



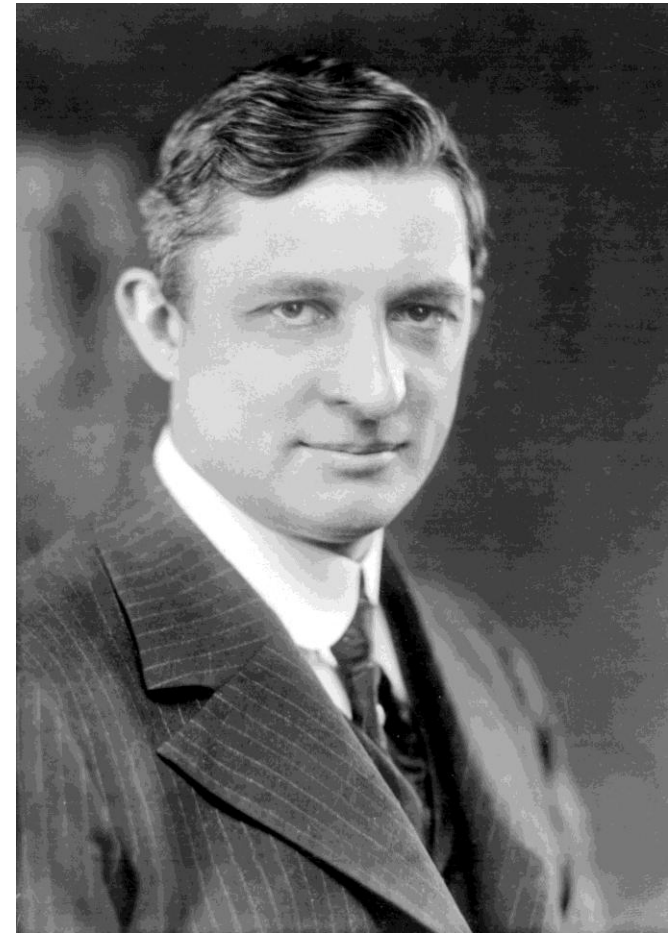
YOU CARRY
WE CARE

 **ATMO** solutions for europe
sphere natural refrigerants
16-17 March 2015 in Brussels

ATMOsphere 2015 Brussels

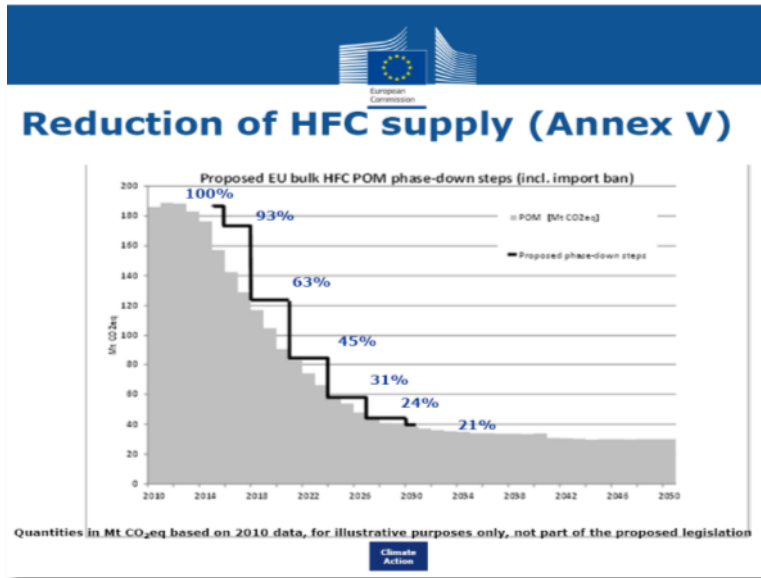
Technology Case Study

- In 1902 our founder, Willis Carrier, designed the first modern air-conditioning system... launching an industry that has fundamentally improved the way we live



The Context - Regulation

F-Gas Cap & Phase-down



Source: EU F-Gas Regulation EU/517/2014 Annex V (HFC Phase-Down Scheme)

Carrier Natural Leadership

Long Term

- Replace current HFC refrigerant with natural refrigerant when appropriate

Middle Term

- Investigate different non-flammable & non-toxic refrigerant alternatives with lower GWP as needed

Short Term

- Offer both R404 and lower GWP drop-in alternative

The Sainsbury's logo, featuring the brand name in a bold, orange, sans-serif font with a thin orange swoosh underneath.

Welcome

20x
20

Welcome to our 11th corporate responsibility and sustainability update.

