



VYBAVENÍ PRODEJNY 2024

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Praha
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Food Retailers in complex environment



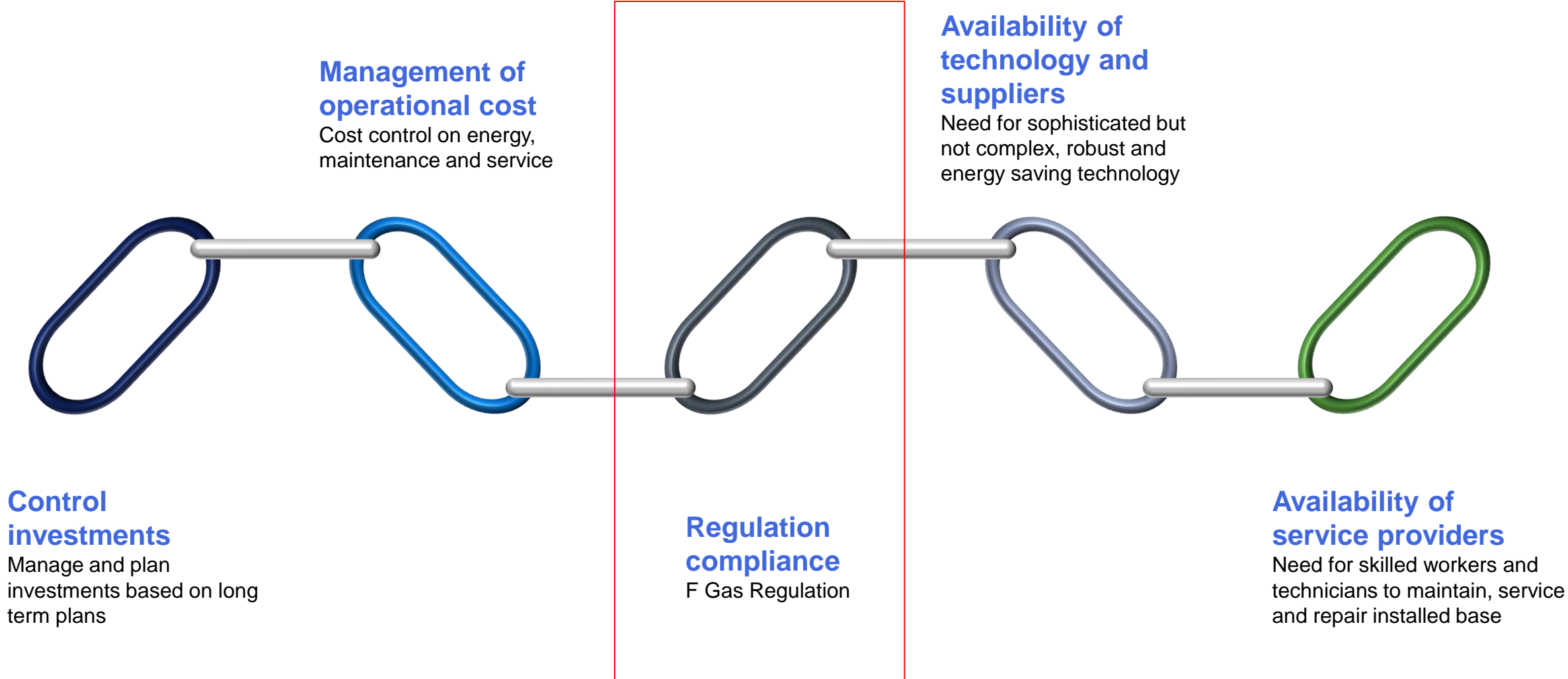
- Fight Inflation
- Control cost
- Manage shortage of skilled workers
- Fulfill directives like F Gas regulation
- ...

Facing
Headwinds

Need to
outperform

- Maintain the store attractiveness and customer loyalty
- Increase Sales and market share
- Implement sustainability concepts
- ...

Pressures in the refrigeration world



Are you sure you are
taking the right actions?



Wrong decisions risk the operational safety



Frankfurter
Neue Presse

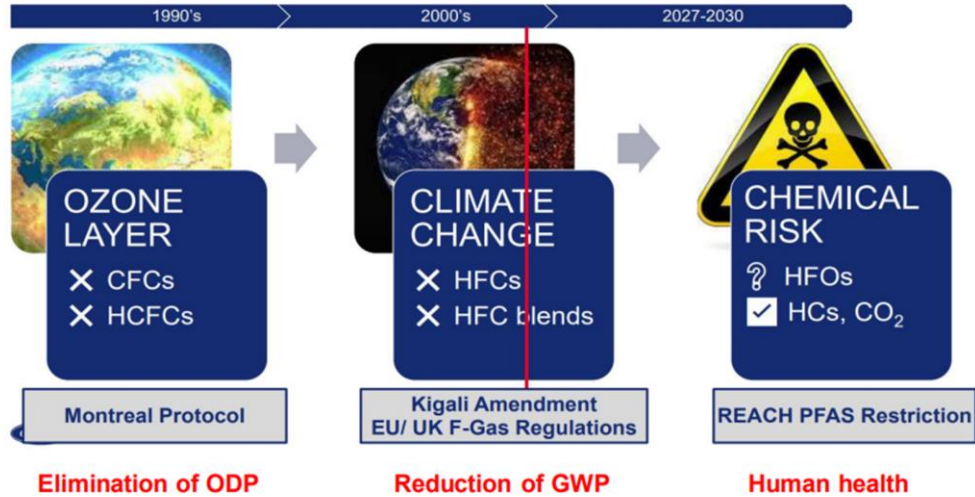
A supermarket in Oberrad causes anger and ridicule: shelves are empty, no cooled and frozen goods available

