

MCDONALD'S NATURAL REFRIGERANT JOURNEY

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BACKGROUND

- Element of our holistic sustainability strategy
- First 100% Natural Refrigerant restaurant in Vejle, Denmark
- 13,000 pieces of natural refrigerant equipment deployed — propane, isobutane, CO₂
- Have made progress — but much more is needed.



MCDONALD'S USE OF REFRIGERANTS

- Estimate 700,000 pieces of refrigerant equipment
 - Small $< 150\text{g}$ charge (shake machines, small refrigerators, ice machines, etc.)
 - Large $> 150\text{g}$ charge (HVAC, walk in coolers)
- Less than 0.2% of our global carbon footprint
- Less than 0.2% of the global supply of packaged HVAC units
- Opportunity lies in energy efficiency — 20% of our CF



OUR OBJECTIVE

REDUCE OVERALL IMPACT ON ENVIRONMENT

of new/replacement units

$$= \left(\begin{array}{l} \text{Allowed by} \\ \text{regulation} \end{array} + \begin{array}{l} \text{Improved} \\ \text{energy} \\ \text{efficiency} \end{array} + \begin{array}{l} \text{Cost within} \\ 10\% \\ \text{of existing} \\ \text{equipment} \end{array} + \begin{array}{l} \text{Service} \\ \text{infrastructure} \\ \text{is in place} \end{array} \right)$$

+/_ 10% Total Cost of Ownership

OPPORTUNITIES/CHALLENGES

- Decentralization of our system — Opportunity lies in new/replacements
- Regulatory support for approval of Natural Refrigerants — particularly those that are flammable
- Innovation — >150g systems like HVAC and WIC/WIF





**MCDONALD'S & CONSUMER GOODS FORUM
IEO SECTOR REFRIGERATION SUMMIT - 2015
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