

**November  
2013**

**Submission**

# **Emissions reduction fund**



**Prepared by:**

**The Australian Institute of  
Refrigeration Air Conditioning  
and Heating**

**AIRAH Strategic aim #1 - *Claim the sustainability space***  
**AIRAH Strategic aim #3 - *Inform regulation and policy decisions***

## Prepared and Co-ordinated by

---

Vincent Aherne, M.AIRAH

Australian Institute of Refrigeration Air Conditioning and Heating (AIRAH)

Level 3/1 Elizabeth Street, Melbourne, VIC 3000

Tel: 03 8623 3000 | [www.airah.org.au](http://www.airah.org.au) | email: [vince@airah.org.au](mailto:vince@airah.org.au)

## About AIRAH

---

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.

## AIRAH – Strategic Aims

---

### **Claim the sustainability space**

Through its conferences, publications, manuals and training, AIRAH will educate and motivate the HVAC&R industry and related fields about achieving sustainability. Our aim is to be the HVAC&R organisation whose values are aligned with sustainability in a practical sense

### **Close the skills gaps**

At a time of rapid change of new technology and standards, and a shifting regulatory landscape, AIRAH will provide relevant professional development for HVAC&R industry personnel, and work alongside government and providers to ensure the voids in formal training are filled.

### **Inform regulation and policy decisions**

As the key industry organisation representing HVAC&R in Australia, it is essential AIRAH collaborate with government at both the state and federal levels. The collective skills and specialist knowledge of the Institute can better inform decisions that affect society and the HVAC&R industry.

### **Build and engage membership**

AIRAH will become the institute of choice for HVAC&R professionals in Australia. This means ensuring that formal connection with AIRAH provides benefits – actual and intangible – that are valuable, worthwhile and attractive to our members throughout their professional lives.

## Disclaimer

---

Information contained in this submission may be copied or reproduced for study, research, information or educational purposes, subject to inclusion of an acknowledgment of the source.

While reasonable efforts have been made to ensure that as many opinions and solutions have been canvassed AIRAH does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

© AIRAH 2013



Australian Government

## COVER SHEET FOR SUBMISSIONS

### EMISSIONS REDUCTION FUND

***This completed form must be included with your submission. If completing by hand, please ensure your writing is clear and legible.***

CONTACT DETAILS	
Please provide at least one contact address; a telephone number is optional. If you are making a submission for a group or organisation, please provide contact information for one member of your group or organisation.	
<b>NOTE:</b> <i>The Department needs to collect some personal information in case we need to contact you should further information or clarification be required on your submission. Personal information may be disclosed to the Minister for the Environment or the Secretary of the Department or to employees of Australian Government agencies assisting the Department for the purposes outlined above. Contents of your submission may be included in subsequent publications.</i>	
<b>Organisation (if applicable)</b>	Australian Institute of Refrigeration Air Conditioning and Heating (Inc) AIRAH
<b>Title</b>	Chief Executive Officer
<b>First name</b>	Phil
<b>Surname/Family name</b>	Wilkinson
<b>Postal address</b>	
<b>Email address</b>	Phil@airah.org.au
<b>Telephone number</b>	(03) 8623 3010
INTERNET PUBLICATION	
Public submissions may be published in full on the website, including any personal information of authors and/or other third parties <b>contained in the submission</b> . Please tick this box if you wish for your submission to remain confidential (that is, you <b>do not consent</b> to having your submission published on the internet.	<input type="checkbox"/>
ANONYMITY	
Please tick this box if you want your submission to be treated as anonymous (that is, you <b>do not consent</b> to having your name, or the name of your organisation, published on the internet with your submission).	<input type="checkbox"/>



<b>THIRD PARTY PERSONAL INFORMATION</b>	
<p>Please tick this box <b>if your submission contains personal information of third party individuals</b>, and strike out the statement that is not applicable in the following sentence:  The third party individual <b>consents / does not consent</b> to the publication of their information.</p>	<input type="checkbox"/>

<b>HOW TO SUBMIT COMMENTS</b>	
<p>Return BOTH the cover sheet and the comments sheet by email (preferred option) or post to the addresses below.</p> <p><b>Email:</b>            <a href="mailto:emissions-reduction-submissions@environment.gov.au">emissions-reduction-submissions@environment.gov.au</a></p> <p><b>Post:</b>                Emissions Reduction Fund Submissions  Department of the Environment  GPO Box 787  CANBERRA, ACT 2601</p>	

**\* If you wish for only parts of your submission to be treated as confidential, it would be appreciated if you could provide the confidential parts of your submission as a separate document.**

**Email:**

**Post:**

For further information, or to request a hard copy of the document, please call 1800 057 590.



