



ATMO sphere



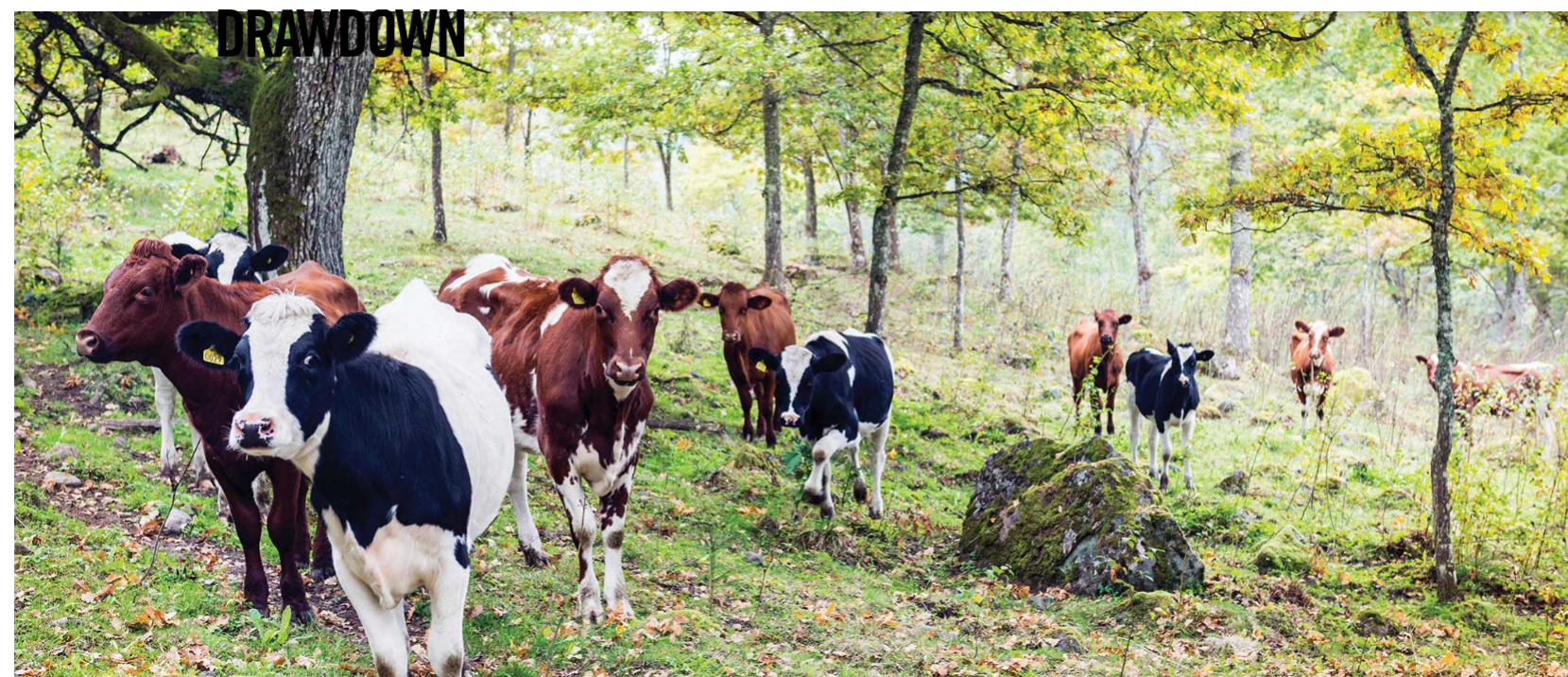


Eco-friendly cooling in practice

Sustainable cold chain Colruyt Group

DRAWDOWN

THE MOST COMPREHENSIVE
PLAN EVER PROPOSED TO
REVERSE GLOBAL WARMING
EDITED BY PAUL HAWKEN



Credit: Bo Jansson / Alarm Stock Photo

Top 10/80

Refrigerants

	Solution	Sector	TOTAL ATMOSPHERIC CO2-EQ REDUCTION (GT)	%
1	<u>Refrigerant Management</u>	Materials	89,74	8,5 %
2	<u>Wind Turbines (Onshore)</u>	Energy	84,6	8,0 %
3	<u>Reduced Food Waste</u>	Food	70,53	6,7 %
4	<u>Plant-Rich Diet</u>	Food	66,11	6,3 %
5	<u>Tropical Forests</u>	Land Use	61,23	5,8 %
6	<u>Educating Girls</u>	Women and Girls	59,6	5,7 %
7	<u>Family Planning</u>	Women and Girls	59,6	5,7 %
8	<u>Solar Farms</u>	Energy	36,9	3,5 %
9	<u>Silvopasture</u>	Food	31,19	3,0 %
10	<u>Rooftop Solar</u>	Energy	24,6	2,3 %