Loss of reputation **Food loss**
Angry customers
Revenue decline
Conflict with authorities
Loss of market share



What's happening in F Gas Regulations

REFRIGERANT REGULATORY ROADMAP

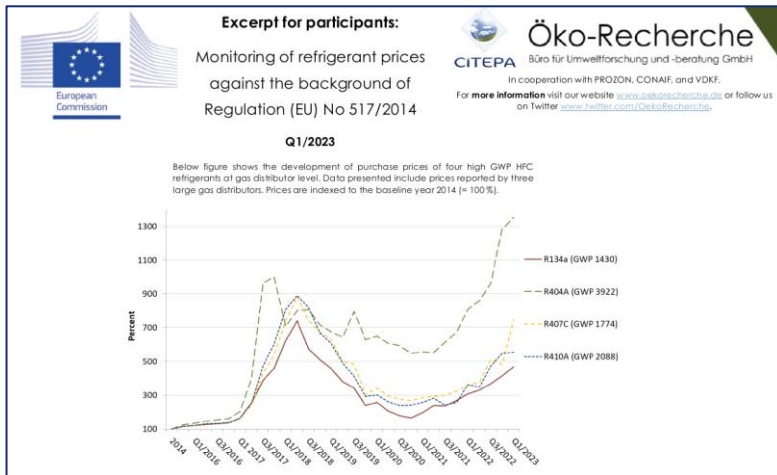


Global Warming Potential	Example of Refrigerant	Type of Refrigerant	2024	01/01/2025	01/01/2030	01/01/2032
GWP > 2500	R-404a, R-422d	New	Ok*	No	No	No
		Regenerated	Ok	Ok	No	No
2500 > GWP > 750	R-134a, R-448a, R-449a, R-410a, R-407c, R-407f	New	Ok	Ok	Ok	No
		Regenerated	Ok	Ok	Ok	Ok
750 > GWP	CO2, R-290, HFO	New	Ok	Ok	Ok	Ok
		Regenerated	Ok	Ok	Ok	Ok
(*) Only for Circuit below 40 Teq. CO2						
Quotas Reduction	In Percentage (%)		- 31%	- 48%	- 74%	- 89%
	In Tones Eq. CO2		56,700,00	42,874,410	21,700,000	9,132,097

- Phase down, Quota reduction, Price Increases
- HFO blends are promoted as Replacement solution

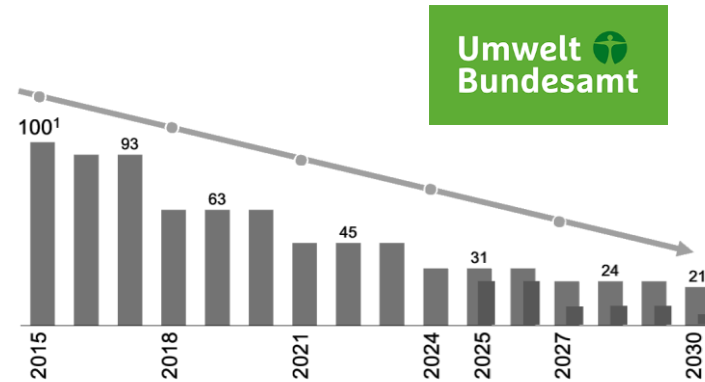
Consequences of revised F-Gas Regulation

Dramatic cost increase



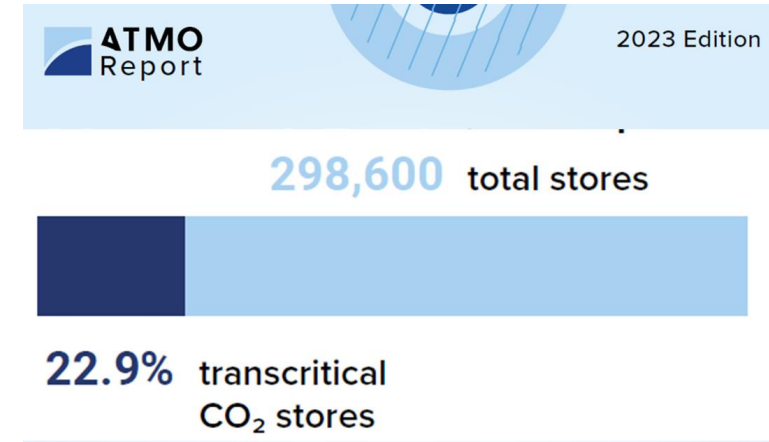
2021 vs. 2024
+ 170%
on F Gas refrigerants

