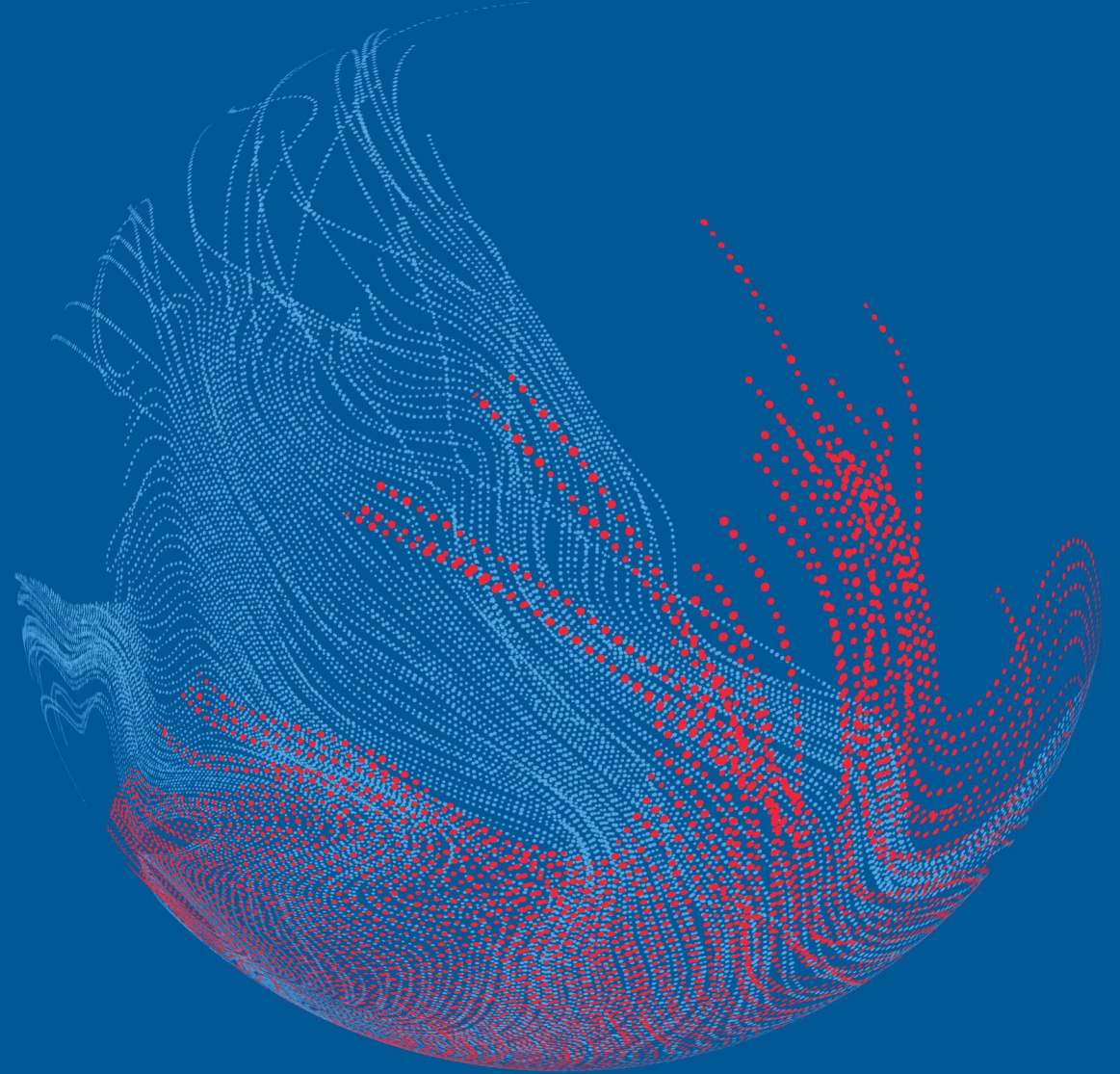




ATMO Summit

Business Case for
Natural Refrigerants

June 7-8, 2022
Washington D.C.





Viandes Paquette

Firts low charge ammonia

Net Zero industrial system



History of Viandes Paquette



Original meat production was behind the first original grocery store

- Family grocery store, **Metro Paquette**, started by Viateur Paquette about 50 years ago.
- Early 90's, his 5 sons opened another grocery store which today is the biggest independent store in Quebec with over 140,000 sq2.
- In 2009 They wanted to produce their own frozen meat products to feed their stores.

