus adopted by most purchasers precludes the inclusion of more expensive higher efficiency components into standard offerings.

Many imported products are reaching the market with no MEPS compliance, giving an unfair price advantage.

**12. Are there types of cabinets or situations where improving efficiency of a cabinet would significantly change the cabinet purchase price? Please explain. (Cabinet price)**

Imported or local products that are currently non MEPS compliant would likely significantly increase in price.

For most other cabinets the price would also change, not significantly, but certainly noticeably. More efficient cabinets will have larger coils hence more copper, more insulation, better controls, high performance components etc. The proposed changes and increased stringency may increase cabinet purchase costs marginally.

If the total lifecycle cost over 10 -15 years ownership is considered however, the real costs can be shown to be significantly lower.

**13. What unintended outcomes might arise from improving the efficiency requirements for refrigerated cabinets? Please explain and give examples if possible. (Unintended consequences of regulation)**

Some businesses or importers may lose their market share.

Manufacturers and suppliers could load prices and 'blame' MEPS.

**14. We have assumed that changes in energy efficiency will be largely invisible to buyers (behind the scenes in components, apart from LED lighting). Cabinets will remain user-friendly and won't (for example) change their functionality and safety (e.g. won't force all open cabinets off the market so that only those with doors remain, won't compromise cooling ability, won't diminish support industries). Please comment on this assumption. (Unintended consequences of regulation)**

It is difficult to accurately predict the response of an entire industry to a single regulation, particularly when there are many other factors at play (e.g. HFC phase-down).

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Over time AIRAH believe that the rising stringency for minimum energy performance of appliances as well as the desire for facilities to reduce emissions will remove open cabinets from the market. It is most likely the retailer's reluctance to interfere with the purchaser's buying experience that keeps open cabinets in the market. Cabinets without doors make no sense in a low-emission refrigeration world.

The increase in the use of flammable refrigerants into mainstream use may also affect designs and safety considerations for occupants and workers.

### **15. What impact do you think labelling would have on product costs and consumer choice? (Unintended consequences of regulation)**

In the short term labelling will have a minor effect on increased product costs and will result in reduced consumer choice as low-performing product leaves the market.

In the medium term costs and choice will stabilise.

Labelling will allow purchasers to directly equate price with energy efficiency. Expensive low-performing product would need to meet other purchaser requirements for them to retain market share and the assumption that higher costs always means higher efficiency will be broken.

### **16. What issues might arise for you (or your competitors) if you supply custom-made cabinets? (Custom-built cabinets or low-volume supply)**

The cost of design and production would likely increase.

Lead time would also likely increase.

Some manufacturers may disregard the significance of MEPS in custom jobs.

### **17. What might help you easily comply with the proposed regulations, if you supply built-in, custom-made, or a small number of cabinets? (Custom-built cabinets or low-volume supply)**

Simply specifying a MEPS rating may not be enough. MEPS testing of low volume customs will likely not be cost effective. If not cost effective it won't be undertaken.

Some local manufacturers look at design SST. This can be quite low for custom builds.

For these applications approved modelling and certification software, for use by industry only, could be developed by Australian University, (e.g. see IPU in Denmark), as an alternative to MEPS testing.



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### **18. Please suggest how we could define ‘custom-made’, ‘built-in’ or low-number-of supply cabinets (if different from the suggested wording in the EC regulations). (Custom-built cabinets or low-volume supply)**

We also hear the following terminology used in Australia:

- Custom made cabinets.
- Low volume specialty cabinets.

### **19. How would mandatory labelling of cabinets (incl. use in websites/literature) affect your business, and your competitors’? (Labelling)**

Mandatory labelling of cabinets should increase sales, particularly for companies that comply with MEPS. These companies should see improved sales with increased visibility as low-cost low-performance alternatives are removed from the market.

Mandatory labelling of cabinets introduces an ‘efficiency’ competitive market which incentivises industry to undertake effective benchmarking which in turn drives innovation in the sector.