Lack of availability



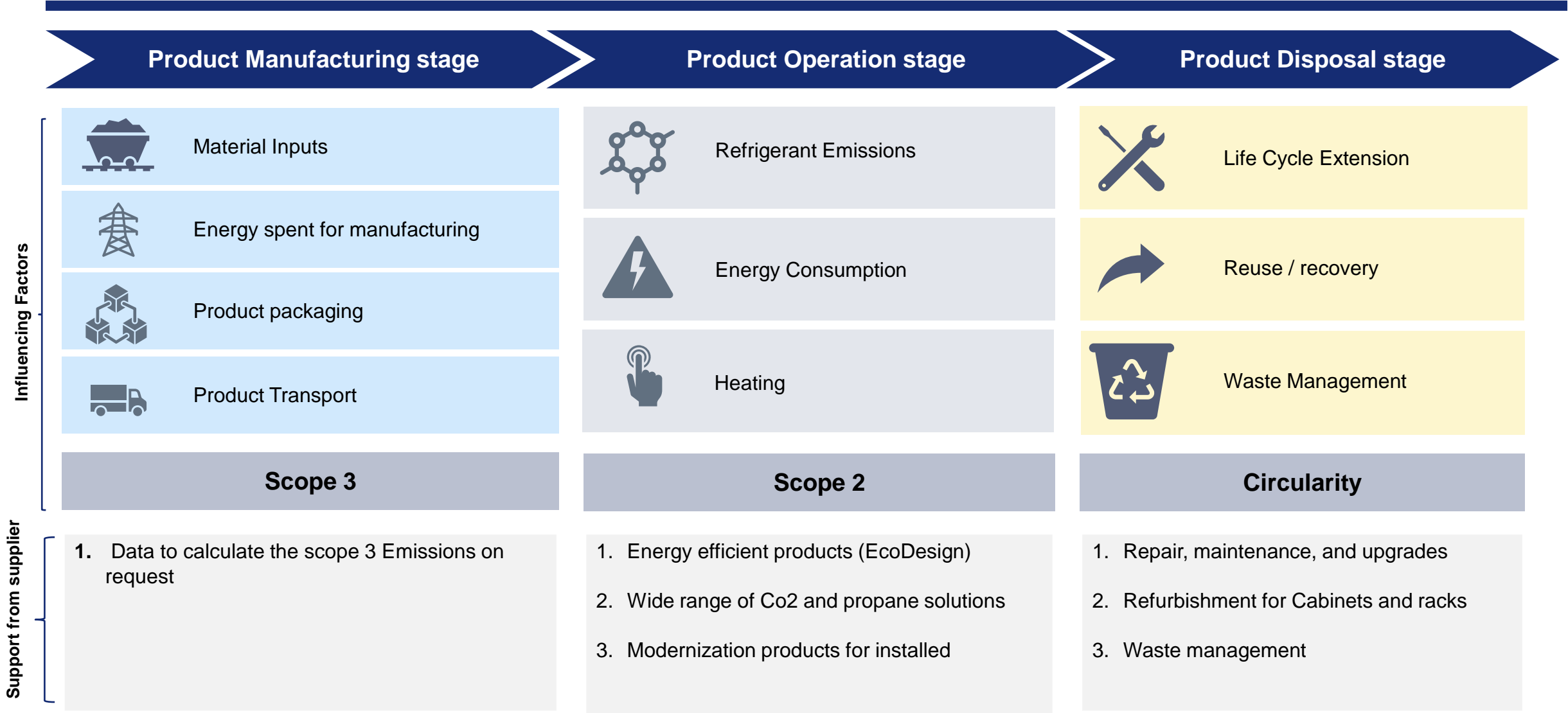
In 2024
- 72%
of F Gas quota

Gigantic demand



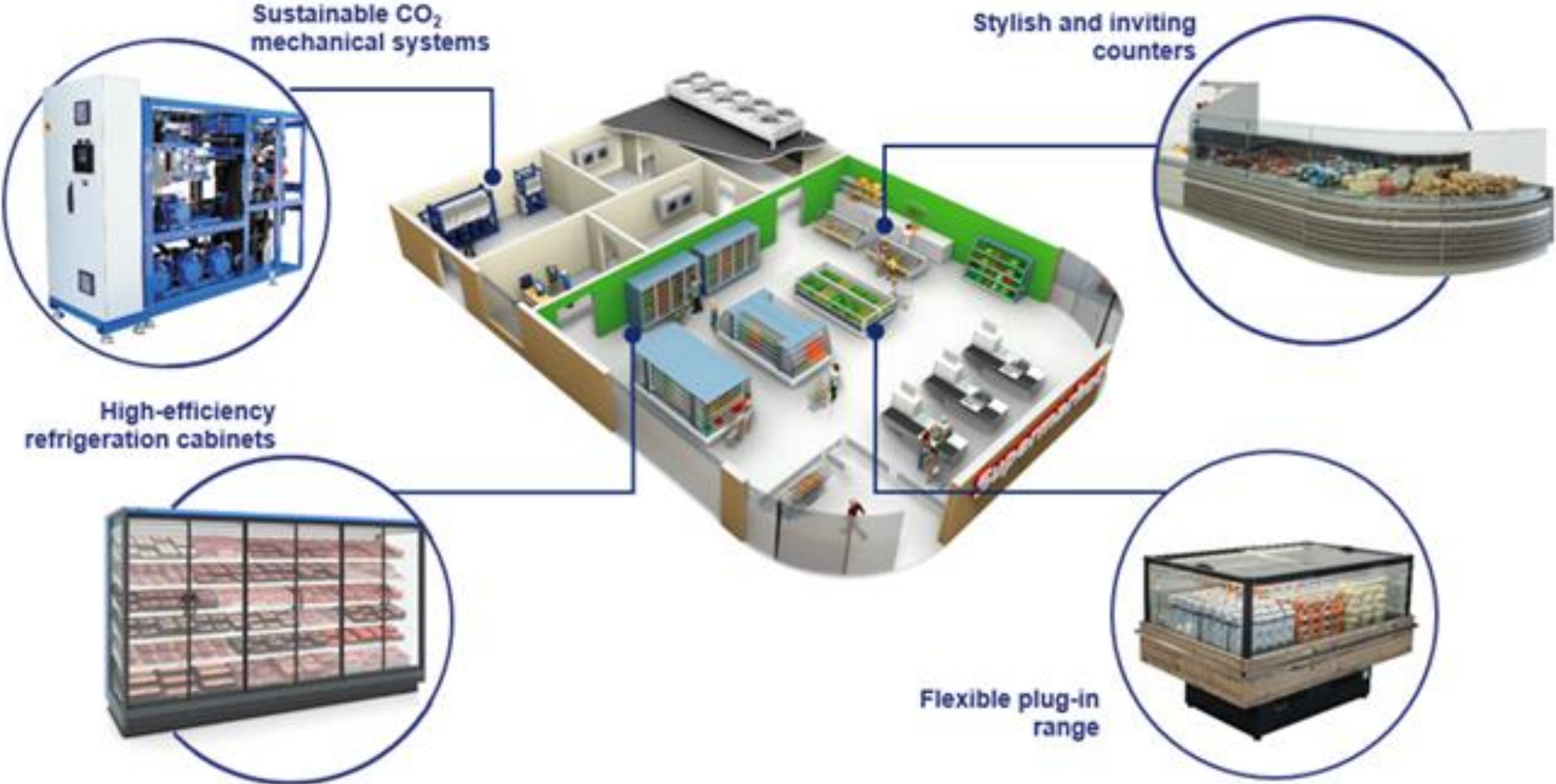
Starting 2024
> 200.00
Stores to be remodeled
before 2030 & 2032

Life cycle emissions of the product and reporting sections



Food retail store

- Cabinet
- Storage area
- Technology
- Service



Cabinet

- Change of preferences
- Modularity
- Sustainability
- Connectivity



Merchandising

Remote monitoring

Temperature performance

Innovation

Price

Ergonomics

Alarm handling

Delivery time

Installation

Energy efficiency



Serviceability

Safety

Design

