



McDonald's

Alternative Refrigeration Backgrounder

Commitment

- McDonald's is providing industry leadership and actively seeking alternatives to HFC refrigerants. Our goal is to find viable alternatives that are better for the environment, safe, economically viable and meet our high operational standards
- McDonald's is committed to an HFC-free future.
- McDonald's will implement a non-HFC standard for its refrigeration equipment - in all countries where commercially and environmentally viable and where alternatives can be legally used.
- McDonald's will continue to exchange knowledge and expertise with industry technology leaders, NGOs, and regulatory agencies.

Status

1. The Danish Technical Institute (DTI) Energy Study (1 year) of HFC-free restaurant (Vejle, Denmark) is complete.
 - Average 13% less TEWI (Total Equivalent Warming Impact) through the use of non-HFC alternatives
 - Average 12% less energy use
 - Average 27% less TEWI (sum of direct and indirect contribution)
 - Over 15 years (average lifetime of a restaurant), McDonald's can reduce emissions by 378 tons of CO2 equivalents, based on the results from Vejle (sum of direct and indirect contribution) or 25 tons of CO2 equivalents less per year per restaurant.
 - The results have been very encouraging and McDonald's will integrate these conclusions into our organisation. McDonald's will use the findings of the Vejle test as a stepping-stone to continue optimising the individual equipment technology and introducing equipment items as they become viable in the next 2 to 4 years.
2. Establish research and development plan with our suppliers to concentrate on the HVAC, walk-in cooler, and the shake and sundae machine. These consume 97% of the energy of the ten pieces tracked in the pilot programme.
3. Continue working with our suppliers to find alternatives for all other remaining equipment.
4. Concentrate, but not limit, our research and development on the exploration of CO2 options.
5. Translate conclusions into purchasing policy on local, regional, and global level, depending on readiness of suppliers, equipment and our markets.

REFRIGERANTS, NATURALLY

McDonald's commitment to sustainable refrigeration

In 2000, McDonald's hosted a 'Refrigeration Summit' where environmental organisations and representatives of over 30 major refrigeration suppliers met in Oak Brook, Illinois, United States, to discuss alternative refrigerant technologies to HFCs. In the same year, McDonald's started working with suppliers towards alternative HFC-free refrigerants.

McDonald's has challenged its suppliers to find acceptable alternatives to current technology by creating a demand for non-HFC-refrigeration. For the suppliers as well as McDonald's, the restaurant is an ideal opportunity to test the new equipment under working conditions and systematically collect the data necessary to determine future applications and expansion of the new technology. This includes safety, reliability, viability and environmental impact.

Progress to date

McDonald's has piloted an HFC-free restaurant as an incentive for the refrigeration industry to develop HFC-free alternatives and to provide a test ground for alternative technologies. The restaurant is located in Vejle, Denmark and opened in January 2003.

All 10 equipment applications in the restaurant operate completely free of Hydrofluorocarbons (HFCs), using HC and CO2 alternatives.

A Danish Technological Institute energy study of our HFC-free pilot restaurant programme showed that three pieces of McDonald's refrigeration equipment account for 97% of refrigeration electrical usage: HVAC; walk-in cooler; shake and sundae machine.

For 2004-2005, the focus of McDonald's developmental work and testing will, therefore, be on these three pieces. McDonald's will also continue to push for the development of total alternative refrigerant solutions for all equipment items in McDonald's restaurants. We are concentrating, but not limiting, our research and development on the exploration of CO2 alternatives.

Confirming our vision

The pilot restaurant is part of an ongoing process in McDonald's efforts to work with worldwide suppliers, governments and NGOs to encourage development of HFC-free equipment and find acceptable alternatives.

McDonald's has today released '**Cool: The world's first HFC-free McDonald's restaurant**', a detailed report on the company's HFC-free pilot restaurant in Vejle, Denmark.

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