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_2** technology as the preferred option to replace HFCs

Progress Made

CO_2 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_2 compressor supply agreement with Sanden Japan to enable significant increase in the purchase of CO_2 compressors for refrigeration equipment.

This allows accelerating the phase-out of HFCs to the adoption of more climate-friendly, reliable, natural CO_2 refrigerant technology.

R744 Machines in USA

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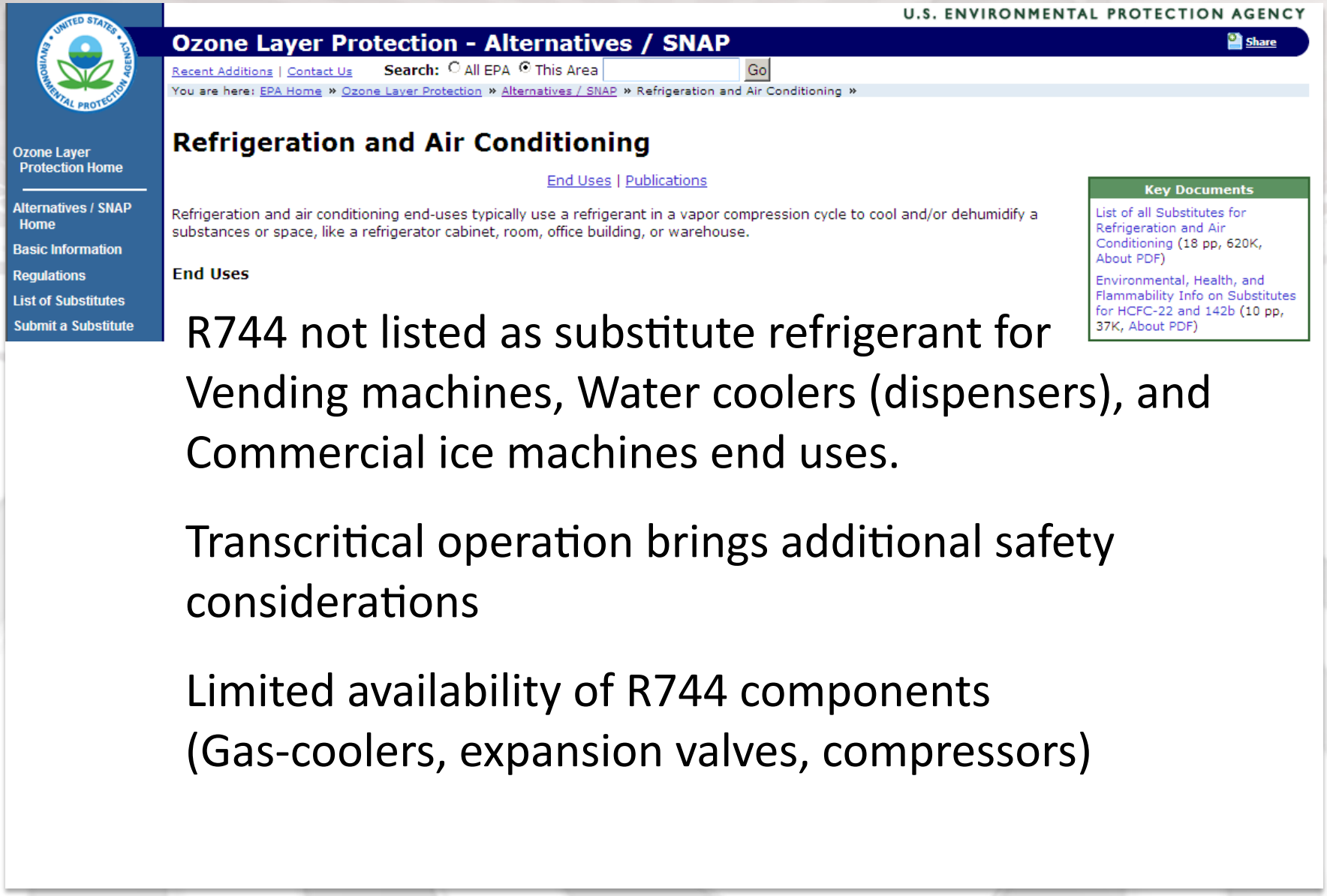
Challenges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Basic Information

Regulations

List of Substitutes

Submit a Substitute

Refrigeration and Air Conditioning

End Uses | Publications

Refrigeration and air conditioning end-uses typically use a refrigerant in a vapor compression cycle to cool and/or dehumidify a substances or space, like a refrigerator cabinet, room, office building, or warehouse.

