

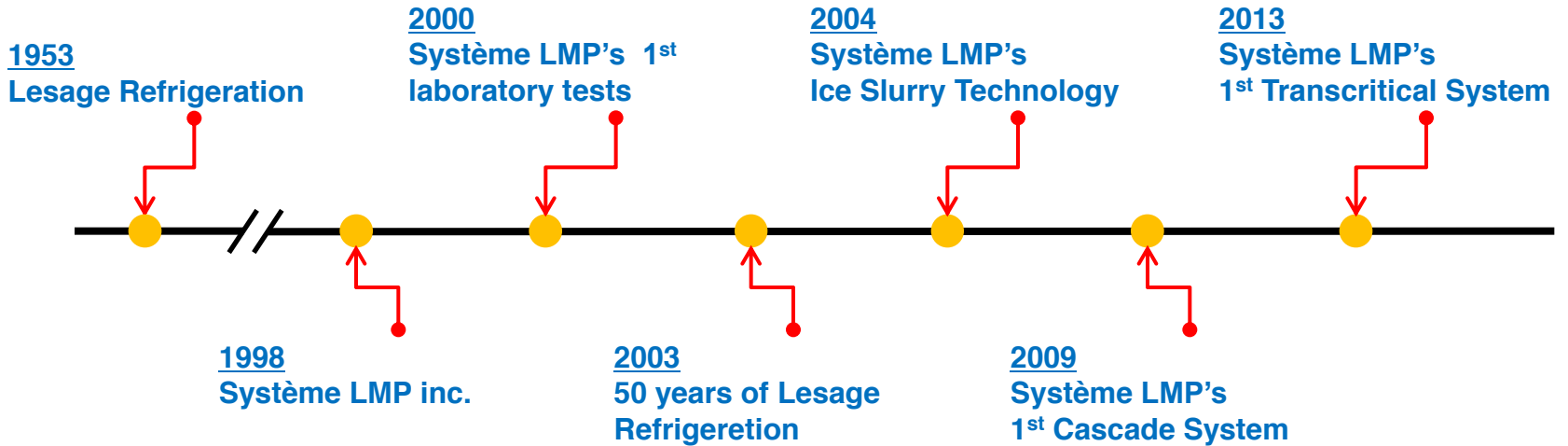


State of the Industry Challenges & Growth

CO₂ – a world of evolution



CO₂ – a world of evolution
 LMP's Timeline



June 18-19, 2014 - San Francisco

2013
 1st Platinum Certification
 (Leader in Platinum Certifications (May 2014))

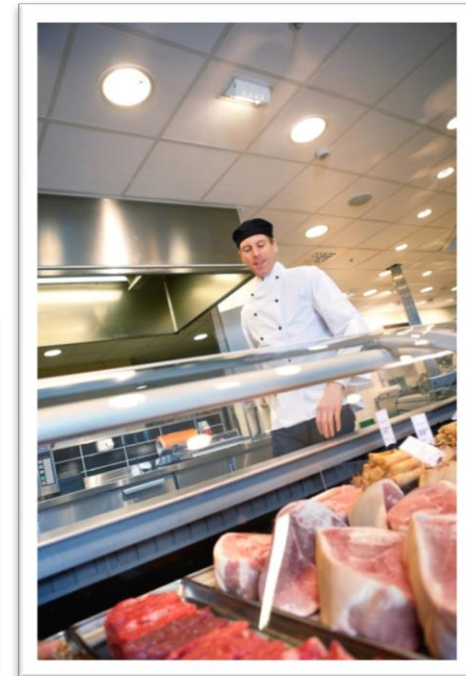
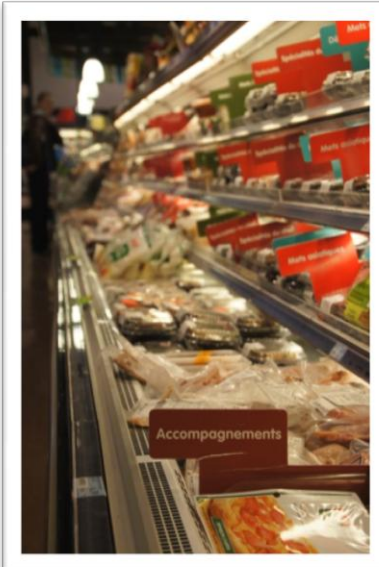


Introduction

Systèmes LMP is setting the trend in R-744 (CO₂) refrigeration.