55
%

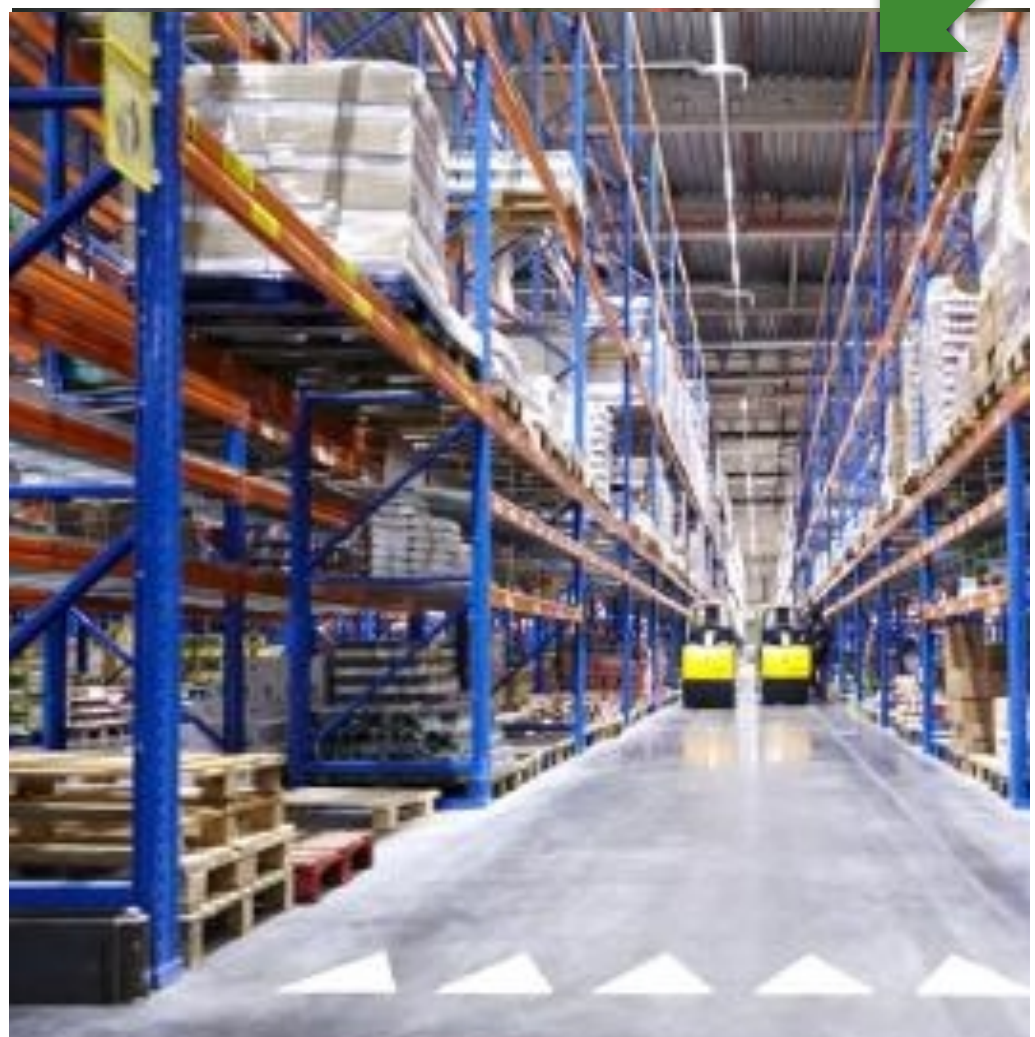


Sustainable cold chain



Renewable energy:
wind and sun

Supplier



Distribution center



Transport



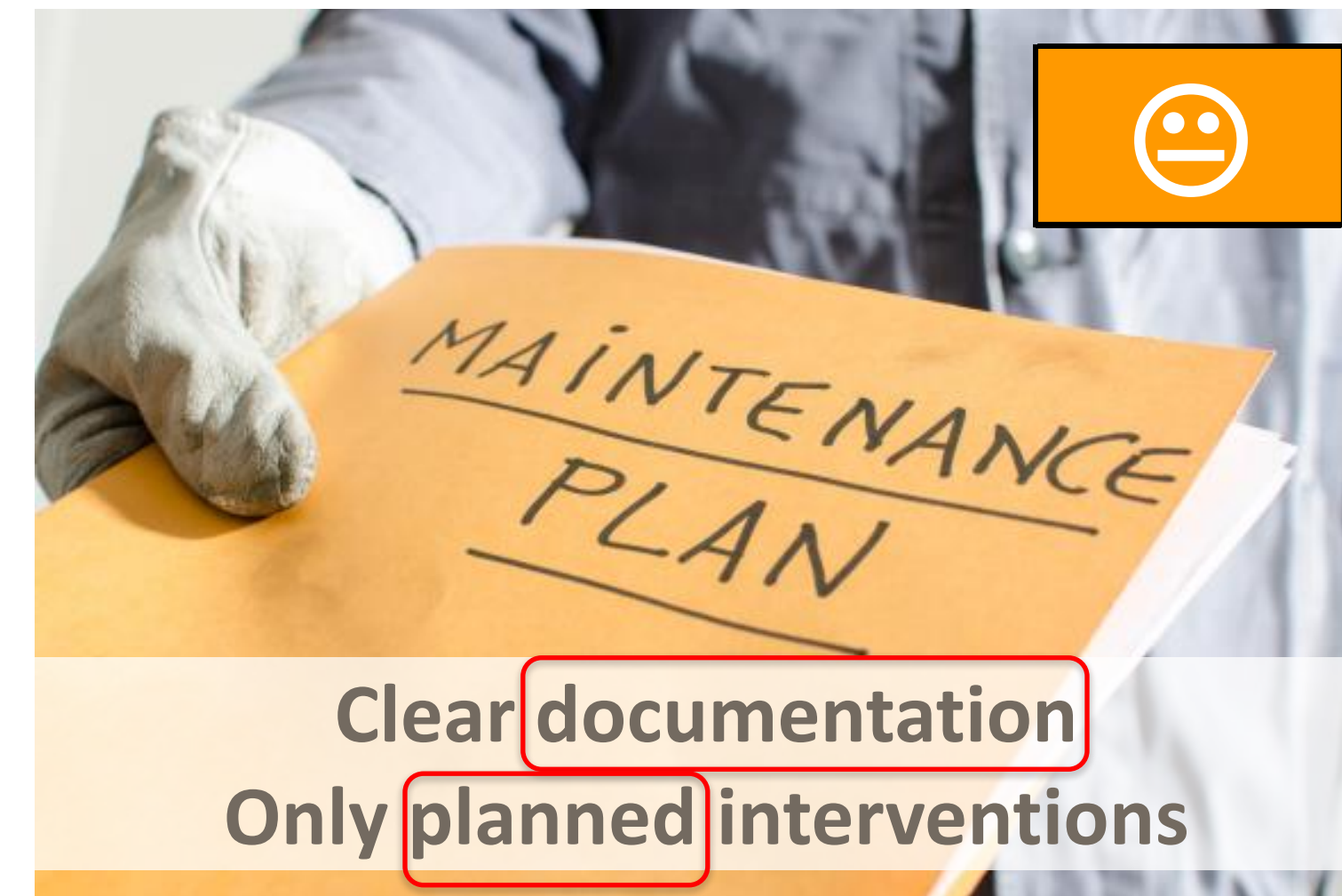
Store

Customer

Sustainable cold chain Colruyt Group



Medium Temperature Cooling shops (aug 2014) => aug 2017



€



Modular and reusable



Colruyt Kortrijk

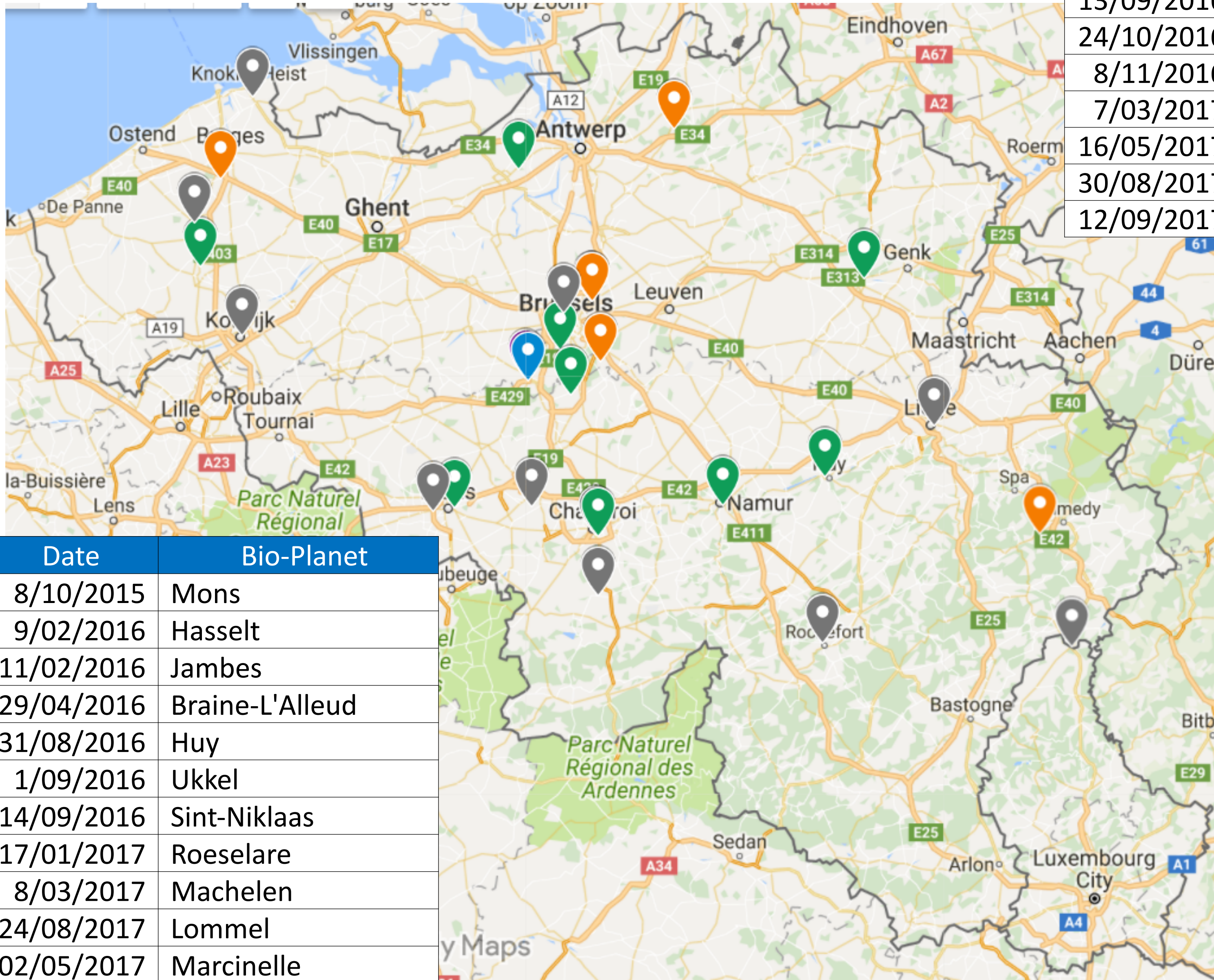
- +1 chiller redundancy