May 7th 2009



- New construction using Commercial packages including.
 - 4 packages (45 compressors total, 20 HP and less)
 - 60 refrigeration circuits for the entire plant
 - Over 40 air cooled condenser fan motors
 - Roof tops for ventilation and Air Conditioning
 - 360 kw electric boiler

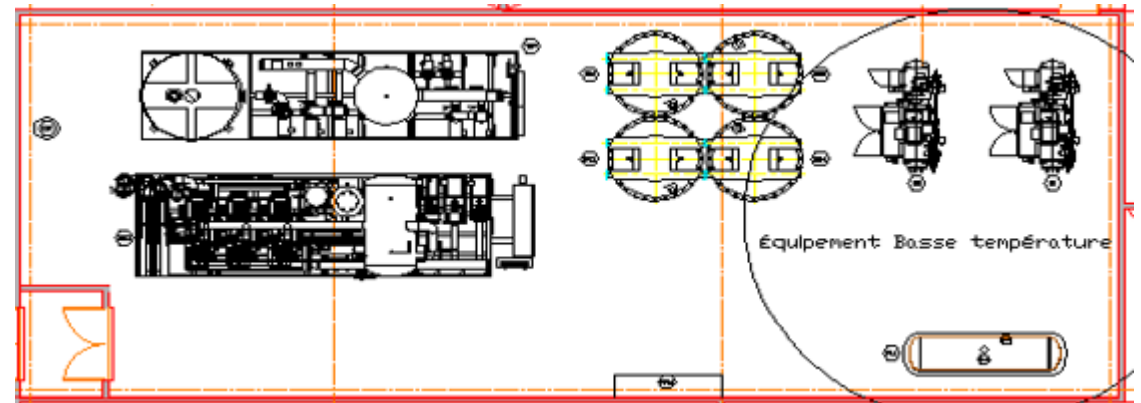
Viandes Paquette's Wishes

- Office & dry storage area, 33 000 pi2 on second floor
 - Production area, 40 000 pi2 on main floor
 - 1 spiral freezer - 40 F
 - 5 blast freezer (-40 F to -10F)
 - 1 holding freezer - 10 F
 - 24 rooms medium temp (36 F to 50 F)
 - 4 process rooms 36 degree F
 - Ventilation, heating and Air conditioning for the production and office area
 - New technology , No ammonia
 - Innovative design
 - Energy reduction/ heat reclaim with Hydro grant.
 - Reliable and performing equipment.
 - Low maintenance.
 - Extended life equipment for the new generation.
 - Integrated design with the building HVAC.
- Very First Net Zero Building 2010**