Systèmes LMP systems are developed with 4 objectives in mind:

- Mechanical reliability
- Quality of perishable and frozen products
- Superior energy efficiency
- System simplicity



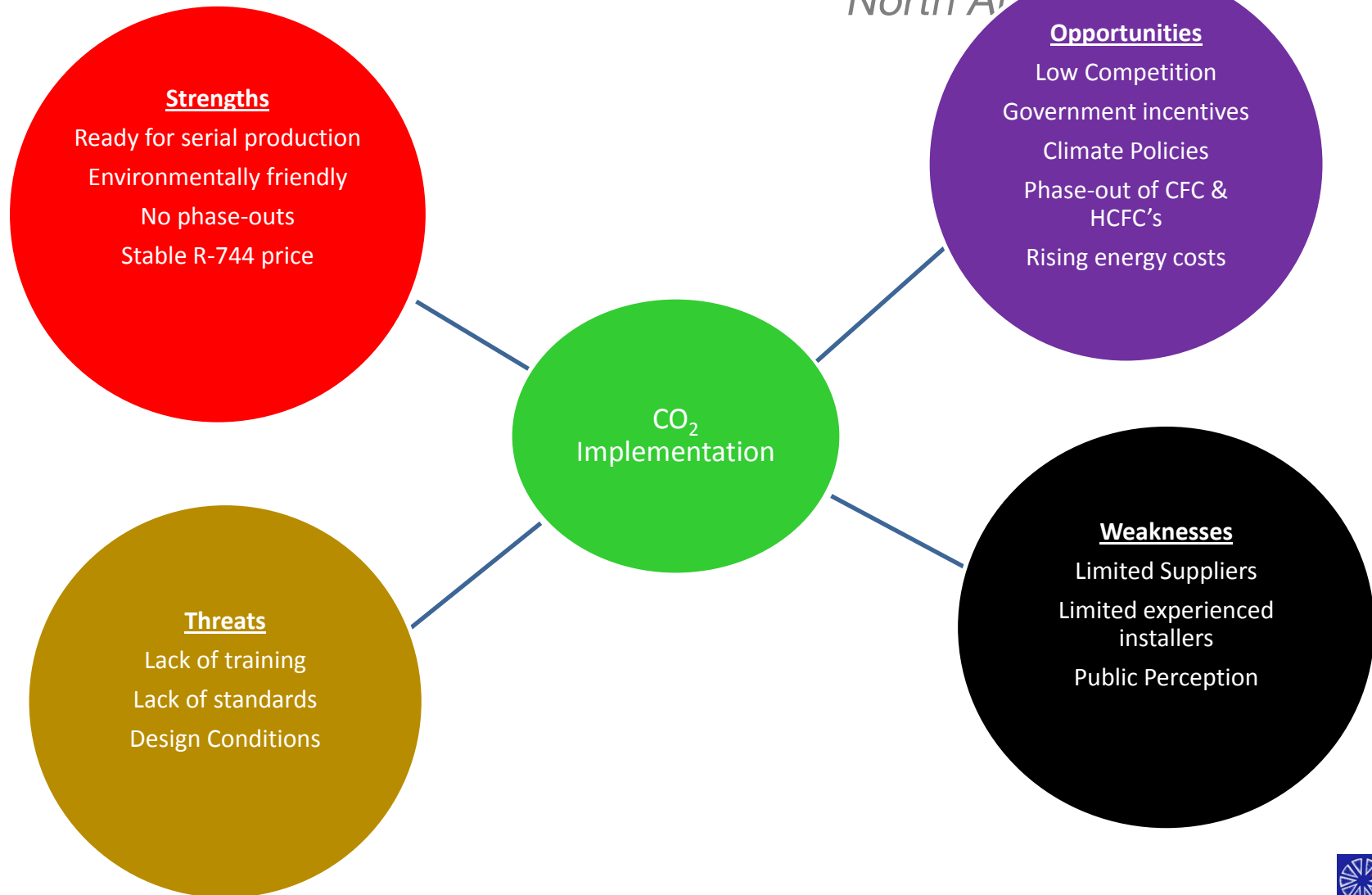
State of the Market – A world in evolution