- Investment comparable with CO2
- Reusable components



OKay Stavelot



35 Realisations



Date	OKay
13/09/2016	Loppem
24/10/2016	Hoeilaart
8/11/2016	Zoersel
7/03/2017	Diegem
16/05/2017	Stavelot
30/08/2017	Hofstade
12/09/2017	Viroinval

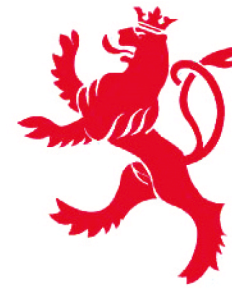
Date	Colruyt
12/09/2016	Morlanwelz
18/10/2016	Kortrijk
10/01/2017	Walcourt
14/02/2017	Gretry
14/02/2017	Wilson
28/03/2017	Knokke
3/05/2017	Marcinelle
16/05/2017	Rochefort
7/06/2017	Laeken
7/06/2017	Torhout
11/07/2017	Nossegem
22/08/2017	Jemeuse
13/09/2017	Wemperhardt
29/08/2017	Herve
04/09/2017	Amay
26/09/2017	Keerbergen

Date	Bio-Planet
8/10/2015	Mons
9/02/2016	Hasselt
11/02/2016	Jambes
29/04/2016	Braine-L'Alleud
31/08/2016	Huy
1/09/2016	Ukkel
14/09/2016	Sint-Niklaas
17/01/2017	Roeselare
8/03/2017	Machelen
24/08/2017	Lommel
02/05/2017	Marcinelle