Low stage refrigeration direct NH3



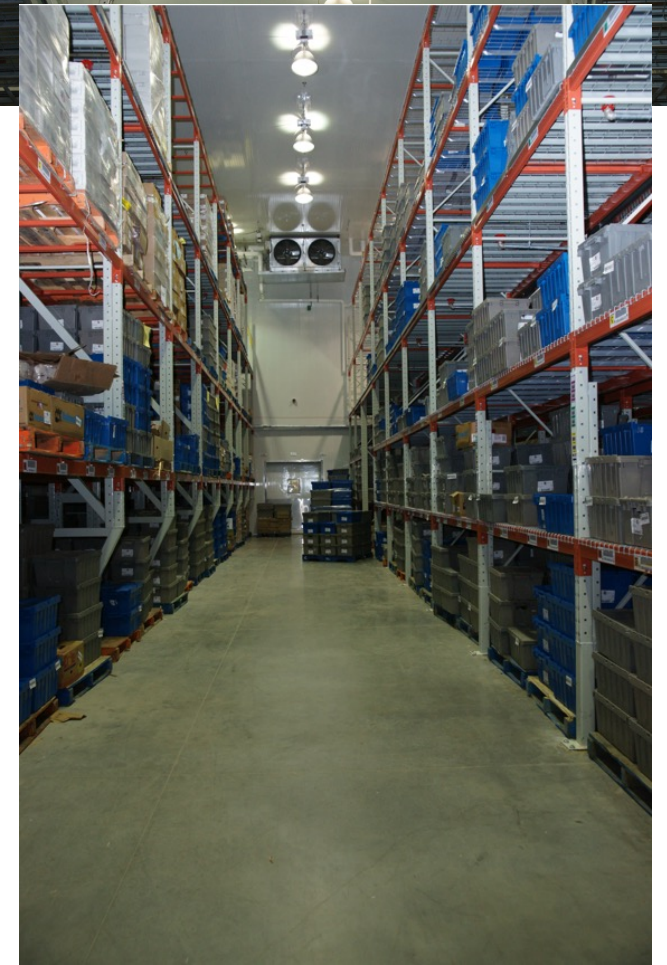
92 tr @ -40 F SST



Medium stage Low charge NH3 Glycol cooling



290 tr @ 17 F SST



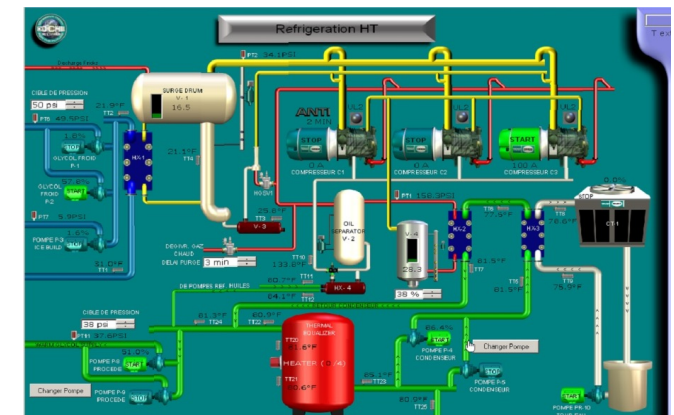
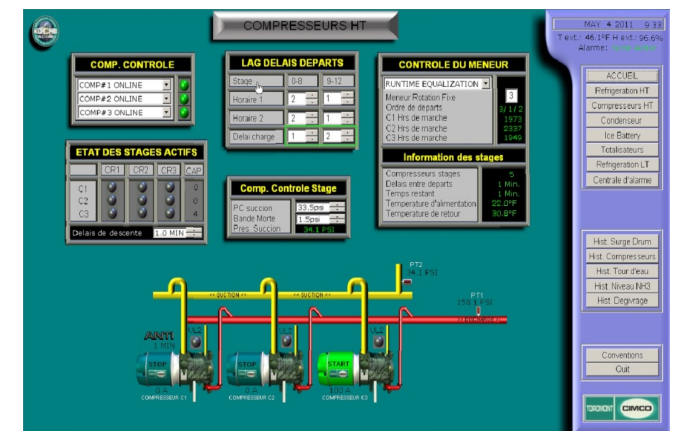
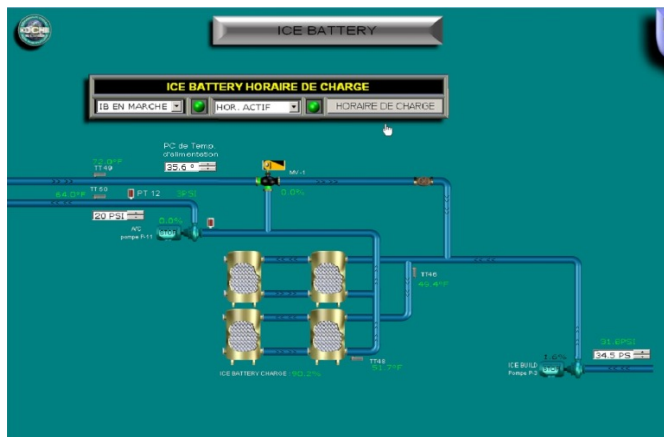
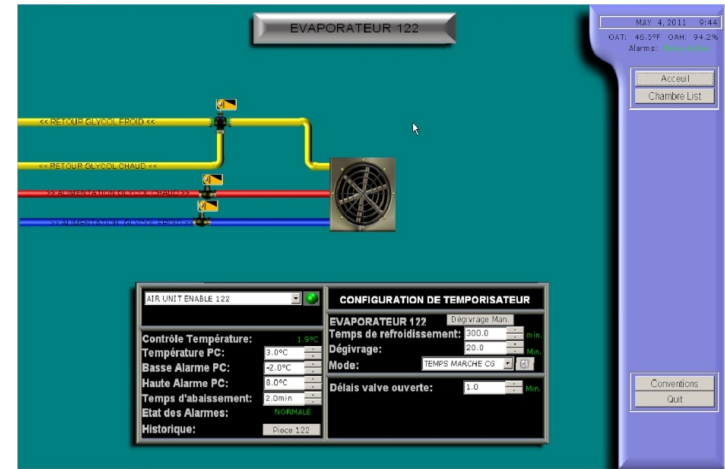


