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McDonald's Global Energy Director

Food Service Panel

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The McDonald's You Don't Know

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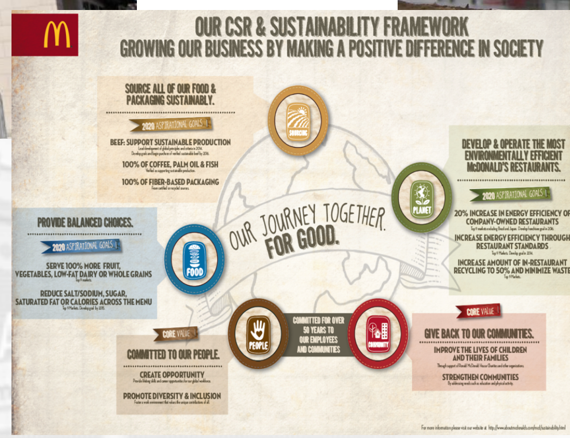


Why Natural Refrigerants?

- De-listing likely to continue
- Minimizes number of transitions
- Makes long term business sense
- Right thing to do for environment

Transition Plan & Accomplishments

Launched Fall of 2010

Phase	Equipment	Availability	Where
1	Small Refrigeration (150 grams or less R290)	Yes	Scaling in Europe Released in US
2	Medium Refrigeration (walk-ins, shake machine)	Pilot testing	N/A
3	Large Refrigeration (HVAC)	?	N/A

Accomplishments

- 14 pieces of R290 equipment available
- Up to 38% more energy efficient
- Deployed > 9,000 pieces of equipment, primarily in Europe
- R290 equipment released in US

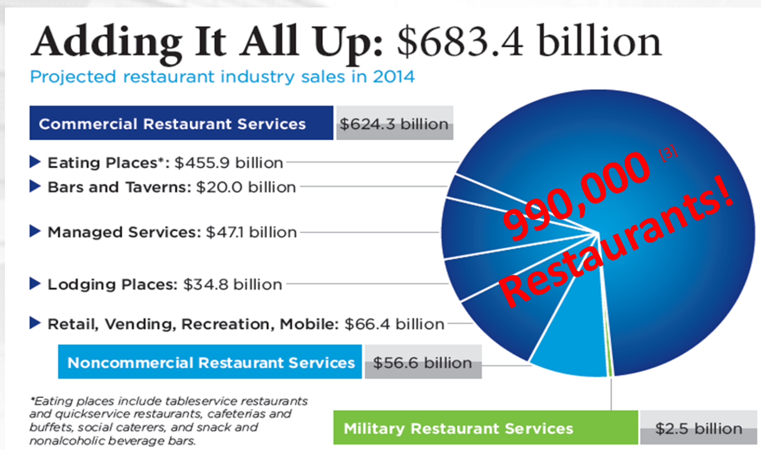
Potential

McDonald's – 35,000 restaurants (globally)

700,000[1]

- OJ dispenser
- Cream dispenser
- Refrigerated rails
- Reach-in refrigerators (multiple)
- Reach-in freezers (multiple)
- Sundae/shake machine
- Frozen fry dispenser
- Walk-in cooler
- Walk-in freezer
- HVAC (multiple)

US Restaurant Industry



[1] Estimated number of pieces of refrigerated equipment in the System
[2] System means company owned and franchised restaurants
[3] Based on 2014 National Restaurant Association's Restaurant Industry Report

Adoption Pathway

Pathway for natural refrigeration equipment to migrate into our system:

- All NEW restaurants
- End of Life replacements
- New platforms/initiatives

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Adoption Requirements

Natural refrigerant solutions need to meet to the following criteria to be **practical** for McDonald's:

1. Change needs to be supported by local regulations
2. Service infrastructure needs to be in place
3. Improved energy efficiency
4. Upfront and maintenance cost parity

Challenges

- Local regulations
- Lack of trained service infrastructure
- Higher initial and operating costs
- Limited industry engagement
- Readily available components

CALL TO ACTION

More development is needed to make this happen.

This is POSSIBLE if we start to focus on it.

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