Date	Test
12/08/2016	Halle



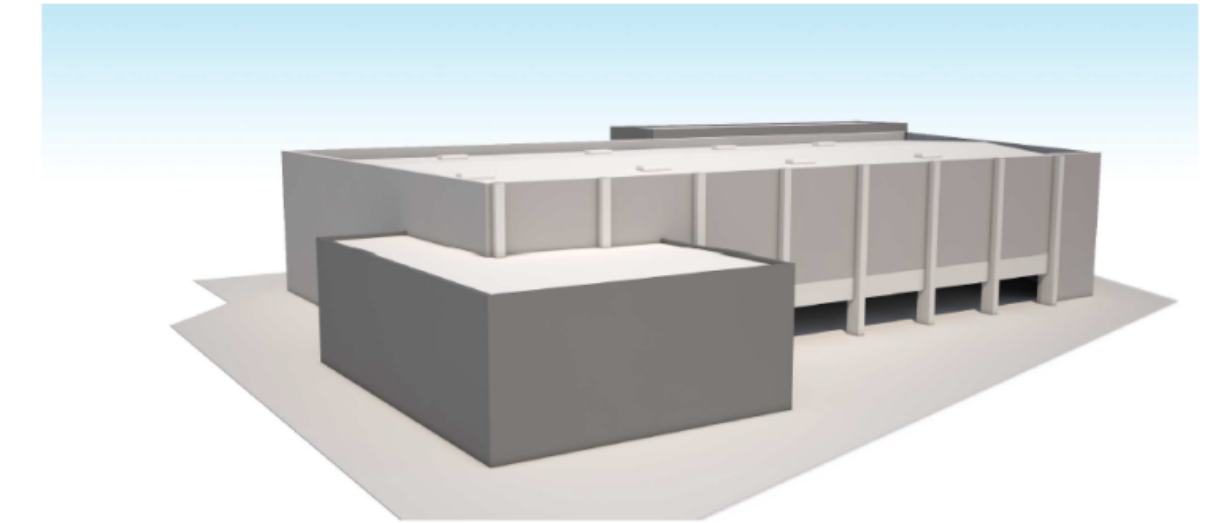
Luxemburg: use of propane cooling



LE GOUVERNEMENT
DU GRAND-DUCHE DE LUXEMBOURG
Ministère du Développement durable
et des Infrastructures