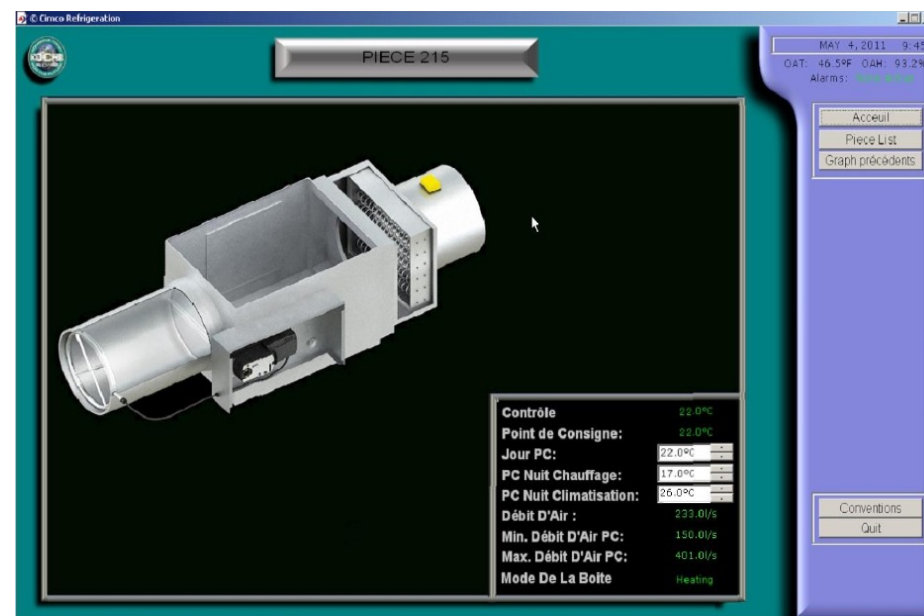
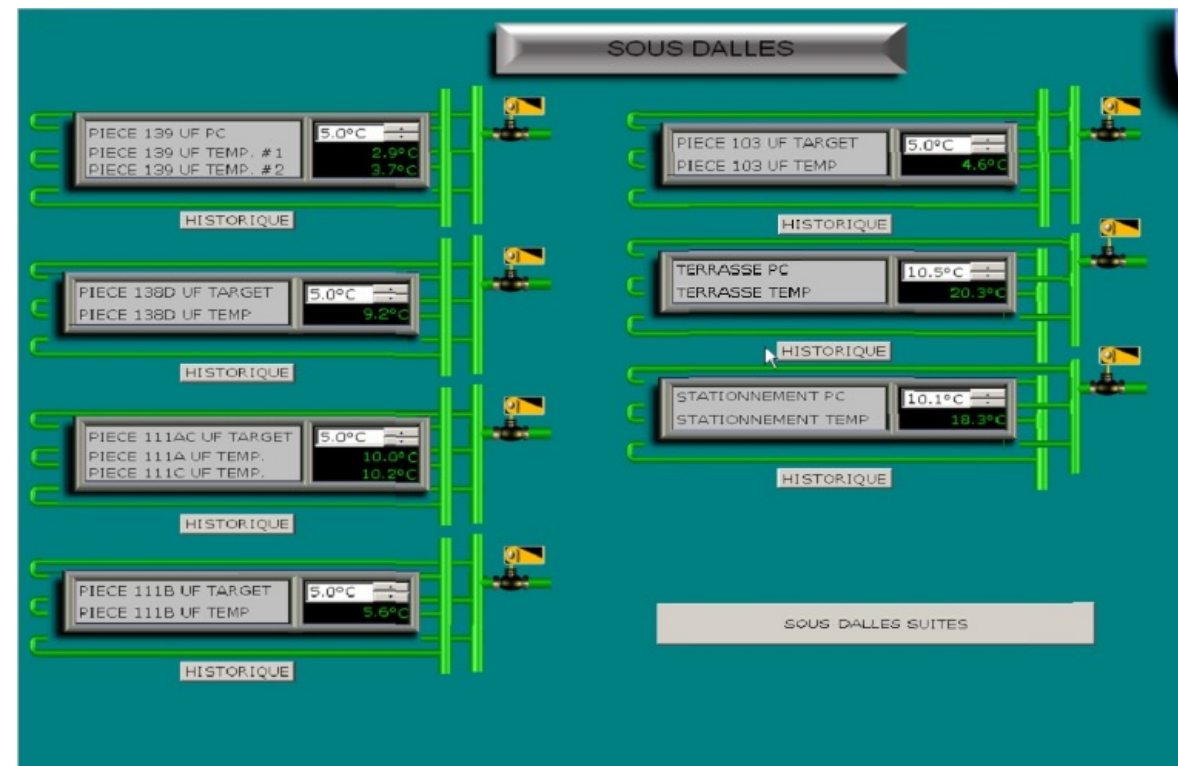
