

# Beyond Refrigeration

## the challenge to achieve net zero heating and cooling for the UK

The purpose of this position paper is to provide a **focus for activity** to address climate change issues and provide a **framework for technical leadership** from the Institute of Refrigeration. We all know that Climate Change is an issue of critical importance to everyone in all sectors. In the Refrigeration, Air Conditioning and Heat Pump sectors the IOR can offer technical expertise to help members and their customers (the users of cooling equipment) to make appropriate decisions and to inform national and international policy development.

The document is a starting point, identifying **seven areas that need to be addressed**, it does not specify how they should be addressed - yet. This is because we want to open this discussion and encourage experts to share views so that suitable solutions can be proposed.

Our sector is willing and ready to take an active role in addressing the issue of climate change. The IOR as a non-commercial, non-profit making technical organisation, recognised as a world-class source of up to date, independent advice in the sector. IOR members have the **expertise, practical experience, and professionalism** to make a valuable contribution to the policy debate on how the UK can achieve low carbon heating and cooling. Uniquely, they also are responsible for providing the solutions to industry for current and future cooling needs - and for making sure that theoretical solutions work in practice and in the long term.

The IOR will therefore be carrying out a programme of activity to address the areas identified through:

- a. Providing a forum for experts to further develop recommendations for how to address these issues.
- b. Preparing Technical Guidance to implement solutions
- c. A Communications Campaign to promote best practice
- d. Engagement with Policy makers to develop a National Cooling Strategy that is relevant and achievable and supports the adoption of the best technical solutions for the future.

### IOR Seven Critical areas for addressing Climate Change



# IOR's Seven Critical Activities for Addressing Climate Change

...and what else? join the debate at [www.ior.org.uk/beyondrefrigeration](http://www.ior.org.uk/beyondrefrigeration)

## Balancing Heating and Cooling Demand

Heating and cooling systems have until now been specified and supplied as separate services. By integrating heating and cooling into one system, energy use could be reduced by half. The opportunities for sharing heating and cooling are not limited to one owner or site – there is vast potential for heating to be shared across site owners, buildings, and processes.

## Using Energy Intelligently

To achieve net zero, we need to address the issues of where our energy comes from and how we use it. Our homes and businesses need renewable energy that is both reliable and cheap. The grid needs to be able to supply and store energy generated by intermittent renewables sources such as wind and solar to use when there is most demand.

## Making use of Best Available Technology

In a rapidly developing and innovating marketplace purchasers and specifiers need reliable and authoritative guidance on what new technologies are available, as well as where and how they can be used. We need to share expert experience and knowledge to ensure technologies live up to expectations.

## Reducing the Need for Mechanical Cooling

Alternatives to cooling need to be considered as a first step – passive cooling, natural ventilation – all have a critical part to play in reducing carbon emissions from cooling processes. Low Tech solutions that can avoid the use of energy also need to be made more widely available

## Achieving Best System Performance

System performance in operation – not just component rating – is the critical factor for achieving high efficiency and should be incentivised. The focus needs to be on monitoring, measuring, and maintaining system efficiency over the life of the system – as well as flexibility to adjust to changing demands.

## Developing the Best People and Skills

Lack of skilled personnel is not just a barrier to the take up of new technology but to the effective implementation of all technologies. The UK suffers from a lack of skilled engineers and experienced RACHP technicians. A long-term industry-driven strategy is needed to recruit, upskill and invest in the future of people in our sector.

## Working Together

Understanding of the challenges for our sector raised by net zero cooling is low. Lack of clear communications to ensure consumers make the best purchasing decision and lack of knowledge of specifiers are contributing factors. As experts we have a duty to work together across sectors, job roles and with policy makers to get our message across more clearly.

**IOR**  
R A C H P