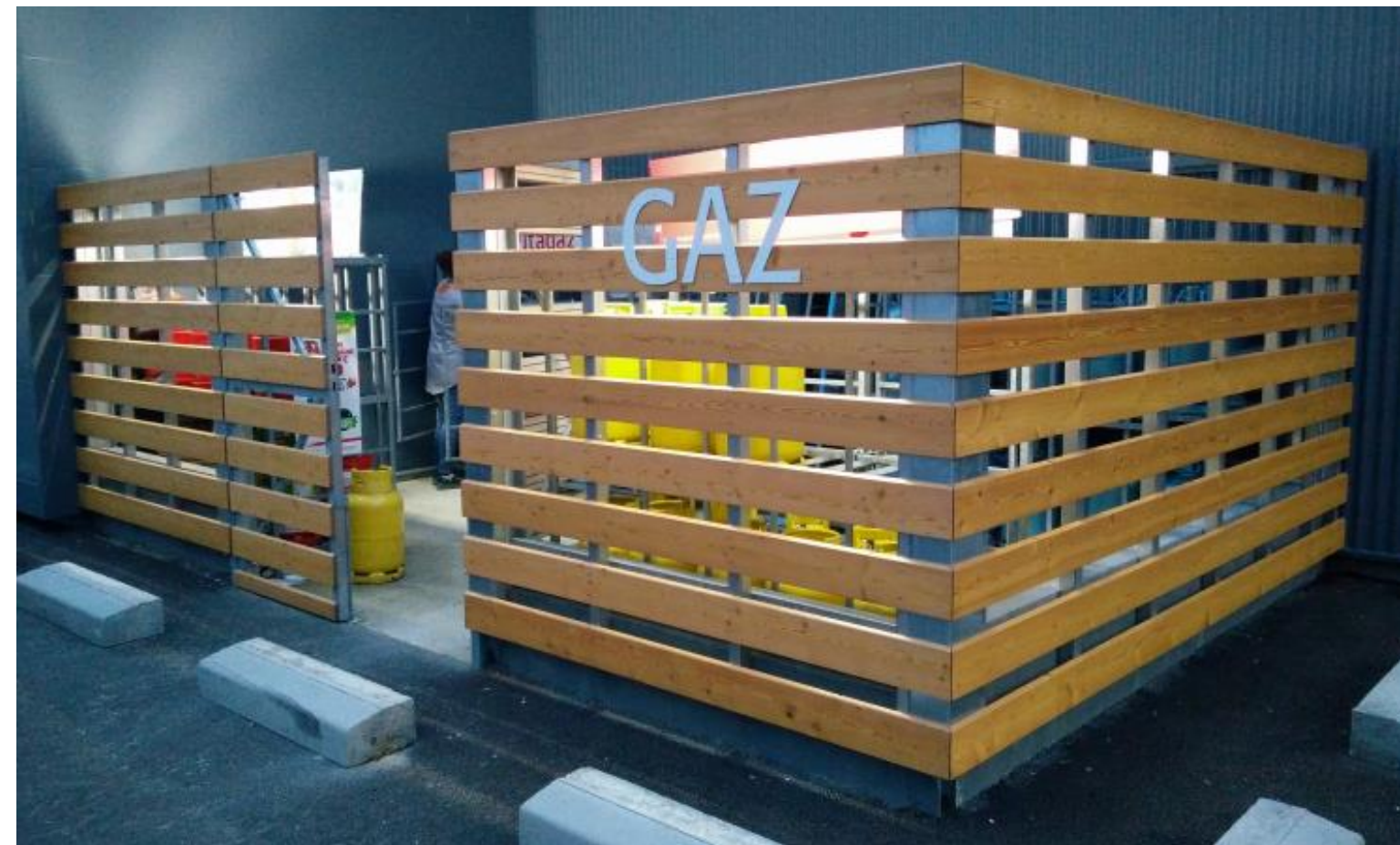
Administration de l'environnement



France: comparison CO2 versus propane/propene



Comité de Sécurité (fire department, mayer, control office)



