

Experience with Natural Refrigerants

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Ben & Jerry's





Statement of Mission

Ben & Jerry's is founded on & dedicated to a sustainable corporate concept of linked prosperity.
Our mission consists of 3 interrelated parts:

PRODUCT

mission

To make, distribute & sell the finest quality all natural ice cream & euphoric concoctions with a continued commitment to incorporating wholesome, natural ingredients & promoting business practices that respect the Earth & the Environment.



ECONOMIC

mission

To operate the Company on a sustainable financial basis of profitable growth, increasing value for our stakeholders & expanding opportunities for development & career growth for our employees.



SOCIAL

mission

To operate the Company in a way that actively recognizes the central role that business plays in society by initiating innovative ways to improve the quality of life locally, nationally & internationally.



CENTRAL TO THE MISSION of Ben & Jerry's is the belief that all 3 parts must thrive equally in a manner that commands deep respect for individuals in & outside the Company & supports the communities of which they are a part.

Ben & Jerry's Progressive Values

- economic justice
- the environment
- sustainable & safe food
- peace & justice
- respect for human beings & communities



Unilever's Environmental Commitment

- Unilever' Sustainable Living Plan: “Decouple our growth from our environmental impact... halve the environmental footprint of the making and use of our products by 2020:”
 - Less greenhouse gases
 - Less water
 - Less waste
 - More sustainable sourcing



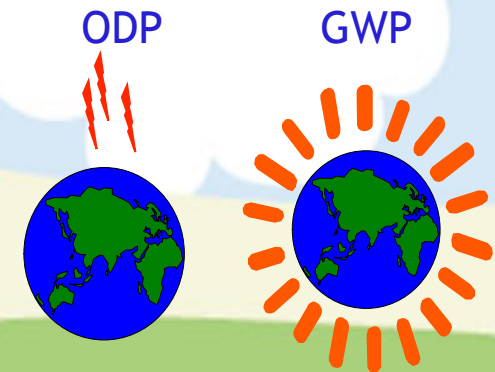
Ben & Jerry's and Unilever Partnership

- Unilever's vast global technical experience in natural refrigeration
- Ben & Jerry's US capability to complete the EPA regulatory process to obtain approval to use HC gas in the US
- Ben & Jerry's has been working on natural refrigerants since 1993
 - Greenpeace – Greenfreeze



Why HCs for Ice Cream?

- ODP= Ozone Depleting Potential, the amount a chemical will degrade the ozone layer.
- GWP= Global Warming Potential, how much heat is trapped in the atmosphere
- HC Gas is environmentally better than the other options and the cabinets are 10% more energy efficient



CFC

1

8500

HFC

0

1300 - 5000

HC

0

3

Results and Savings

- US Roll-out of HC Freezer technology
 - 2012: 700 Freezers:
 - CO₂eq reductions: approx 92 tonnes
 - Cost: <5%
- Future Opportunities: Lean & Green Freezers
 - 2013: 700 Freezers
 - CO₂eq reductions: approx 130 tonnes
 - Cost: <5%
 - Continued improvement with greater efficiencies



Historic Barriers

- Availability:
 - In certain regions it is difficult to obtain HC gases
- Service and Maintenance:
 - The lack of qualified service and maintenance
- Legal restrictions:
 - In countries like the US, the use of HC's has restricted
 - Several international standards restrict HC charge quantity in cabinets up to 150g



Current Solutions

- Availability:
 - Encourage gas suppliers to create a global sales & service infrastructure
- Service and Maintenance:
 - Training & certification for working with HC has been established (national/regional)
- Legal restrictions:
 - Companies & Organizations to initiate & support USA EPA (SNAP) for specific HC applications
 - Opportunity for revising restrictions on HC charge to develop further freezer technologies.



HC Approval in the US

History of the Regulatory Process with EPA's SNAP

- Aug 2008 – Underwriter's Laboratories approves safety of HC IC cabinet
- Sept 2008 – 50 HC cabinets placed in DC and Boston test markets under EPA's Clean Air Act alternatives policy
- Oct 2009 – Ben & Jerry's submits Significant New Alternatives Policy application to EPA



**December
2011
EPA Approves
the use of HC
Gas!**



Lesson's Learned

- Collaboration
 - Unilever and Ben & Jerry's each provided expertise that made the process successful
 - EPA was dedicated to see the process through
 - Greenpeace was an important partner
 - Related industry support was critical
 - Gas providers
 - Technicians
 - Equipment manufacturers
 - UL



Future Plans

- Continue the implementation of HC freezers
- Improve the energy efficiency of the freezers
- Identify future opportunities to expand the technology to other cabinets



Thank you!

From Ben & Jerry's
and
Unilever