End Uses

Key Documents

List of all Substitutes for Refrigeration and Air Conditioning (18 pp, 620K, About PDF)

Environmental, Health, and Flammability Info on Substitutes for HCFC-22 and 142b (10 pp, 37K, About PDF)

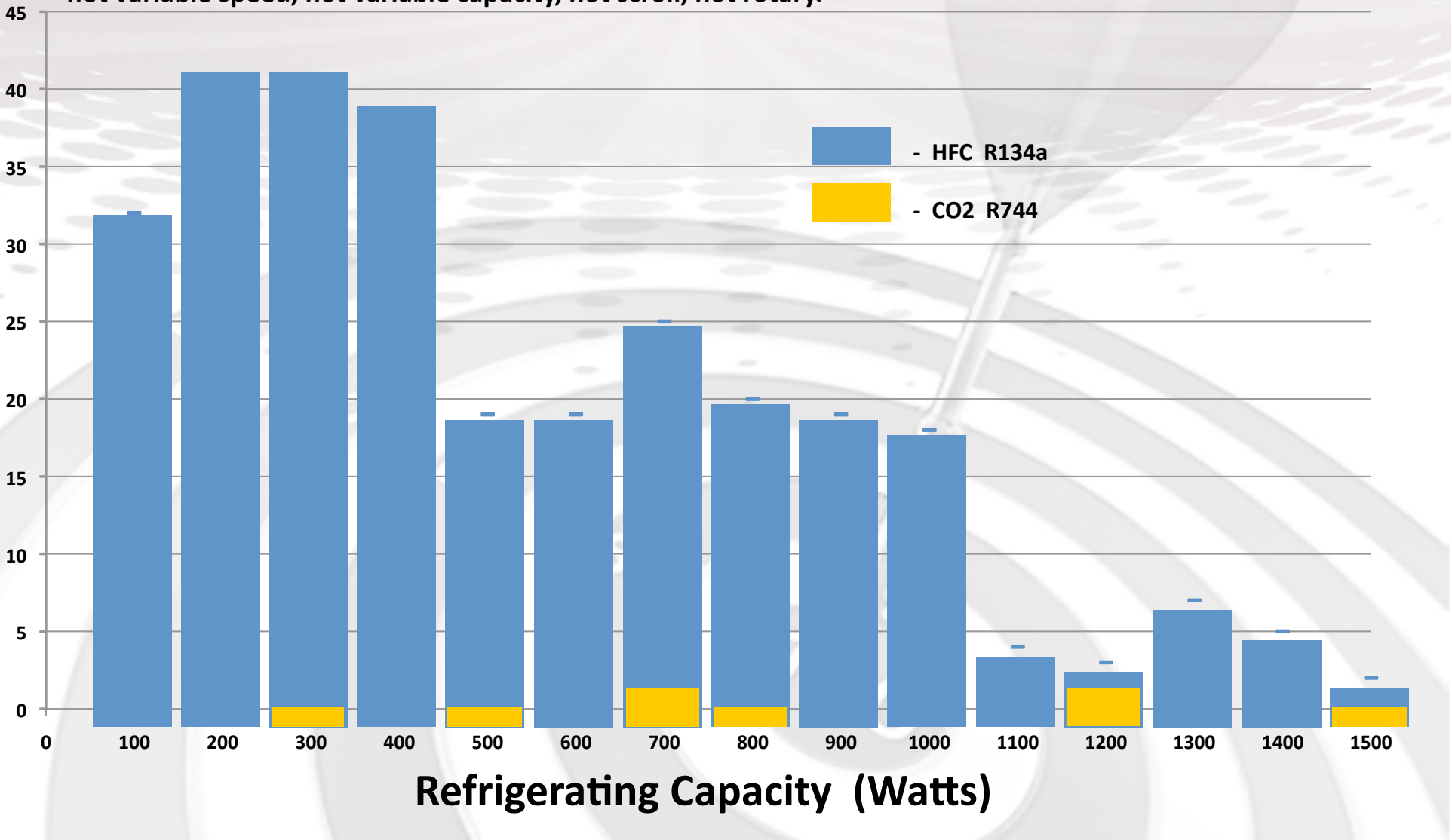
R744 not listed as substitute refrigerant for Vending machines, Water coolers (dispensers), and Commercial ice machines end uses.

Transcritical operation brings additional safety considerations

Limited availability of R744 components (Gas-coolers, expansion valves, compressors)

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

- 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

Thank you !