MARKET CHALLENGES & OPPORTUNITIES

- Environmental Laws & Goals
 - *Montreal Protocol (Refrigerant phase out 2020)*
- Climatic conditions
 - *Pressure & energy efficiency challenges in warm climates*
- Provincial and State regulations
 - *Power & refrigeration plants regulations and supervision*
- Financial incentives
 - *Loans and grants for energy & lowering of GHG*
 - *Carbon credits*
- Energy costs
 - *Const increase of energy from traditional sources*

CO₂ – a world of evolution

State of the Industry in 2014 –
North America



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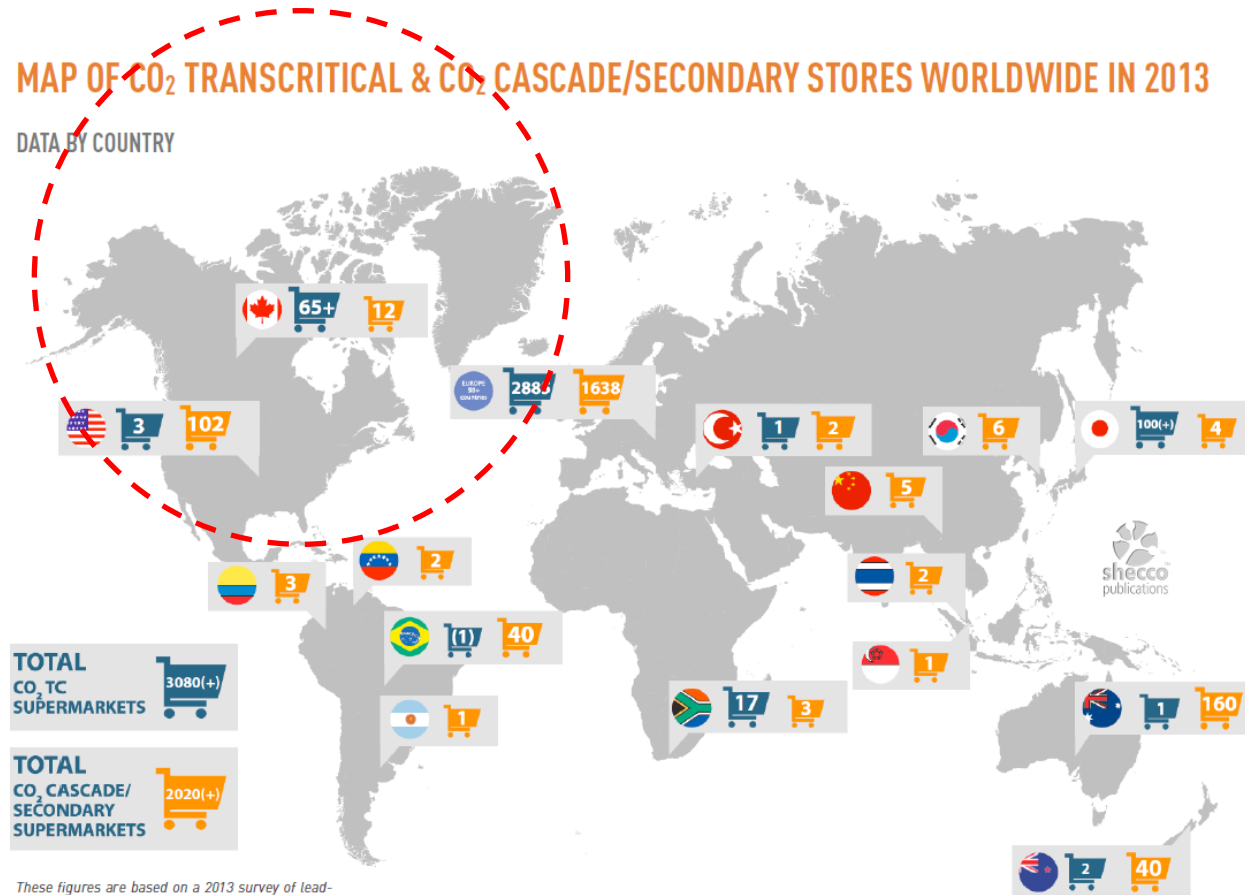
CO₂ – a world of evolution