Sainsbury's has committed to reduce its operational carbon emissions by 30% absolute by 20x20 and to voluntarily phase out harmful HFC refrigerants

As part of this reduction program Carrier Transicold was asked to identify areas where CO₂ emissions could be saved

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The environmental impact of refrigerants

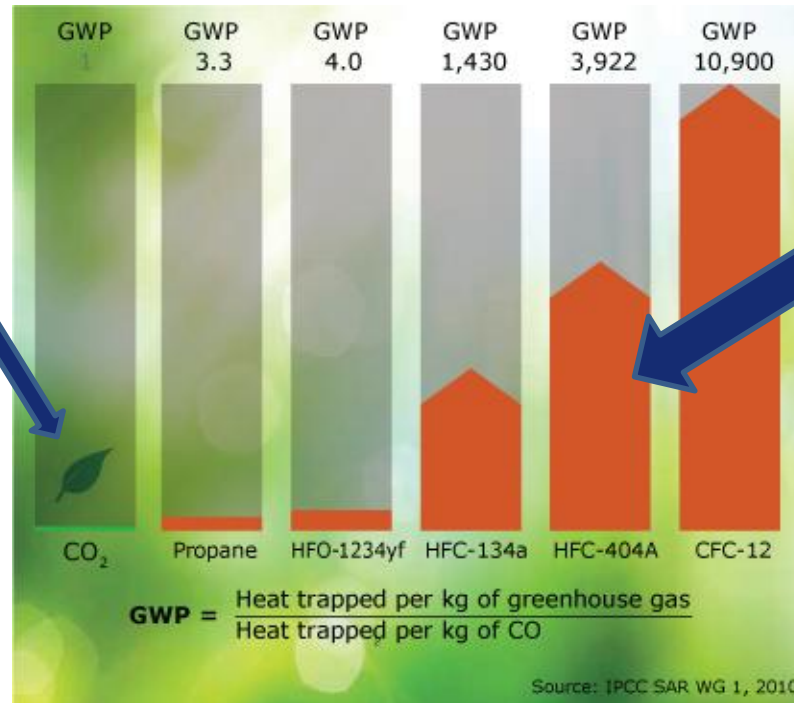


Global Warming Potential (GWP) of 1

Zero Ozone Depletion Potential (ODP)

