

# CO<sub>2</sub> - One Retailer's Experience



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## Who We Are

- Sobeys ([www.sobeys.com](http://www.sobeys.com))
- Founded in 1907
- One of Canada's Two National Food Retailers
- Annual Revenue: \$24 Billion (CAD) ¥2,200 Billion
- 38.7 Million ft<sup>2</sup> (3.6 Million m<sup>2</sup>)
- 124,000 Employees
- 1,800 Sites



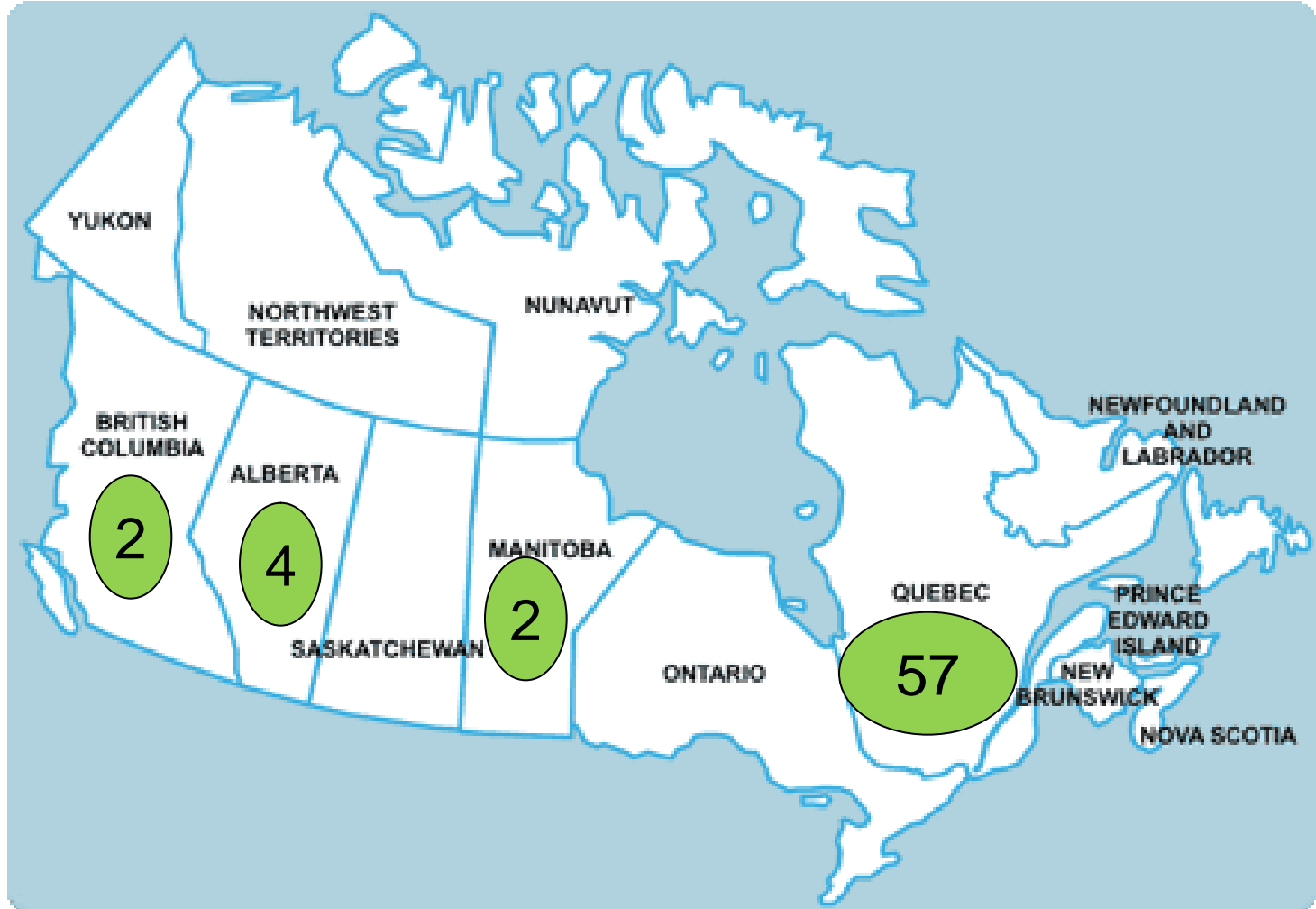
# Transcritical CO<sub>2</sub>

- Starting Point: 2009



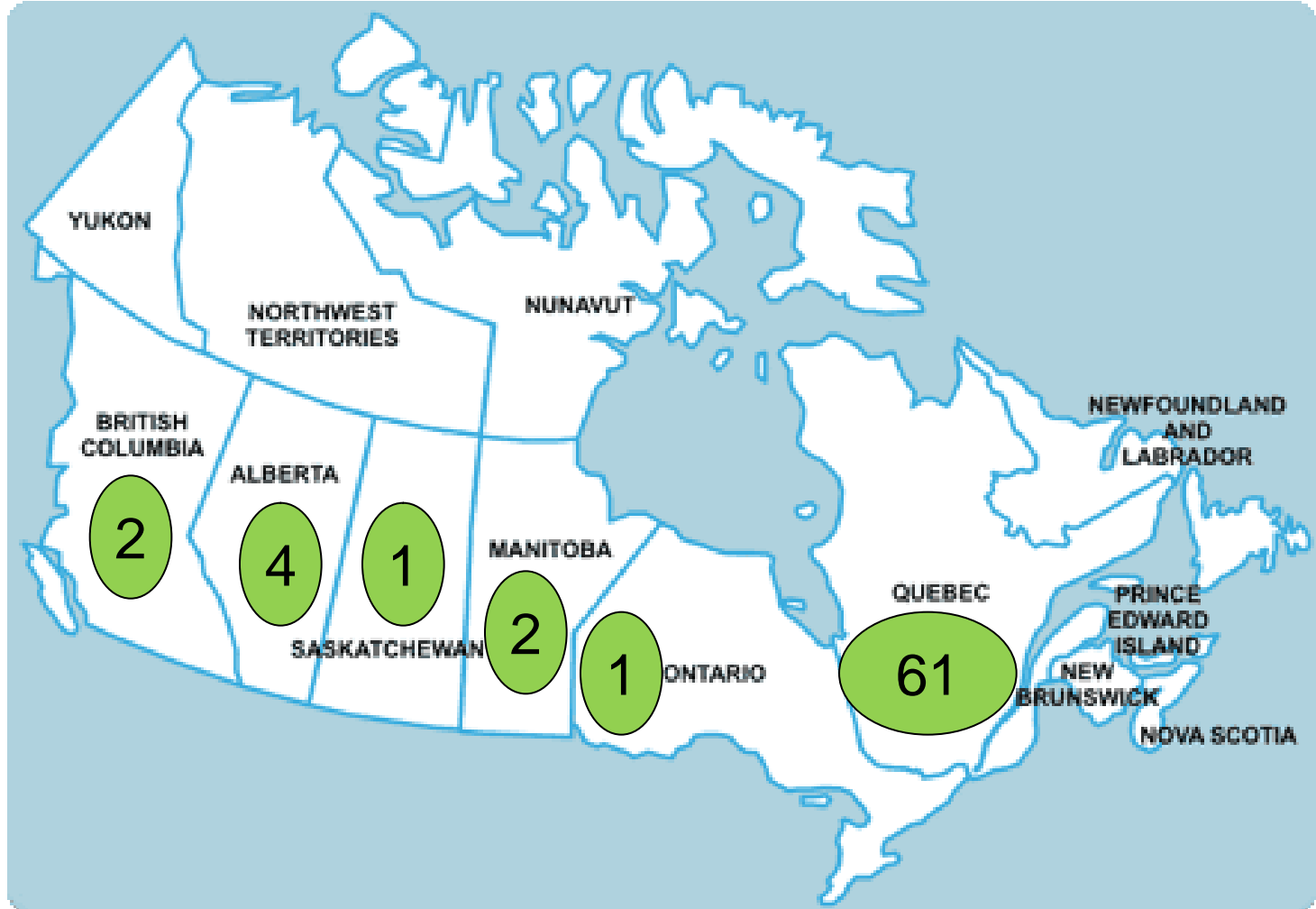
# Transcritical CO<sub>2</sub>

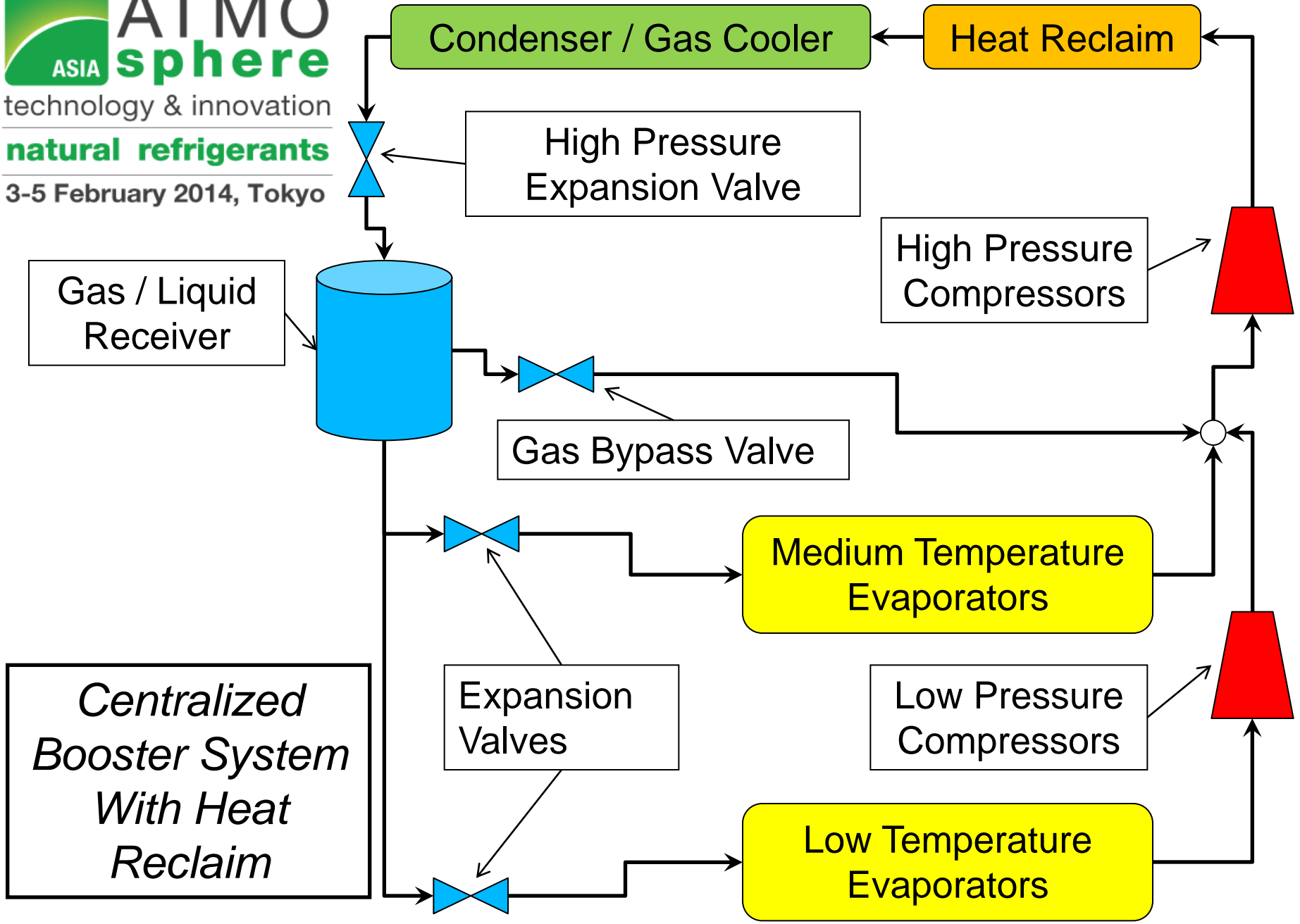
- Current State
  - 65 Systems



# Transcritical CO<sub>2</sub>

- This Year
  - Adding a minimum of 6 systems





*Centralized  
Booster System  
With Heat  
Reclaim*

## Transcritical CO<sub>2</sub>

- Standard for all new Full Service Format Stores
- Centralized Booster System
- Heat Reclaim
  - Domestic Hot Water
    - CO<sub>2</sub> to water heat exchanger
    - Year round: Production equipment cleaning
  - HVAC
    - Primary roof top unit
    - CO<sub>2</sub> to air heat exchanger
    - Winter: Heating
    - Summer: Post dehumidification reheating

## Transcritical CO<sub>2</sub>

- Lowest Total Cost of Ownership Solution
  - Higher First Cost
    - Primarily equipment
  - Lower Operational Cost
    - Primarily electricity
  - “Future Proof” Design
    - Potential future \$X/tonne carbon legislation
- Energy Savings inline with ASHRAE Findings
  - 10 to 15%
    - *System Efficiency for Natural Refrigerants (Mikhailov and Matthiesen) – ASHRAE Journal, August 2013*





**ATMO**  
**sphere**

technology & innovation

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**natural refrigerants**

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**3-5 February 2014, Tokyo**

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Thank you very much!