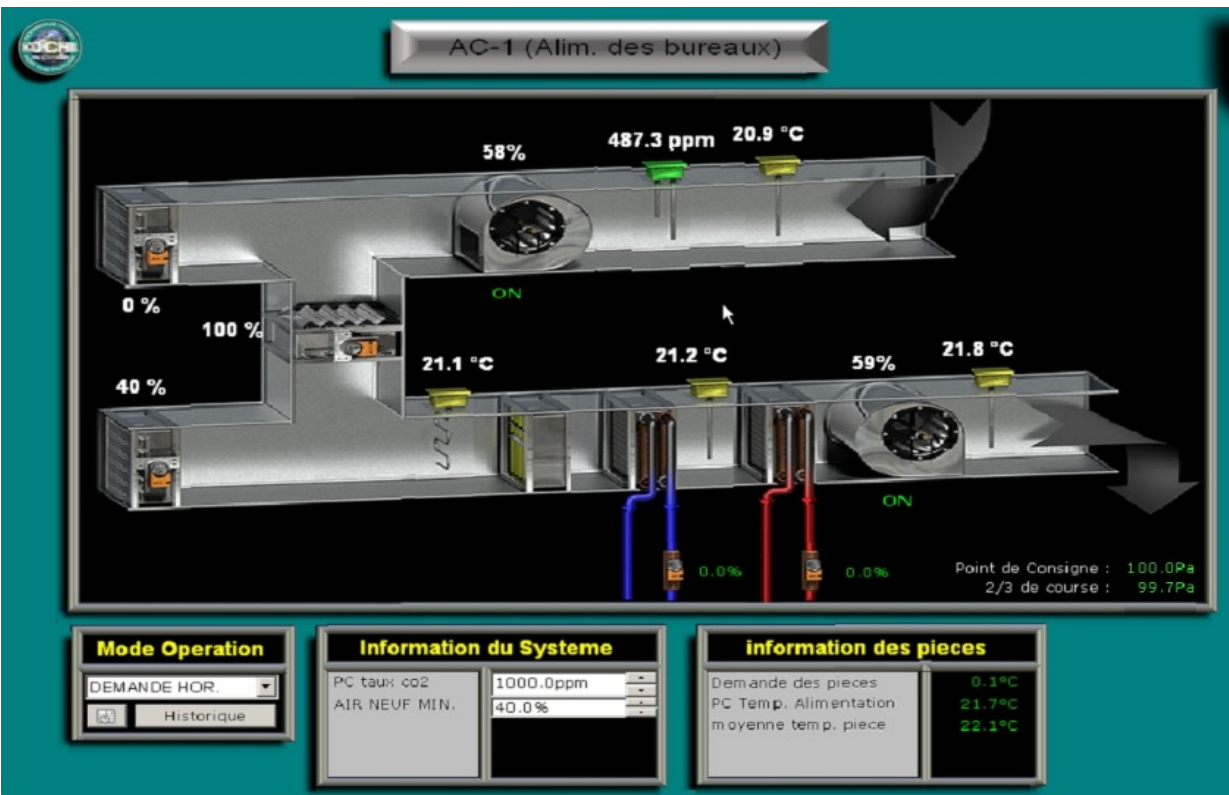












