

**To: Agricultural Competitiveness Task Force 151214**  
**From: Australian Refrigeration Association**  
**Re: Green Paper**

### **The Role of Refrigeration**

This is to provide a brief comment on the need to incorporate refrigeration considerations into the work of the Agricultural Competitiveness Task Force. We enclose with this submission a document published by the Department of the Environment that provides a reasonably comprehensive characterisation of the role of refrigeration in the food industry.

The report notes that there are about 80,000 farms in Australia that produce over \$25B PA in farm gate value and almost \$11B in Food exports. In addition there are about 88,000 outlets that deliver food to the Australian public employing over 1 million refrigeration installations delivering total food sales via retail outlets in excess of \$130 B PA via a refrigerated delivery system comprised of almost 29,000 trucks. There are over 100,000 cold stores and cool rooms in Australia, most of which serve the food industry and many of which are located on farm.

Clearly the refrigerated cold chain plays a vital economic role in Australia that serves the fundamental purpose of producing and delivering temperature controlled products to the food retailing system and to export markets. So much so that the authors of the report propose that Australian refrigeration be recognised as infrastructure of national importance.

### **Changing Refrigeration Technology**

At the same time it is clear that refrigeration technology is rapidly changing in response to the demand for greater energy efficiency and emissions reduction.

The HVACR industry is a truly global industry with Original Equipment Manufacturers (OEMs) distributed worldwide but particularly in Asia. The industry supplies over \$200 B worth of equipment worldwide every year. There is considerable impetus for new technology and innovation within this highly competitive industry.

International agreements have a strong influence on the industry and have done so since the mid 80s with the introduction of the Montreal Protocol and then the Kyoto protocol. Both have specific provisions that pertain to refrigerants. In the last two months fundamental changes to these agreements have been proposed that aim to phase out the use of ozone depleting refrigerants and phase down high GWP refrigerants. The result is a high degree of refrigeration engineering innovation to enable the use of new, environmentally preferable refrigerants and the associated engineering which is unique to each refrigerant. Australia is directly involved in the development and implementation of these agreements.

The result of the current developments is far more energy efficient refrigeration based on the use of low GWP refrigerants – HFOs and Natural refrigerants.

In our view it is reasonable to forecast that the majority of HVACR equipment will be replaced over the next ten years in order to meet the international agreements. But much more importantly to realise the energy efficiency and emissions reduction made possible by this innovation.

The HVACR infrastructure in Australia is worth about \$100B in current dollars. A large proportion of this equipment serves the food industry and a significant proportion is located at point of food production. It is critical to Australia's agricultural competitiveness that food producers keep pace with HVACR energy efficiency.

It is also important to recognise that refrigeration efficiency is not just a function of refrigeration plant efficiency. There is also considerable technology development in energy measurement and management and heat load management. It is the ARA's view that all of these new technologies need to be integrated to optimise HVACR energy efficiency.

## **Implications**

Refrigeration serves a central purpose in the food industry beginning with refrigeration at the farm level. The technology of refrigeration is rapidly changing in response to the demand for energy efficiency and emissions reduction.

It is vital that the agricultural competitiveness task force recognise the contribution of refrigeration and the rapid technology change of the industry to reduce cost and enable more efficient food production.

The ARA is comprised of organisations able to specify the drivers to change and the sources of cost savings.

Regards

Tim Edwards

President, Australian Refrigeration Association

Tim Edwards  
Phone: 02 48615355

email: [tim.edwards@ausref.org.au](mailto:tim.edwards@ausref.org.au)  
Mobile: 0405 324 834