

GREENER SUPERMARKET REFRIGERATION NEED NOT COST THE EARTH



One third of carbon emissions from supermarkets come from leaked refrigerants according to the Environmental Investigation Agency (EIA).

Traditionally, the refrigerants used were chlorofluorocarbons (CFCs) and other ozone depleting gases, the use of which was later restricted in favour of hydrofluorocarbons (HFCs) which do not damage the ozone layer. What was overlooked, however, was that HFCs have a high global warming potential (GWP) in excess of 1000 (GWP is a comparison between the impacts on global warming of a gas vs. CO₂ which has a GWP of 1).

EC HARRIS
BUILT ASSET
CONSULTANCY

The EIA commissioned a report in February 2009 which made damning statements about the supermarkets demonstration of commitment to changing the way they cool their produce.

With consumers keen to align themselves with brands they perceive to have green credentials, and the need to make environmental responsibility a core business focus, some supermarkets have launched ambitious programmes to implement greener chilling solutions.

The solutions employed vary. Some supermarkets are switching to using CO₂ as a natural refrigerant, some are reusing refrigerant from decommissioned cabinets, and some are using water cooled systems.

Solution

All alternative solutions are new to the supermarket sector, and as is usually the case, applications of new or emerging technology can attract a CAPEX premium.

EC Harris implemented a solution to ensure that this CAPEX cost premium has been mitigated to a cost neutral position.

EC Harris Value

Initial implementation of the natural refrigerant solution impacted the base cost for a typical supermarket fit out by circa £200,000 (US\$ 250,000).

EC Harris has enabled a cost neutral position by:

- Developing a sound understanding of the cost fundamentals by engaging and sharing the expertise of our engineering team and consultants
- Capturing data from initial natural refrigerant implementations, reporting the cost impacts of existing engineering efficiencies in design and re-engaging with the design team as a whole to drive efficiency savings from other areas of design
- Set benchmark costs for the procurement team to achieve from their supply chain and agreed target savings to be delivered through forthcoming schemes
- Utilised up to the minute data based on tenders, market information and the expertise of our in house M&E community.

In summary

We have utilised our wide range of capability within the Built Asset environment and provided the framework for a way forward.

In addition to the CAPEX cost neutral solution achieved, there are also, other potential life cycle benefits to be explored such as reduced maintenance costs, energy saving engineering solutions and efficiencies in design.

Whilst there is work to be done to ensure that the selected solution continues to deliver cost neutrality, we have enabled an environmentally sound, marketable, responsible approach without costing the earth.

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