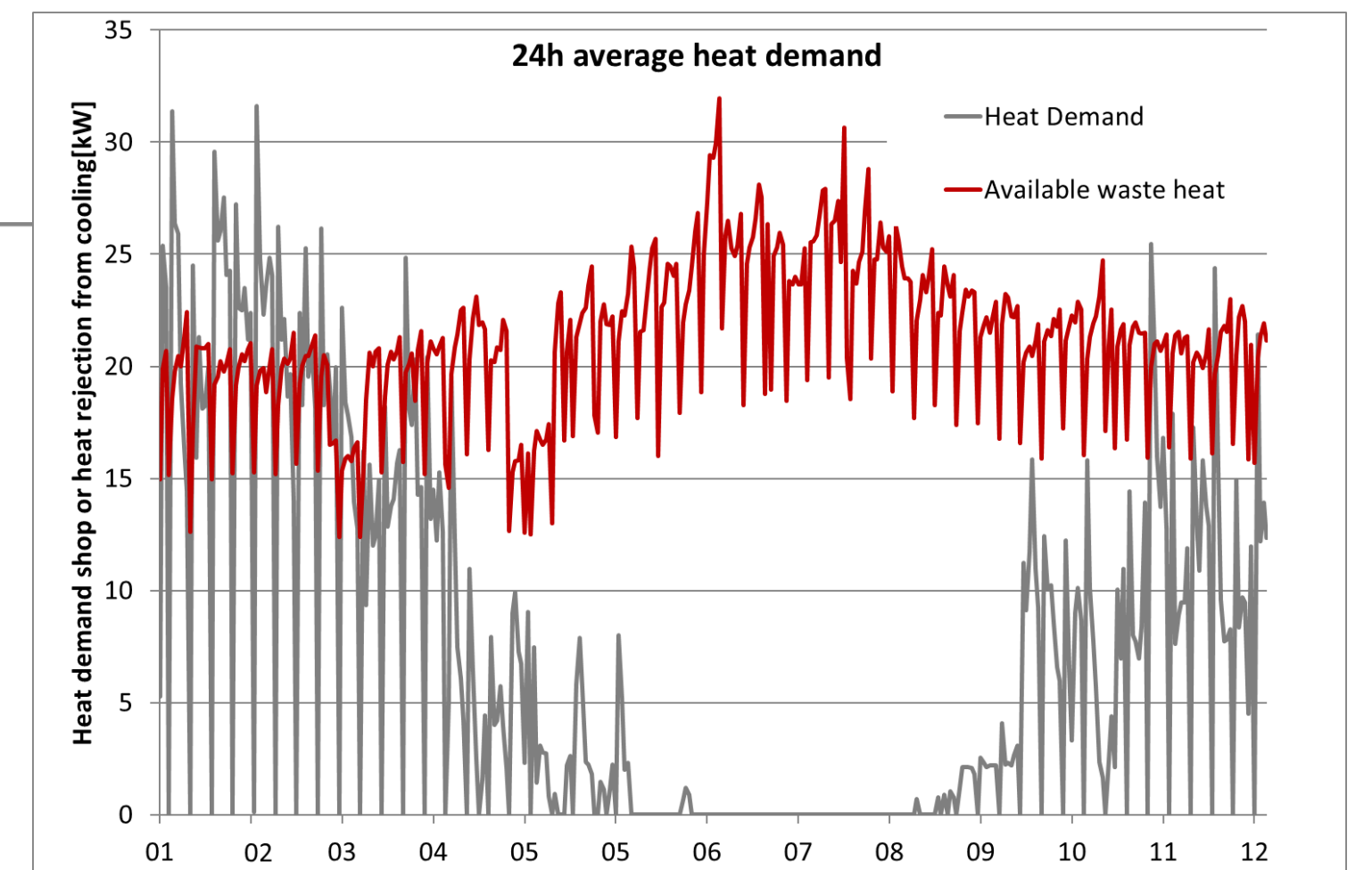
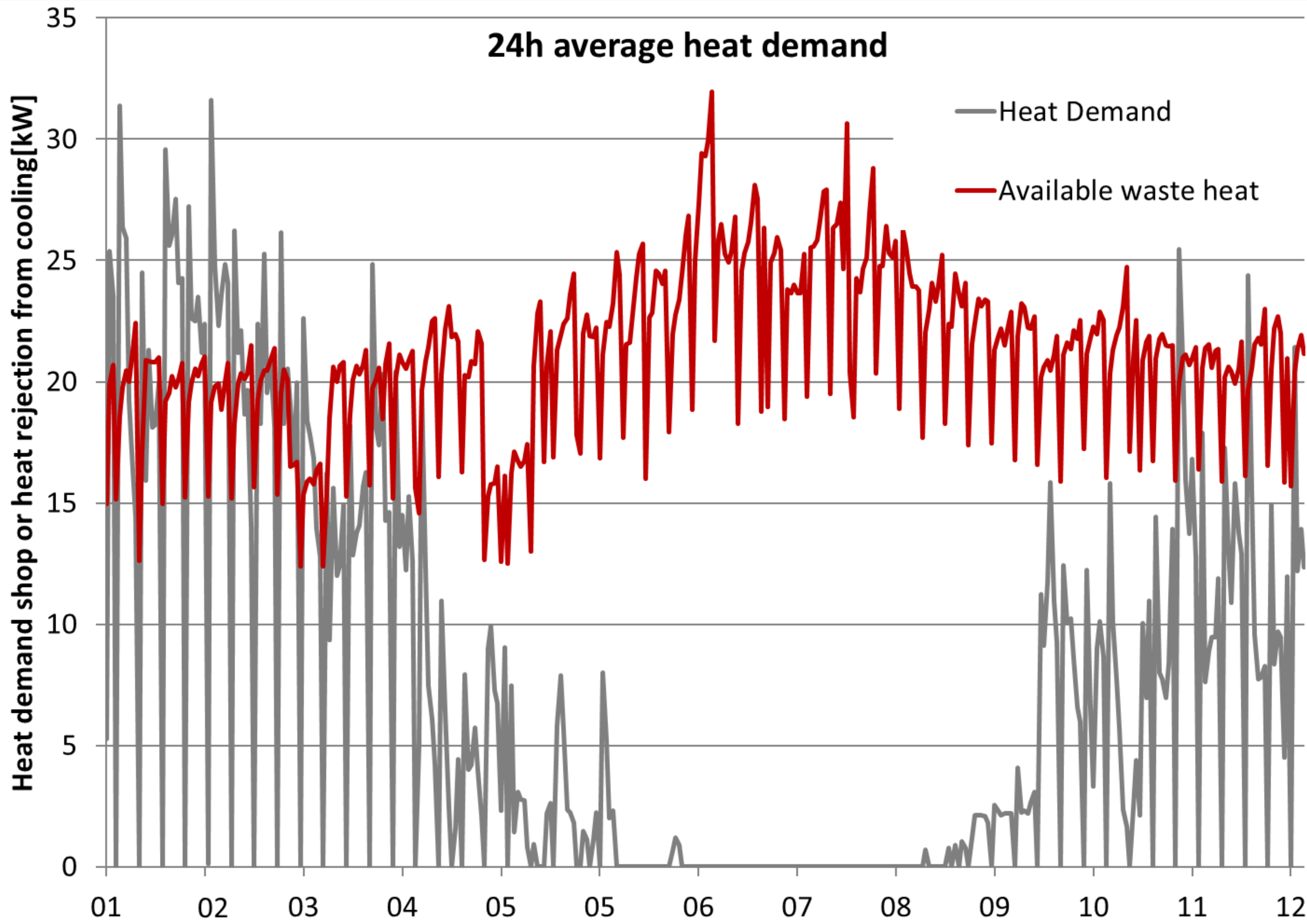
Risk perception



