Beyond Refrigeration – an IOR template for the steps to Net Zero cooling



Climate Change is an issue that everyone in all sectors needs to address. The purpose of Beyond Refrigeration is to develop guidance and point to tools or training that will help address these issues in our sectors - working back from what net zero in 2050 would look like.

Download the Beyond Refrigeration Template at www.ior.org.uk/beyondrefrigeration.

Why is this important? If we do nothing today the cost to business is that we might not be in business by 2050. Net zero isn't just about using renewable energy – you need to make informed decisions about your future or risk being left with stranded assets – equipment you have to get rid of because it isn't compliant with government net zero policies and legislation or is costing you too much to run. A changing environment with more extremes of heat will put more demand on cooling processes. We need to reduce the climate impact of cooling activities whilst meeting the increasing demand for cooling services. All this, at the same time as improving safety, reliability and cost effectiveness. Businesses large and small, manufacturers or users of cooling need expert, independent guidance on how to address these challenges. They need to have a shared purpose and framework to work together in order to plan for their business' future based on understanding the total cost of ownership of their cooling equipment – financial and environmental.

What does net zero mean? Put simply, net zero refers to the balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. We reach net zero when the amount we add is no more than the amount taken away. A grosszero target would mean reducing all emissions to zero this is not realistic, so instead the net-zero target recognises that there will be some emissions but that these need to be fully offset. The UK is the world's first major economy to set the challenging target of being a net zero economy by 2050. The RACHP sector as a major user of energy (indirect emissions) and global warming gases (direct emissions) has an important part to play in this. You can read more about UK government net zero plans from the links at the end of the full document.

How to use the template. The IOR as a charity has the remit to support the development of technology for the public benefit. It has developed the *Beyond Refrigeration* Net Zero template to help users of cooling to plan and take action starting with the end in mind. It identifies eight key areas that they need to address and provides suggested Steps on how they can begin to work towards net zero in each of them. The Steps begin by looking at what is a good starting point today and then provide a series of graded actions to take to that will help them move along a pathway towards an ideal end goal of net zero for that area.

The template is deliberately generic and not technology specific. In this way it can be adapted for use by any company or sector to help them to plan and review their strategies for working towards achieving net zero over the next 30 years. It was developed by a range of users and designers of cooling systems and will be regularly revised and updated as an evolving dynamic strategy as we move towards our shared goals. You will need more business specific advice and guidance on how to achieve these steps and there are plenty of resources already available or being developed on a sector-by-sector basis – we have included a list of resources at the end, and these are useful for both larger businesses wanting an industry-standard comparison and smaller businesses who need help to get started. In addition, Government schemes such as Climate Change Agreements, Enhanced Capital Allowances and Energy Technology Lists provide financial incentives that can support your choices.

Find out more. Download the template and use it for reflection, comment and discussion within your business and with customers. To be part of this evolving process and share the steps you are taking towards net zero sign up for our regular Beyond Refrigeration Working Group meetings at www.ior.org.uk/beyondrefrigeration

The process...



Net zero - Beyond Refrigeration



www.ior.org.uk/beyondrefrigeration

Critical issues for our sector

Reducing the need for mechanical cooling and heating

What is our ambition?
Mechanical refrigeration
technology as a last resort and
widespread adoption of net
zero alternatives

Making use of best available technology

What is our ambition? Best available, closest to net zero heating and cooling as dominant technologies in use

Whole system sustainability and more..

Taking into account wider issues such as Life cycle analysis, Total cost of ownership, End of Life, Byproducts etc

Achieving best system performance

What is our ambition? Public benefit achieved by reduced energy use and increased reliability - Highest temperature possible of cooling, lowest of heating achieved

Balancing heating and cooling

What is our ambition?
Maximum heat recovery,
sharing and storage achieved
across all business activities
using cooling

Developing the best people and skills

What is our ambition? Everyone involved in cooling and heating systems to have adequate technical understanding and responsibility for championing net zero

Using energy intelligently

What is our ambition? Aiming towards 100% renewable energy and zero carbon energy

Net Zero Umbrella Group to share resources between groups

Working together

What is our ambition? Systemic approach to collaboration across themes and stakeholders with a framework in place for effective policy and decision making, involving Government, industry and other experts

Good Practice Guidance Notes for equipment owners and users

Databases of case studies, tools, benchmarking and

other resources

Policy Papers designed to inform and influence legislators

Critical areas of activity

Communications campaign with targeted messaging

Technology Briefs providing independent overviews

CPD accessible training for users and engineers