## SUBMISSION TEMPLATE

### EMISSIONS REDUCTION FUND

#### Overview

This submission has been prepared by the Australian Institute of Refrigeration Air conditioning and Heating (AIRAH)

#### Contact Details

<b>Name of Organisation:</b>	<b>Australian Institute of Refrigeration Air conditioning and Heating</b>
<b>Name of Author:</b>	<b>Phil Wilkinson</b>
<b>Date:</b>	<b>18<sup>th</sup> November 2013</b>

#### Submission responses

**[ISSUE]**

##### **AIRAH are from industry – and we are here to help**

AIRAH fully support any initiative to assist the Heating, Ventilation, Air Conditioning and Refrigeration (HVAC&R) industry and its end users to reduce emissions associated with HVAC&R activities.

AIRAH hopes the Emissions Reduction Fund (ERF) will be created in such a manner to allow this important sector to fully participate in the scheme.

AIRAH believes that there are huge efficiency gains and savings available from HVAC&R sector. It is clear that the sector will need to have fair and equitable access to the ERF if those savings are to be incentivised and realised.

AIRAH believes that large-scale single-entity polluters must not be favoured by the fund.

AIRAH believes that the ERF should be used not only to fund the cheapest large-scale emissions reductions but also to incentivise the aggregation of the potentially larger (when combined) and generally persistent small-scale reductions that can be achieved at the system/site/building level.

The Cold Hard Facts report published by DSEWPAC in 2013 ([Cold Hard Facts 2013 PDF](#)) reveals that for refrigeration and air conditioning there are over 21,000 individual businesses employing 173,000 people and spending over \$26 billion, consuming more than 59 GWh of electricity and contributing to about 11.7% of Australia's total direct and indirect CO<sub>2</sub>e emissions in 2012.

In the McKinsey Australia Australian greenhouse gas abatement cost curve ([McKinsey Australian cost curve PDF](#)) commercial building HVAC, commercial and industrial refrigeration and residential



heating and ventilation were all identified as significant potential sources of low-cost large-scale emission reduction opportunities.

In the ClimateWorks Australia ([ClimateWorks Australia, 2011 PDF](#)) curve commercial buildings account for 77 per cent of the potential emissions reductions, opportunities identified include improved efficiency through technology; and energy waste reduction.

The question is how can the Emissions Reduction Fund unlock these potentially huge reductions in emissions?

### **Auction methods**

Reverse auctions may be an inappropriate way to fund emission reductions. Emission reduction efforts need to be targeted at areas where reductions are real, persistent and can be validated. Areas where behaviour and attitudes can be changed and where additional benefits are generated (apart from reduced emissions) should be prioritised. Yes the ERF must reduce emissions cost effectively but there is also a significant opportunity for the fund to also incentivise activities that promote health, safety, and comfort while also reducing costs. Simply setting a “largest reduction for the cheapest cost” criterion will, in the medium to long term, not provide the greatest benefit.

The Emissions Reduction Fund wants to purchase emissions reduction at the lowest cost. If the auction method is used it will end up purchasing large-scale cheap emissions reductions that look great on paper but in reality will do little to contribute to the long-term goals of the government. For example decommissioning or downgrading dirty power stations or processing/smelting plants will reduce emissions, but only so long as additional capacity is not added elsewhere. There is also the possibility that government will be paying for decommissioning assets that are already uneconomic and slated for decommissioning anyway. There must be checks and balances to ensure that this scenario cannot occur, otherwise the ERF will be an expensive but wasted opportunity.

The ERF has to be fair and equitable and reverse auctions most likely will not achieve this; cheap yes, fair no, efficient probably not. One sector of the Australian economy should not be favoured over others. Large single-entity polluters should not be favoured over the rest of society.

### **Behaviour and attitude change**

Emissions reduction can't just be about the carbon, it needs to also be about people, society and the Australian economy, including all of its market failures and inefficiencies. The government needs to take a holistic view to emission reductions, the actual CO<sub>2</sub>e numbers are part of the solution but they are not the whole solution. The ERF should certainly aim for low-cost large-scale abatement but it should also incentivise wide spread energy efficiency activities that persist beyond the life of the fund. The ERF should not only be purchasing abatement it should also be purchasing behaviour change.

The Cold Hard Facts report reveals that in 2012 Australian refrigeration and air conditioning was responsible for around 11% of total national CO<sub>2</sub>e emissions with over 45 million individual pieces of equipment consuming more than 59,000GWh of electricity, about 22% of all electricity used nationally. When you consider heating and ventilation usage across the various sectors, it is clear that even more energy is consumed by HVAC&R, possibly up to 30% or more of all electricity use and 15% of total emissions.



