



# Natural Refrigerants in Cold Drink Equipment ATMOsphere America

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# Natural Refrigerant Journey



1. Coca-Cola's initial commitment to become **HFC-free** was made 12 years ago
2. In December 2009, Chairman & CEO with Greenpeace made a public announcement of the **HFC-free timeline**: 100% of new equipment purchases will be HFC-free by 2015
3. So far, Coca-Cola has placed **612,000 HFC-free** natural refrigerant machines (> 202,000 R744), and expect to exceed 650,000 by year end.
4. In May 2011, the Coca-Cola Operating Committee confirmed the **HFC-free plan** with **CO<sub>2</sub>** technology as the preferred option to replace HFCs

# Progress Made



CO<sub>2</sub> refrigerant selected as the preferred refrigerant option: Potential single-refrigerant solution, offers competitive efficiency, expected lower life costs, and minimal safety concerns.

The Coca-Cola Company has executed a new CO<sub>2</sub> compressor supply agreement with Sanden Japan to enable significant increase in the purchase of CO<sub>2</sub> compressors for refrigeration equipment.

This allows accelerating the phase-out of HFCs to the adoption of more climate-friendly, reliable, natural CO<sub>2</sub> refrigerant technology.

# R744 Machines in USA

*Coca-Cola*



# R744 Machines in USA

*Coca-Cola*



# Challenges



The screenshot shows the EPA website page for "Ozone Layer Protection - Alternatives / SNAP" under the "Refrigeration and Air Conditioning" section. The page includes a search bar, navigation links, and a "Key Documents" box. The main content area contains three bullet points:

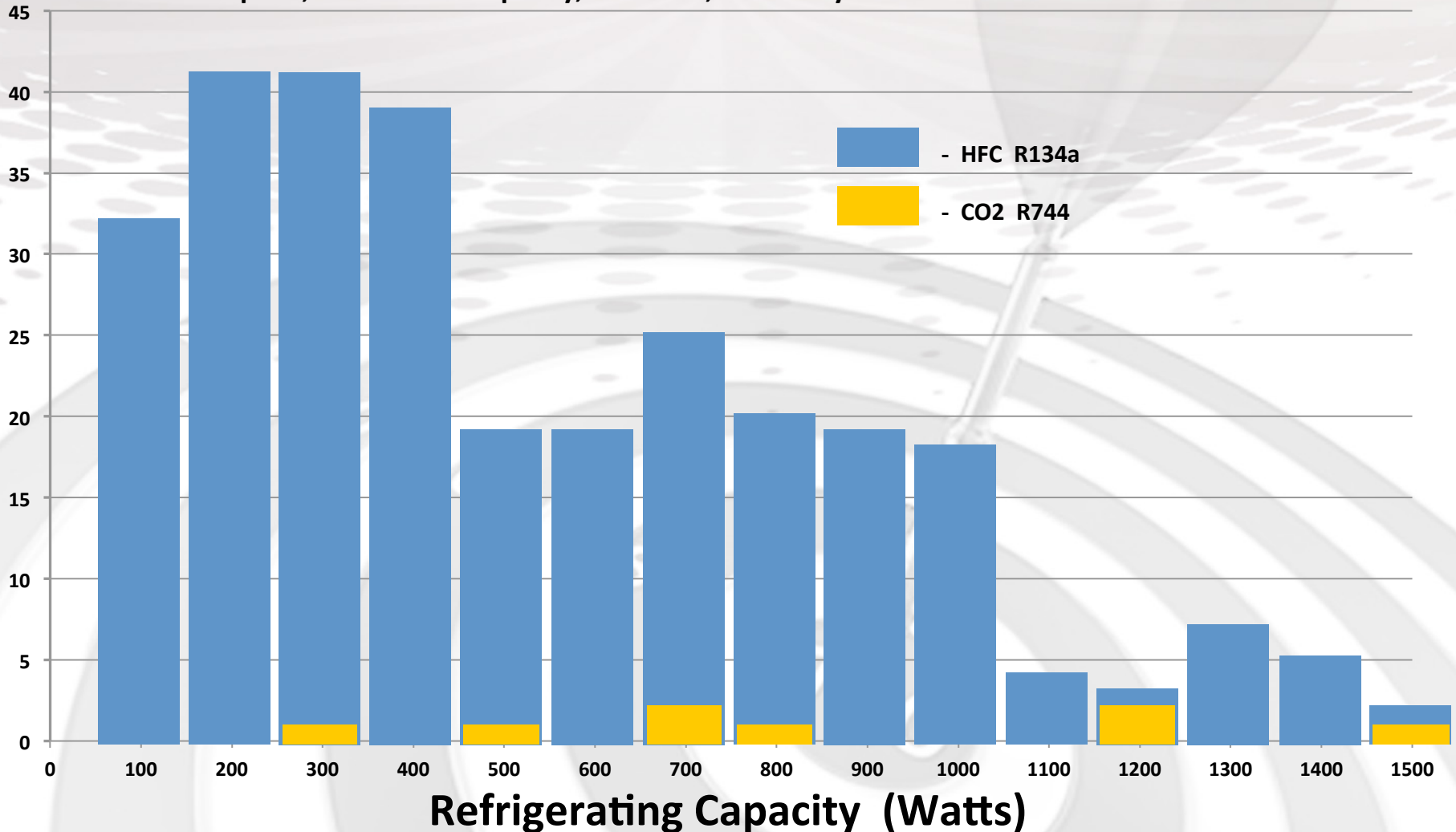
- R744 not listed as substitute refrigerant for Vending machines, Water coolers (dispensers), and Commercial ice machines end uses.
- Transcritical operation brings additional safety considerations
- Limited availability of R744 components (Gas-coolers, expansion valves, compressors)

The "Key Documents" box on the right lists two documents: "List of all Substitutes for Refrigeration and Air Conditioning (18 pp, 620K, About PDF)" and "Environmental, Health, and Flammability Info on Substitutes for HCFC-22 and 142b (10 pp, 37K, About PDF)".

# Available Compressors



Compressors from Copeland, Danfoss, Embraco, Panasonic, Samsung, Sanden, Sanyo, & Tecumseh.  
Hermetic, Low & Medium Back Pressure, Up to 127VAC, 60Hz, Medium Refrigerating Temperature,  
not variable speed, not variable capacity, not scroll, not rotary.



# Path Forward

*Coca-Cola*



- Federal programs do not account for commercial differences in refrigeration
- By year end – anticipate new purchases of floor-standing single door coolers in R744 refrigerant.
- New R744 zone-cooled and fully-cooled shelf-style vending machines ready, pending SNAP approval





*Coca-Cola*

**Thank you !**