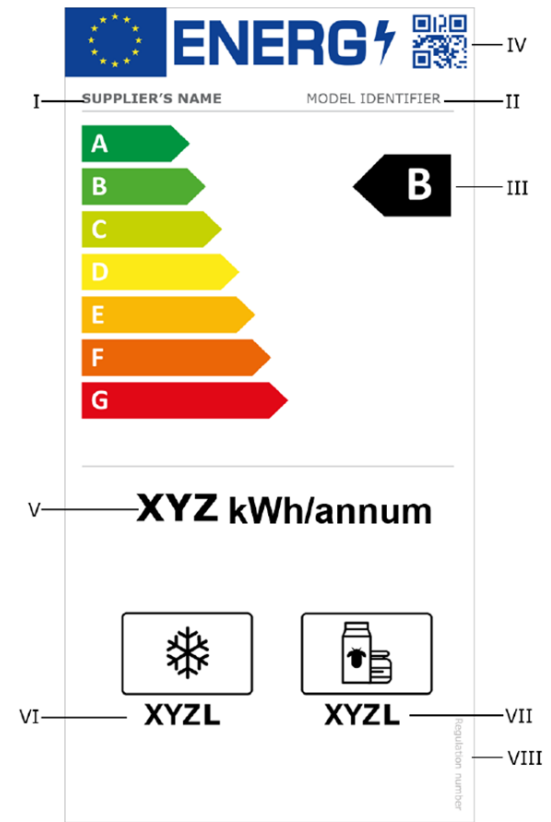
Cabinet

- Plug in
- Remote
- Hybrid

Remote Cabinets	Plug-in Cabinets	Counters
 <p>Multidecks & roll-ins</p>	 <p>Multidecks & vertical freezers</p>	 <p>Convertible</p>
 <p>Semi-verticals</p>	 <p>Impulse counters & Islands</p>	 <p>Self-service</p>
 <p>Vertical freezers & freezer islands</p>	 <p>Semi-verticals</p>	 <p>Serve-over</p>
<p style="text-align: center;">CO₂</p>	<p style="text-align: center;">CO₂ R290</p>	<p style="text-align: center;">CO₂ R290</p>

Label for refrigerating appliances with a direct sales function

Label:



The diagram shows an energy label with the following fields:

- I:** SUPPLIER'S NAME
- II:** MODEL IDENTIFIER
- III:** Energy efficiency class (indicated by a black arrow pointing to 'B')
- IV:** QR code
- V:** Energy consumption: **XYZ kWh/annum**
- VI:** Snowflake icon and **XYZL**
- VII:** Refrigerant icon and **XYZL**
- VIII:** Regulation number

Energy efficiency scale (A-G):

- A: Green arrow pointing right
- B: Green arrow pointing right
- C: Yellow-green arrow pointing right
- D: Yellow arrow pointing right
- E: Orange arrow pointing right
- F: Red-orange arrow pointing right
- G: Red arrow pointing right

Cabinets - products focus –plug ins



Platform Flexibility

Convenience product growth



Modularity
Adaptability

Transparency
Flexibility

Energy saving

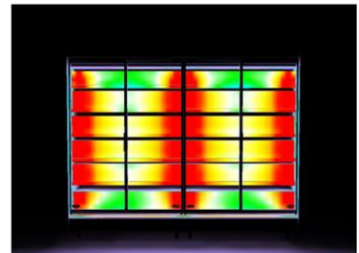
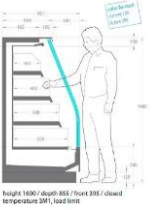
Digital

Latest technology

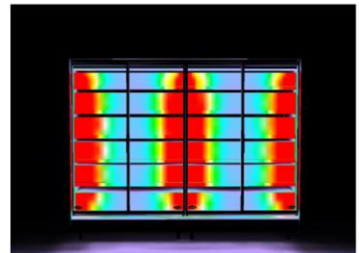
Connected



Cabinets Multidecs



Carrier Premium



Carrier Smart LED

1500.00	lx
1300.00	lx
1100.00	lx
900.00	lx
700.00	lx
500.00	lx
300.00	lx
100.00	lx
0.00	lx