These are big numbers and they illustrate how deeply embedded HVAC&R is within every aspect of the Australian economy. As Australian society acts to control and contain carbon emissions it is clear that low-emission HVAC&R has an essential role to play. AIRAH sees significant potential for emission reductions, in the built environment, in the cold chain, in industrial processes and in agriculture through interventions for improved energy efficiency. Maintenance for energy efficiency, system tuning, recommissioning, retrocommissioning and refurbishment can all be leveraged for improved efficiency. If Australian emissions are to reduce significantly over time, attitude to these issues, and the behaviours of decision makers in the Australian economy need to be changed. HVAC&R end users are key to unlocking these efficiencies.

### **HVAC&R emission reductions; capacity and validity**

The refrigeration and air conditioning sector has substantial capacity to provide ongoing and verifiable reductions in emissions with the added benefit of generating significant employment and economic activity and creating additional health, safety and productivity benefits.

The opportunities and methods are well understood by the industry, what is missing are the incentives for owners and the attitude or behaviour changes needed of end users.

The barriers that the ERF needs to overcome include determining how can emission reductions be established and verified?

### **Validation tools**

As part of the National Strategy for Energy Efficiency (NSEE) Heating Ventilation and Air Conditioning High Efficiency Systems Strategy (HVAC HESS) program, the Australian Government are facilitating the development of a rating and benchmarking tool for HVAC systems. The project to develop this tool is called "Calculating Cool". This tool could be used to form the basis of the ERF validation protocols for emission reductions in HVAC systems within the built environment. Sustainability Victoria is the agency that is managing the development of the tool and AIRAH strongly recommend that the ERF engages with the tool in the development of the protocols for the fund.

Through the developing industry initiative PRIME the HVAC&R industry has called for a similar benchmarking and rating tool to be developed for refrigeration systems. AIRAH itself has developed and published an assessment method for calculating the Total Equivalent Warming Impact (TEWI) of refrigeration and air conditioning systems, ([AIRAH TEWI Guide, PDF 2012](#)). This method could be used in the assessment of refrigeration systems that are designed or modified to have reduced environmental emissions.

The PRIME initiative contains a range of proposed priority actions and solutions to drive the industry and the Australian economy into low-emission HVAC&R. Emission reduction incentives such as the ERF is one tool identified, measurement and benchmarking tools are another, education, training and licensing are other tools.

Before the ERF is rolled out it is essential that the fund is underpinned by trusted and simple easily understood validation tools like these. Rolling out the fund without these tools in place will simply leave the fund open to significant abuse and ultimately the objectives of the Australian Governments with regard to emissions reduction will not be met.



### **Aggregation of savings**

A significant issue around the practicalities of the ERF arrangements is how would industries and individuals aggregate emission reductions to the point where they will be eligible for participation. How can sections of the industry cooperate in order to compete on the lowest cost abatement criteria against other industrial or energy sectors that might have a bigger natural advantage because they are single entities and large-scale polluters?

The HVAC&R industry can make a contribution to emissions reduction, indeed given the numbers in the Cold Hard Facts 2 report, the industry must make a significant contribution if Australian emissions are to be controlled. The HVAC&R industry is also very interested in incentives to change behaviour. There are many market failures and split incentives around maintenance delivery and tuning for energy efficiency. Financial incentives from ERF as well as the other benefits generated would be used by the industry to encourage owners and operators to invest in these activities.

Incentives are part of the tool box to encourage end users to improve the performance of the systems they own and operate. Incentives do not pay for the work but rather act to break down some of the barriers and market failures that prevent the work from being undertaken. It is important that the ERF is used as an incentive rather than a capital cost offset.

### **The HVAC&R industry can help**

The HVAC&R industry can help, the HVAC&R industry should help, and the HVAC&R industry wants to help. The architecture of the Emissions Reduction Fund must allow for, and actively encourage, participation of this sector if any meaningful long-term emissions reductions are to be achieved. The fund must provide owners and operators with incentives and confidence to allocate the capital, time and resources to pursue emissions reduction projects.

### **The HVAC&R industry has some questions:**

What are the costs for entry/applying and the costs of participating in the fund?

What are the management and implementation structures, and what governance arrangements will be made?

What types of projects would be eligible and when would funding be made available (before/after/during intervention)?

What energy efficiency activities are regarded as business as usual and therefore not eligible to participate?

What rules would the fund apply to companies or entities that agglomerate and aggregate emission reductions from multiple small scale projects?

What are the baseline, monitoring, verification and compliance requirements for emission abatement activities?

If all that is going to be achieved is paying big polluters to decommission dirty assets then why have a fund at all?