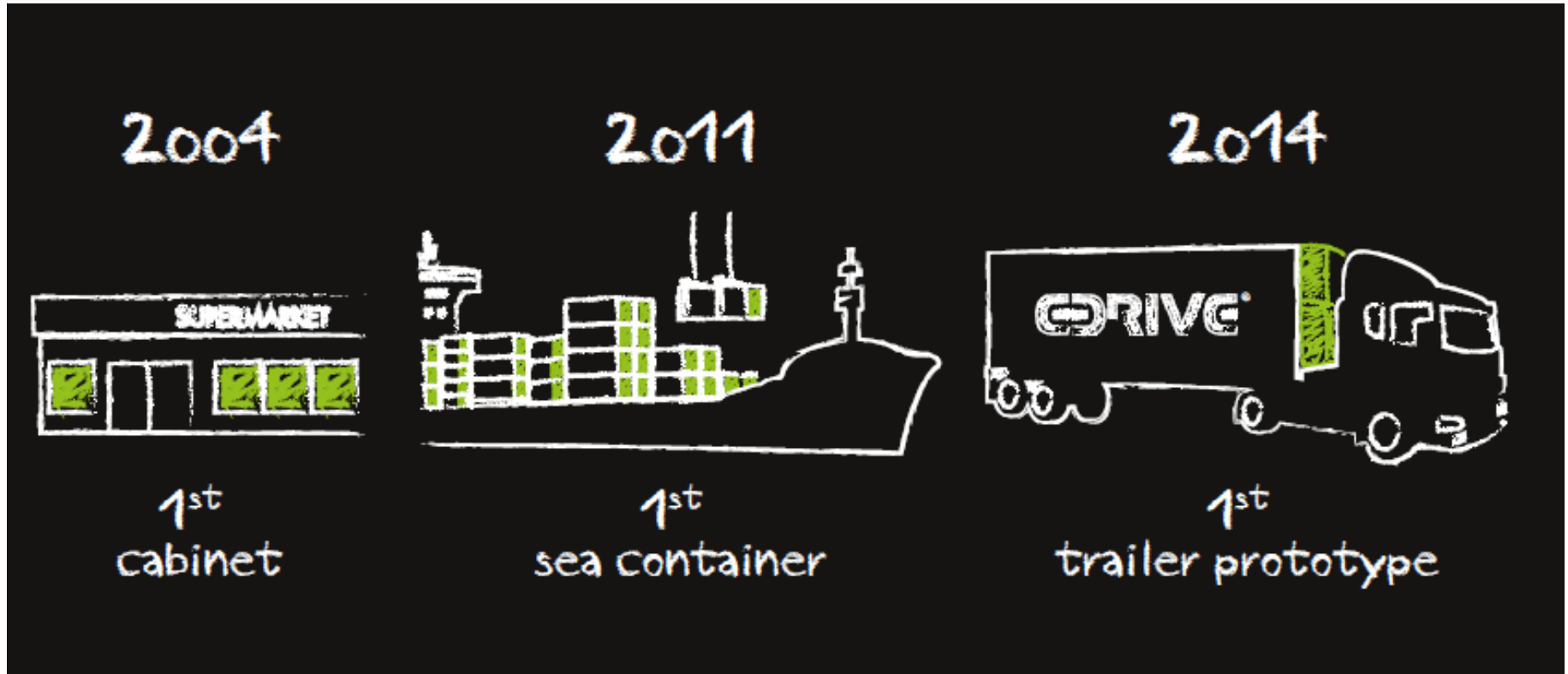
Non-flammable

Protected against phase-outs, taxes, and European F-gas Regulation.



GWP is the measurement used to show the equivalent kg's of CO₂

Natural Refrigerant from Farm to Retail



NaturaLINE on the road in the UK

Pioneering trial agreed with Sainsbury's – one of our largest European customers

The world's first naturally refrigerated trailer to transport frozen goods

Commenced August 2013

Operating from Sainsbury's Elstree depot

Delivers frozen goods to stores across Greater London

Using a bespoke-built 10.8m urban distribution trailer

No unscheduled service interventions in more than 3,500 hours of operation



“The trailer does exactly what it says on the tin. We have had no operational or temperature issues with the unit and we are extremely happy with its performance.”

**Gary King, Operations Support Manager
Sainsbury's**

“...it could help us save more than 70,000 tonnes of CO₂ compared to the current refrigerated trailer fleet.”

**Nick Davies, Head of Transport Operations
Sainsbury's**

Voice of expert



Sainsbury's

This trailer uses natural refrigerant.
How cool is that?

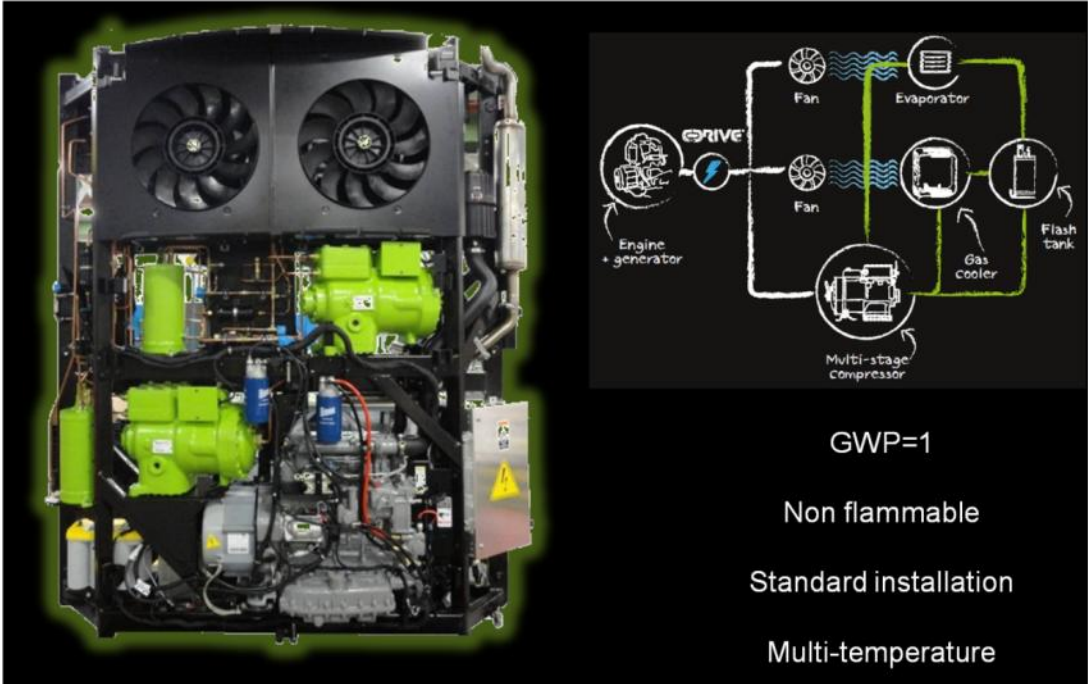
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Sainsbury's
live well for less

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The next steps...



The image shows a photograph of a truck engine compartment on the left, featuring two large black fans at the top and several green components. On the right is a schematic diagram of a refrigeration cycle. The cycle includes an 'Engine generator' (with a lightning bolt symbol), two 'Fan' units, an 'Evaporator', a 'Flash tank', a 'Gas cooler', and a 'Multi-stage Compressor'. The 'ENGINE' logo is also present. Below the diagram, the following text is listed:

- GWP=1
- Non flammable
- Standard installation
- Multi-temperature



COOL
by



www.coolbycarrier.com