DC Rochefort CO₂-cooling



First 2 Fossil fuel free OKay stores in 2017



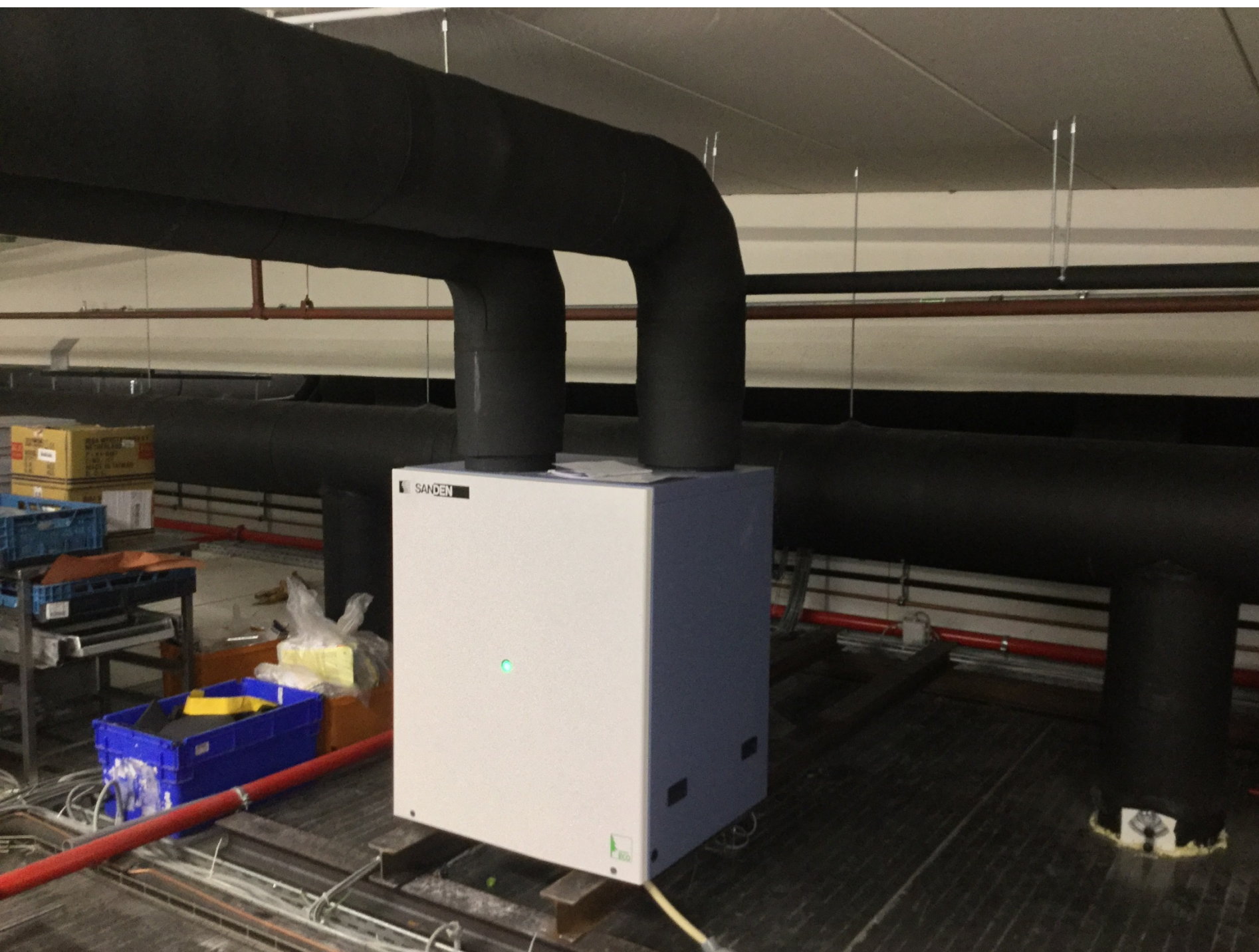
CO₂ heat pump

- Production of hot tapwater for bucher

colruyt laagste prijzen



- Bussiness case based on investments, not on energy costs



Our goal:
No fossile fuel
fired boiler





ATMO
sphere

Thank you very much!