There will be modest increases in the costs of marketing and cabinet manufacture.

### **20. What impact do you think a ‘high efficiency’ label would have on the market, buyers and users? (Labelling)**

AIRAH believe that a ‘high efficiency’ label could have significant effect on the market, and on improving and modifying buyers’ and users’ attitudes.

In the beginning behaviour change will be slow however the objectives should be cultural and long term change.

Over time buyers will begin to accept ‘high efficiency’ as the new normal and bypass inferior product.

A ‘high efficiency’ label will increase discussion and consideration around energy efficiency and promote appliance energy performance as a key purchasing criterion.

### **21. We have used European market data and collected NZ sales data to estimate sales of cabinets in Australia. Do you accept this as a viable approach to estimating sales in Australia? (Market data)**

There are manufacturing facilities in Australia, for example Hussmann, and their main customer base is local.

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This estimation, based on overseas data, with different climates and different retail markets is probably inaccurate.

### **22. Can you provide more accurate market data including the stock and sales estimates? (Market data)**

Perhaps an option would be to engage with Woolworths, Coles, IGA (Metcash), Aldi and other retailers to obtain accurate market data including the stock and sales estimates.

### **23. Can you provide information that would help us identify the size of the issues with the current Standard? If so, please provide. (The current standard and MEPS/High Efficiency levels)**

No comments on this topic.

### **24. How have you been affected by the complexity of the current Standard AS1731? What were the consequences? (The current standard and MEPS/High Efficiency levels)**

No comments on this topic.

### **25. What changes would you like to see made to the current Standard, and MEPS, if we don't align with international standards and MEPS? What effect do you think this would have on the Au-NZ market? (The current standard and MEPS/High Efficiency levels)**

No comments on this topic.

### **26. We assume that aligning with the EC MEPS levels and ISO/EN test standards would simplify your ability to comply – and our ability to check and enforce – compliance. What comment can you make on this? (The current standard and MEPS/High Efficiency levels)**

As a general principle AIRAH believe that the alignment of standards is always advantageous.

### **27. Can you outline any other non-regulatory options to significantly impact on cabinet efficiency, that industry, government, or partnerships could develop (to avoid the need to change the energy efficiency regulations?) Non-regulatory options**

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Regulatory options that increase the cost of energy would undoubtedly be effective in focusing end users attention on their energy consumption, energy productivity and energy effectiveness. Nothing moves minds quicker than the hip pocket.

### **28. We have modelled 2017 as the indicative implementation date – what would hold up your ability (or your competitors’) to comply with regulations coming into force in 2017? (Implementation timeframe/other compliance pathways)**

“Current supply agreements with suppliers” has been suggested as a potential compliance barrier.

### **29. Can you give us details on alternative ways and means that you could comply with regulations? (Implementation timeframe/other compliance pathways)**

- Require end user energy reporting. Much like carbon reporting.
- Staggered implementation dates whereby the least efficient cabinet models must comply soonest
- The provision of ‘deemed to comply’ options based on rated components – where MEPS are significantly more stringent if the cabinets cannot be physically purchased and/or tested. A more rigorous component energy performance requirement for cabinets that cannot be tested as-a-whole.
- See also previous comments regarding a standardised modelling software or freeware that can be used to demonstrate compliance through application of some fundamental engineering.

### **Other comments**

AIRAH expect that these same issues will also come to apply to small refrigeration systems serving applications such as cool rooms and freezers, in areas where cabinets are also found.

As such it might be expected that this basic MEPS frame work could be applied as a template for these scenarios also. This is one of our areas of larger interest.

Australia enjoys a small market with very special conditions brought about by our climate. MEPS targets are a minor challenge in comparison to the certification of any particular design especially in regards to special builds.

Low or zero cost energy modelling software for refrigeration systems should be available to industry with development sponsored by Government through an applicable University.

**End of submission**