Proprietary and Confidential

Counter

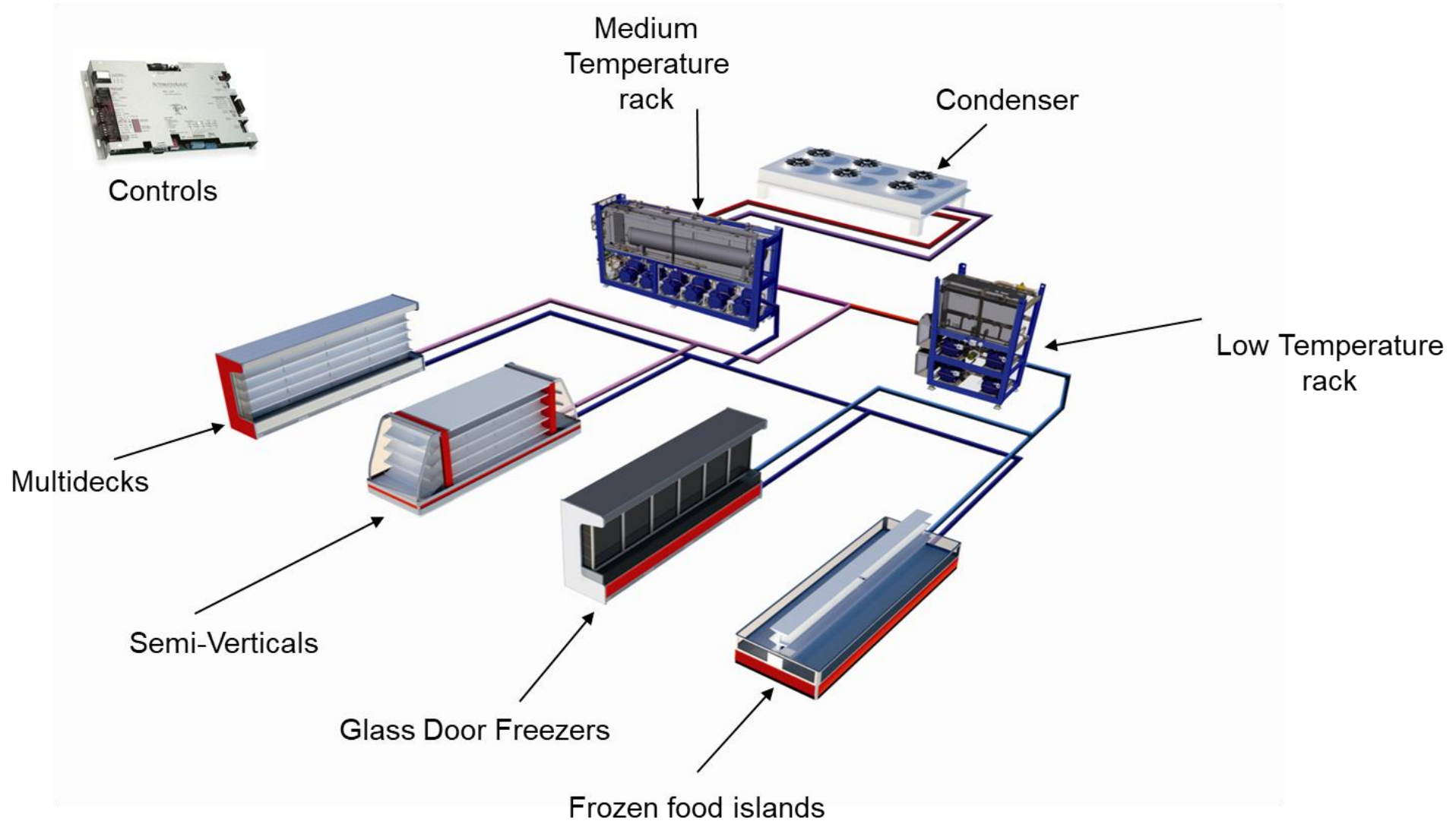


Cabinets Frozen



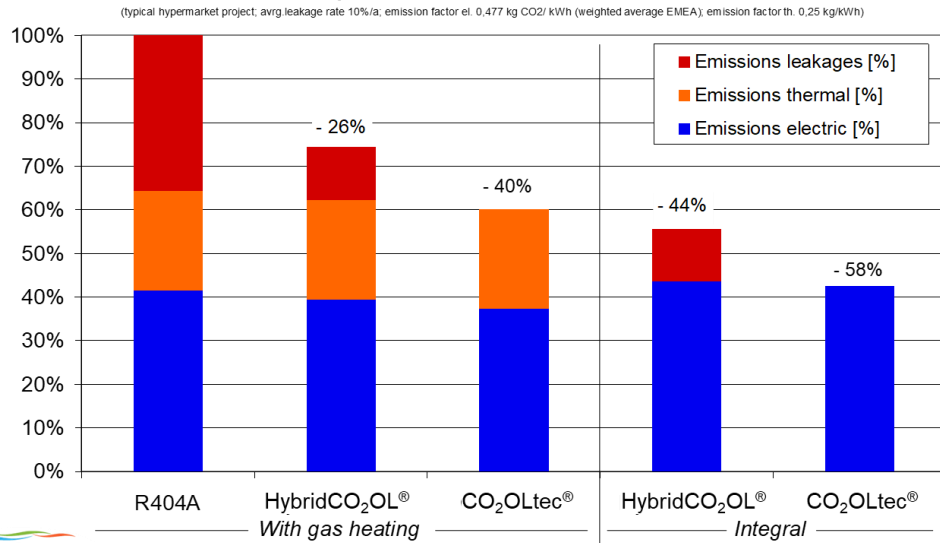
Proprietary and Confidential

Technology

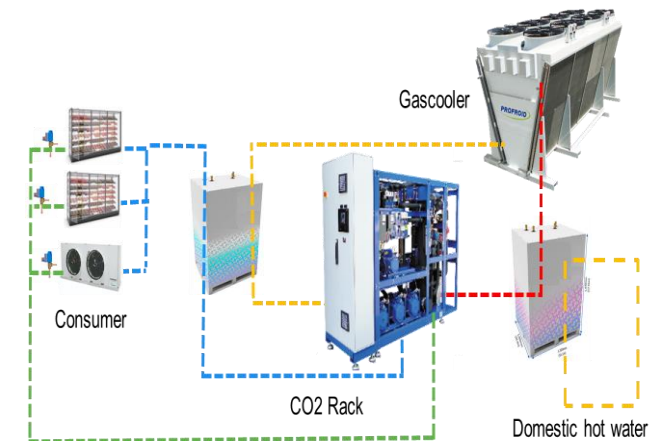
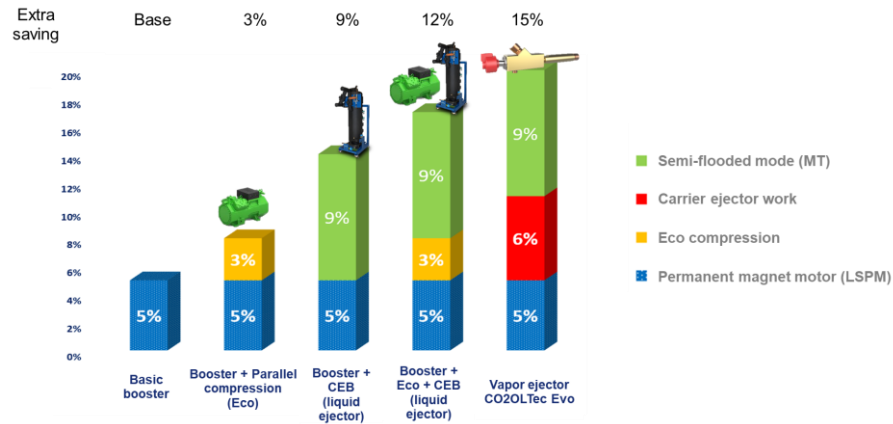
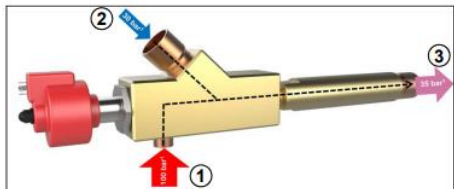
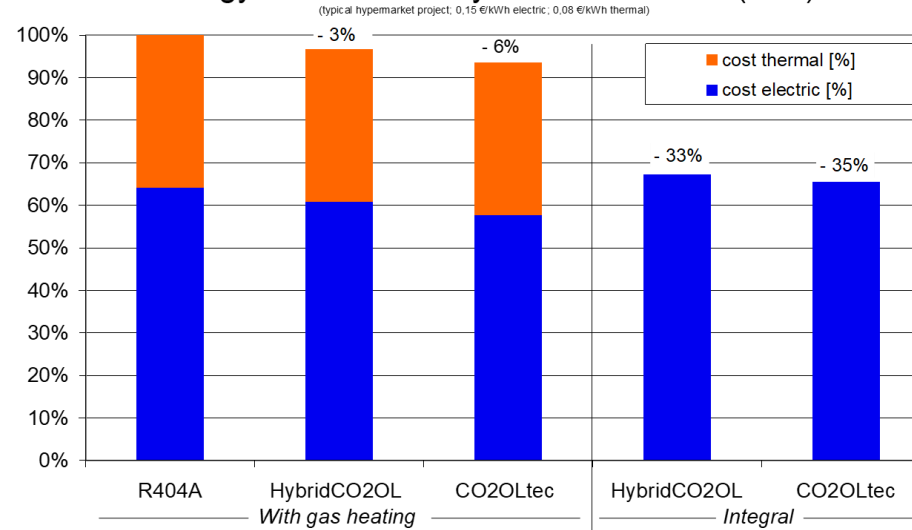