More than refrigeration



MAP OF CO₂ TRANSCRITICAL & CO₂ CASCADE/SECONDARY STORES WORLDWIDE IN 2013

DATA BY COUNTRY



These figures are based on a 2013 survey of leading system suppliers and commercial end-users. Feel free to contact us to add your data to the map. Send an email to research@shecco.com

Source: Shecco Publications – Guide 2014: Natural Refrigerants Continued Growth & Innovations in Europe.

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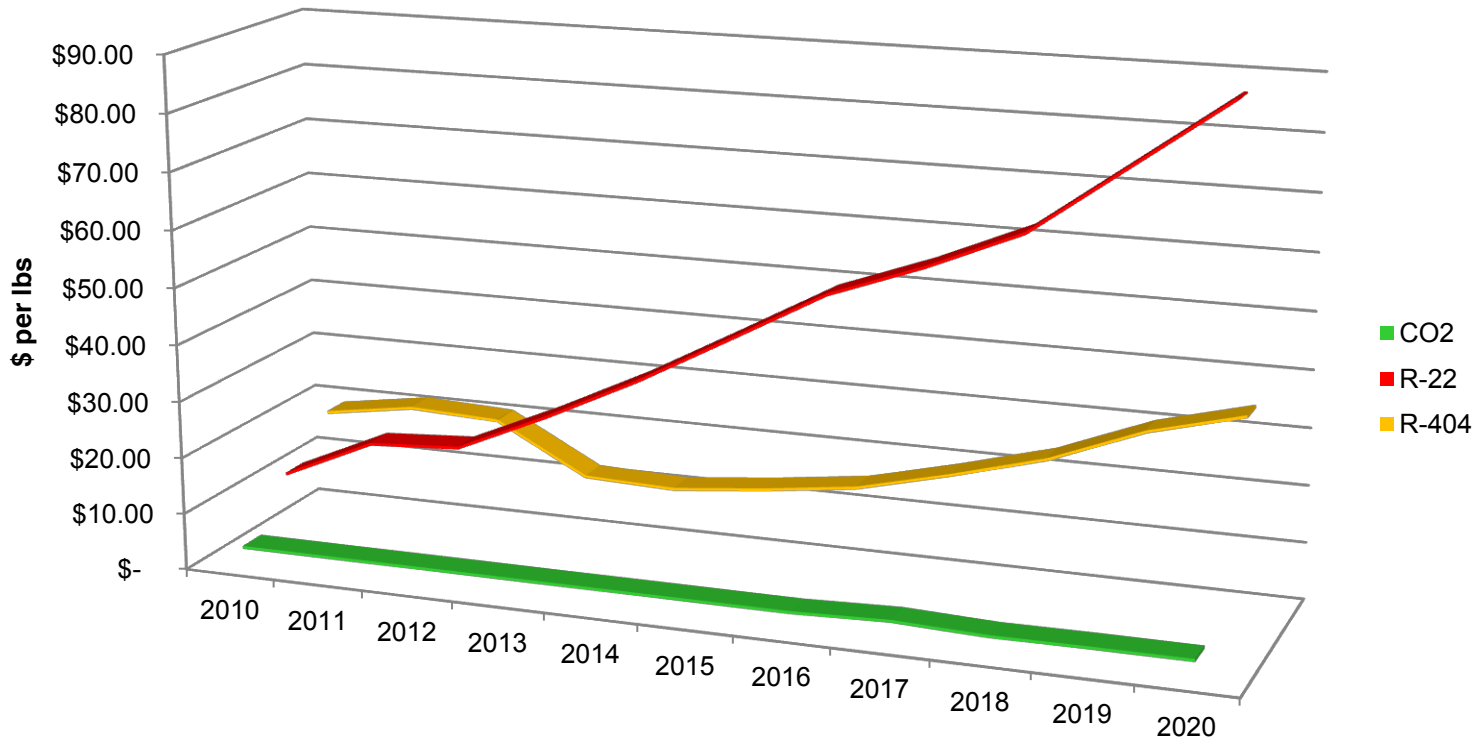
CO₂ – a world of evolution