Final result

Original electrical entry **2800 amp**

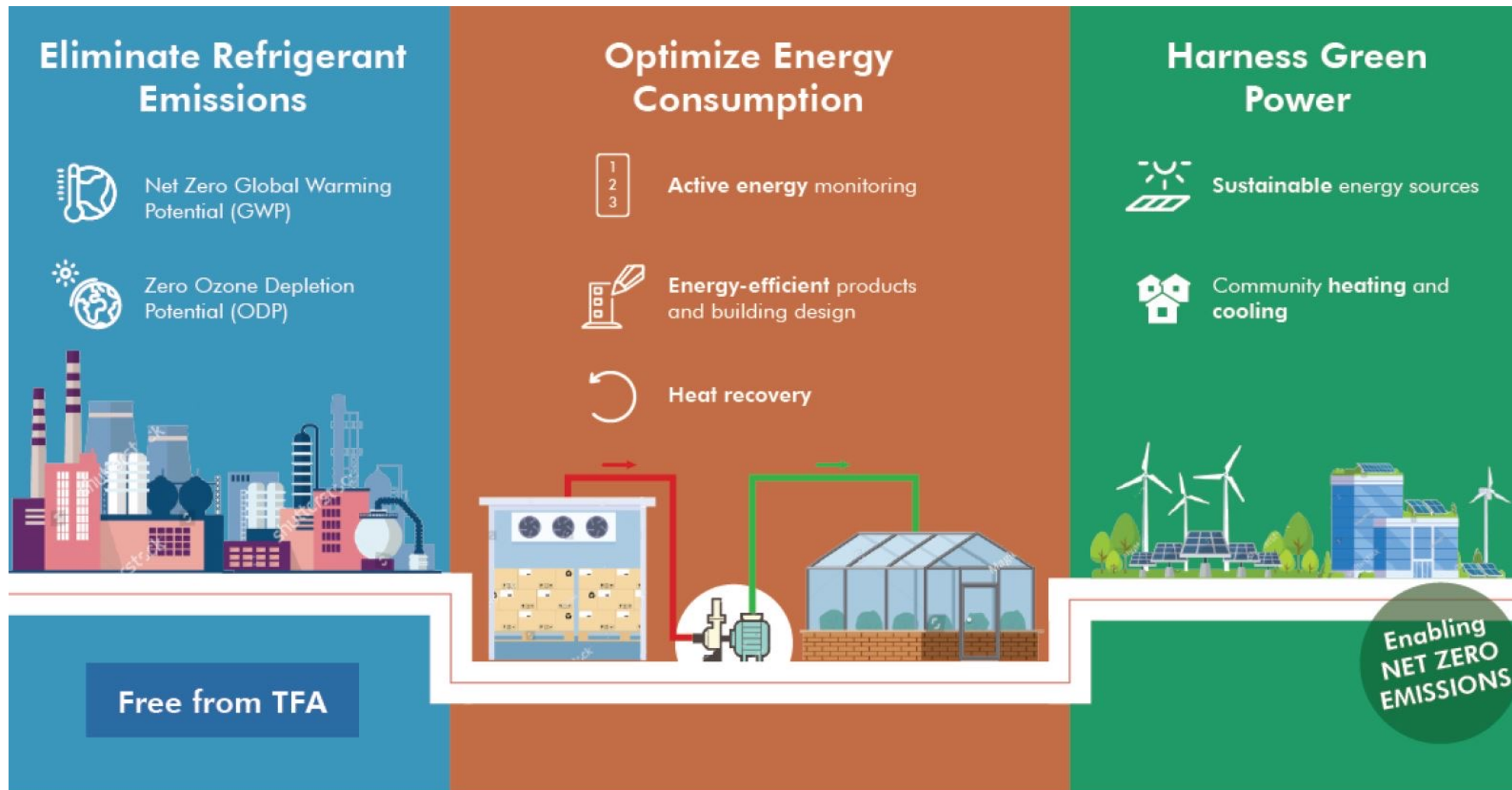
New electrical entry **2000 amp**

Reduction:

- Hot water heating 260 KW**
- Electric heat 1200 KW**
- Air Conditionning 62 Kw**
- Refrigeration system 200 Kw**

Original pack 700 HP

New system 450 HP



No Boilers, 2 500 000 kW/hr of saving
In addition to the CO2 footprint saved for not burning NG



Business Case for
Natural Refrigerants

**Viandes Paquette, the first innovator for Net Zero
building**

**Thank you
for listening!**