Technology

Equivalent CO₂ Emissions

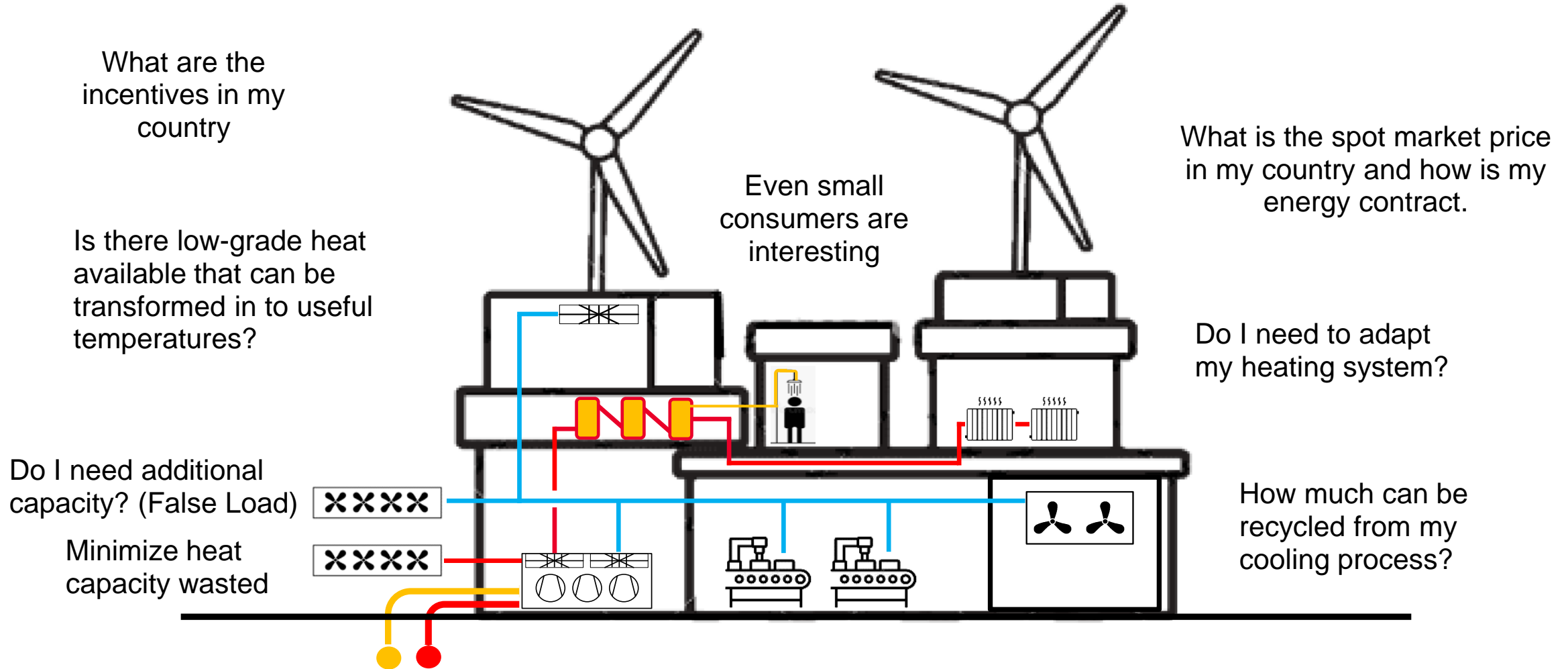


Energy Costs Electricity and Fossil Fuels (Gas)