State of the Industry in 2014 –

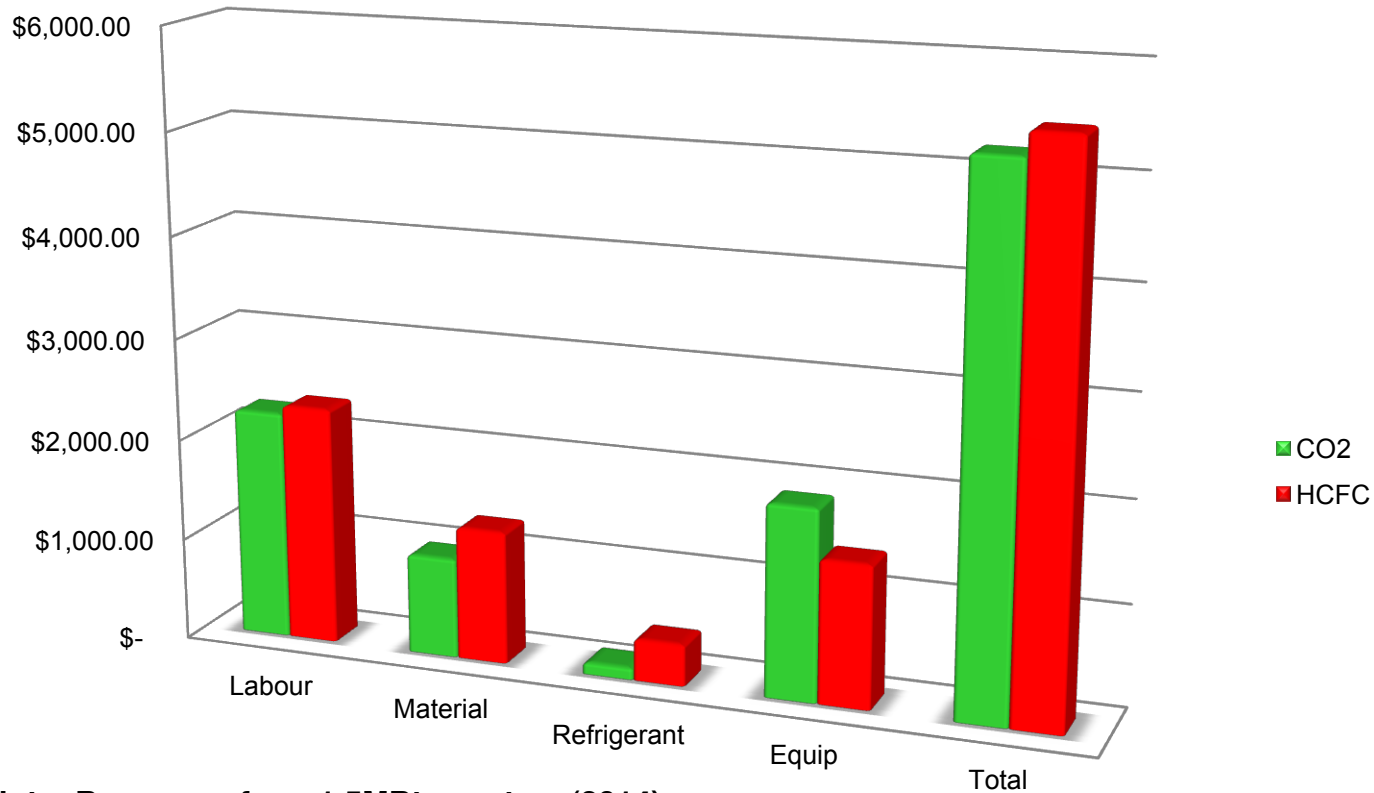


Source: Système LMP's internal market research

Price of Refrigerant



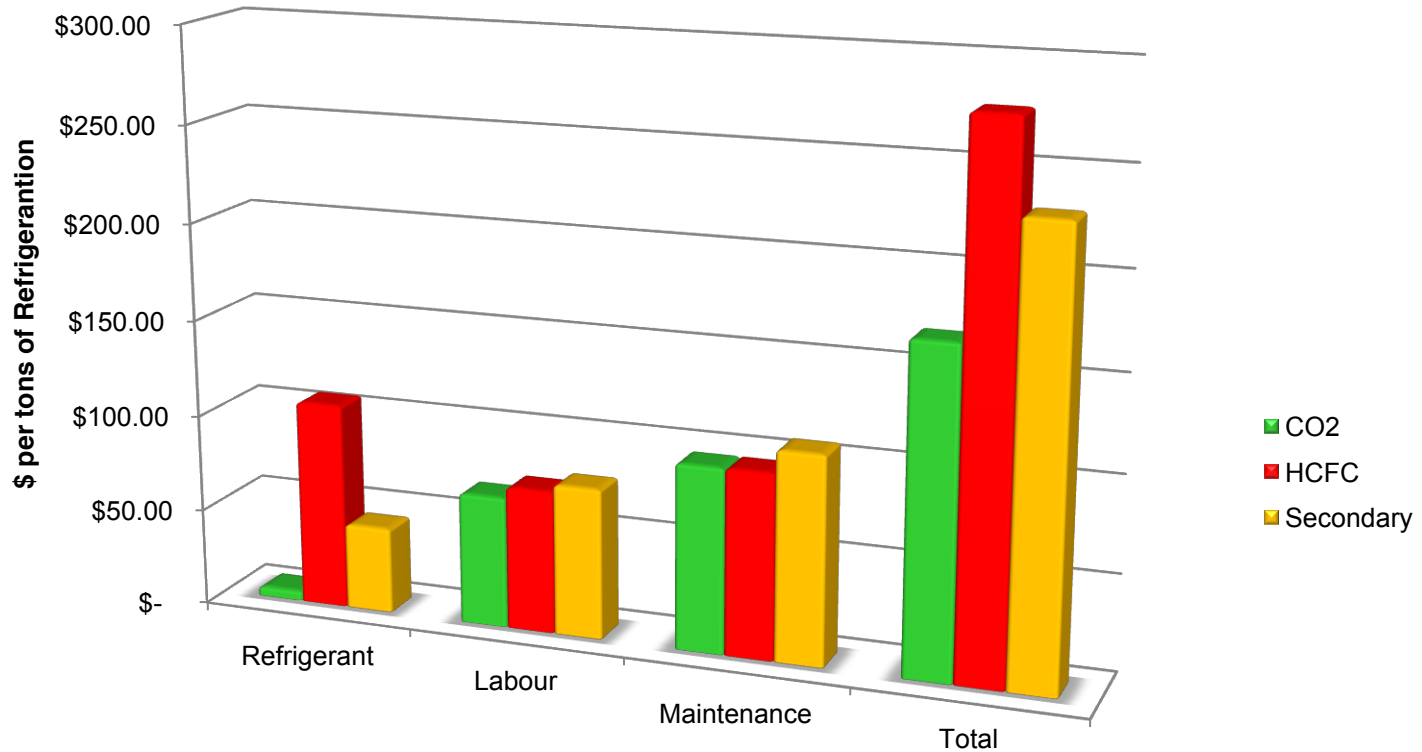
Installation Costs of a Refrigeration System



Note: Base case for a 1,5MBtu system (2014)

	Labour	Material	Refrigerant	Equip	Total
CO2	\$2,247.91	\$979.82	\$112.80	\$1,880.00	\$5,220.54
HCFC	\$2,336.20	\$1,305.03	\$409.14	\$1,400.00	\$5,450.38

Maintenance Costs



	Refrigerant	Labour	Maintenance	Total
CO2	\$4.80	\$68.00	\$96.00	\$168.80
HCFC	\$107.04	\$74.00	\$96.00	\$277.04
Secondary	\$44.40	\$78.00	\$108.00	\$230.40

Note: Base case for a 1,5MBtu (125 tons) system (2014)

Achievements

R744 Operational projects

- 1) Transcritical supermarkets
- 2) Transcritical supermarkets with mechanical subcooling
- 3) Cascade, supermarket using R744
- 4) Ice rink using R744
- 5) Spiral blast pizza freezer -40° F
- 6) Blast cooler for dough



business case

natural refrigerants

June 18-19, 2014 - San Francisco

Thank you very much!