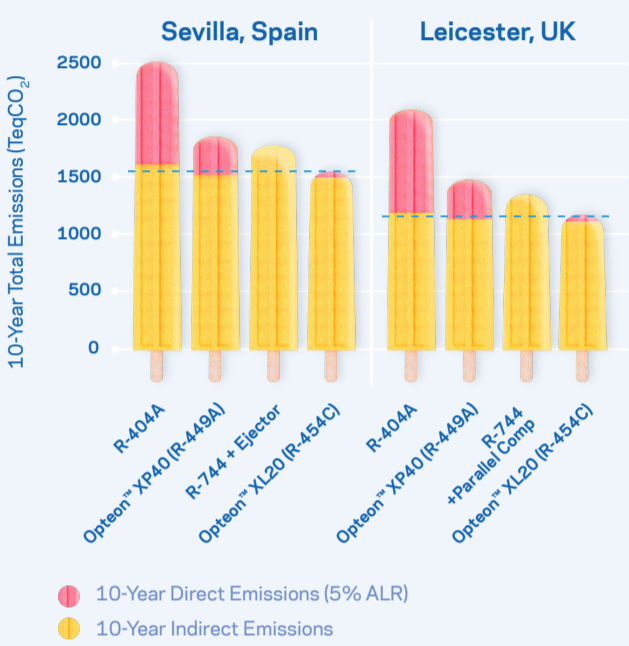


CO₂: The Inconvenient Truth

Doubts have recently been raised about the actual 'green' credentials of CO₂ (R-744) due to its inherent lower energy efficiency. There are now better and long-term sustainable technologies for retail refrigeration systems, like the very low GWP Opteon™XL solutions.



The EU F-Gas regulations primary focus is low GWP not cost, so compared to the high GWP R-404A, CO₂ (R-744) appeared to be a good choice... *But is it really?*



Opteon™XL greatly reduces both direct and indirect emissions.

The low GWP of CO₂ (R-744) has masked its inherent low energy efficiency, even using enhanced system designs such as parallel compression and ejector technology.

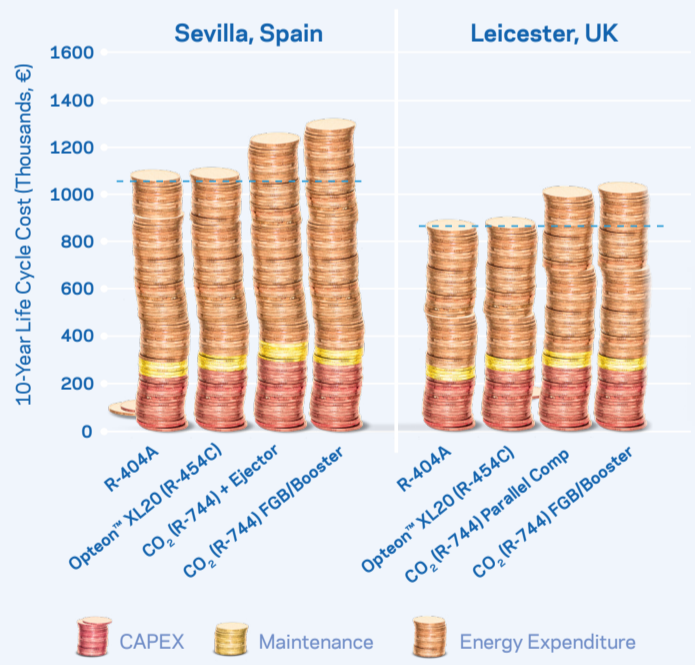
Although CO₂ achieves the primary objective of lowering the total emissions below R-404A levels, apart from matching cooling performance, CO₂ does not really meet retailers' requirements such as ease of use, energy efficiency and reliability.

The very low GWP combined with the improved energy efficiency delivered by Opteon™ XL refrigerants result in total emissions 12-13% lower than the optimum R-744 technology.

Opteon™XL greatly reduces the Life Cycle Cost of your refrigeration system.

Even when using the optimum CO₂ (R-744) technology, the significantly lower energy efficiency and increased system complexity will inevitably result in initial CAPEX and ongoing maintenance costs of CO₂ to be significantly higher than those of a R-404A or very low GWP alternatives like Opteon™ XL, not to mention the potential hidden costs from lack of system reliability.

Whilst delivering the lowest total emissions, Opteon™ XL refrigerants also have the lowest CAPEX (up to 11% lower), lowest maintenance costs (saving up to 15%) and as much as 15% lower energy consumption compared to the optimum CO₂ technology.



From Sevilla to Leicester, Opteon™XL refrigerants consistently show the lowest total emissions and the lowest Life Cycle Cost for stores with 300m² to 2000m² retail area.



Clearly there is room for improvement over CO₂ technologies, and Opteon™XL provides the solution.



- Matches cooling performance
- Exceeds energy performance
- Improves total cost of ownership
- Matches uptime (minimize risk to trade)
- Ease of installation and maintenance

Opteon™XL refrigerants, why would you choose anything else?

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