Proprietary and Confidential

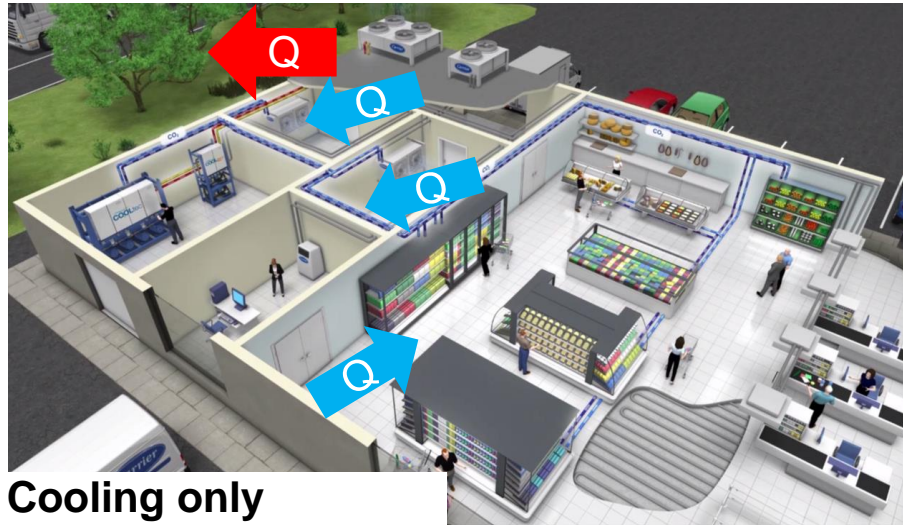
What should we ask ourselves?



INTEGRAL CO2 SYSTEM / Monovalent Heating Equipment

Traditional:

- Cooling by refrigeration system
- Heating by combustion system



Cooling only

/w Heatrecovery:

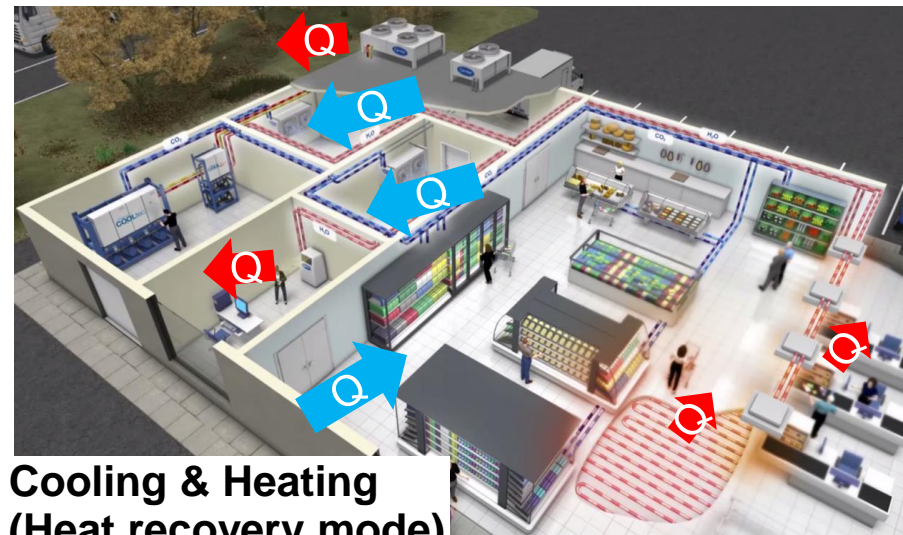
- Heat from refrigeration system partly „re-used“ (e.g. for tap water)
- Combustion system reduced



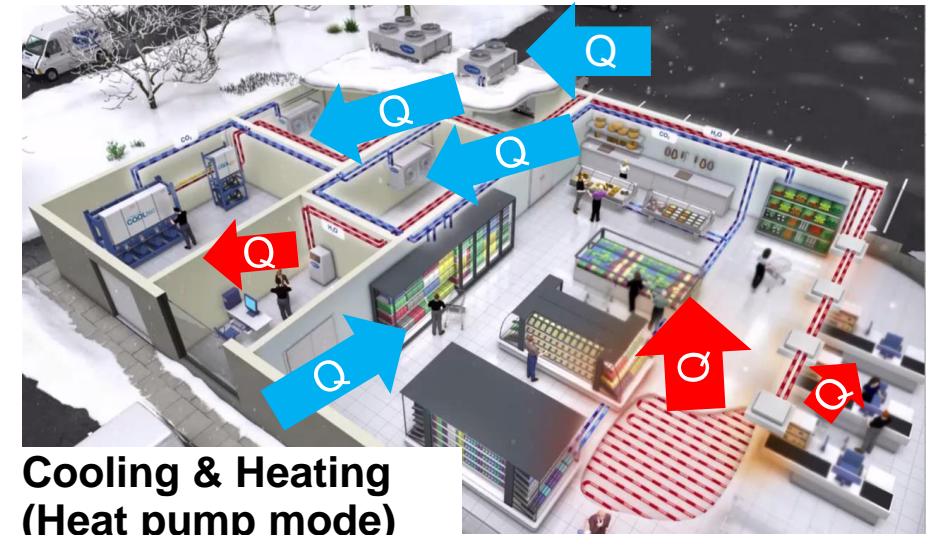
Cooling & Air Conditioning

Integral System:

- Refrigeration system deliver all needs to the Building (Cooling, A/C, Heating)
- Combustion system removed



Cooling & Heating (Heat recovery mode)



Cooling & Heating (Heat pump mode)

A New World

Changing environment



New technologies & data



Global warming



Changing work force



Retail industry opportunities

Uptime



Operational efficiency



Food safety





Carrier

Commercial Refrigeration