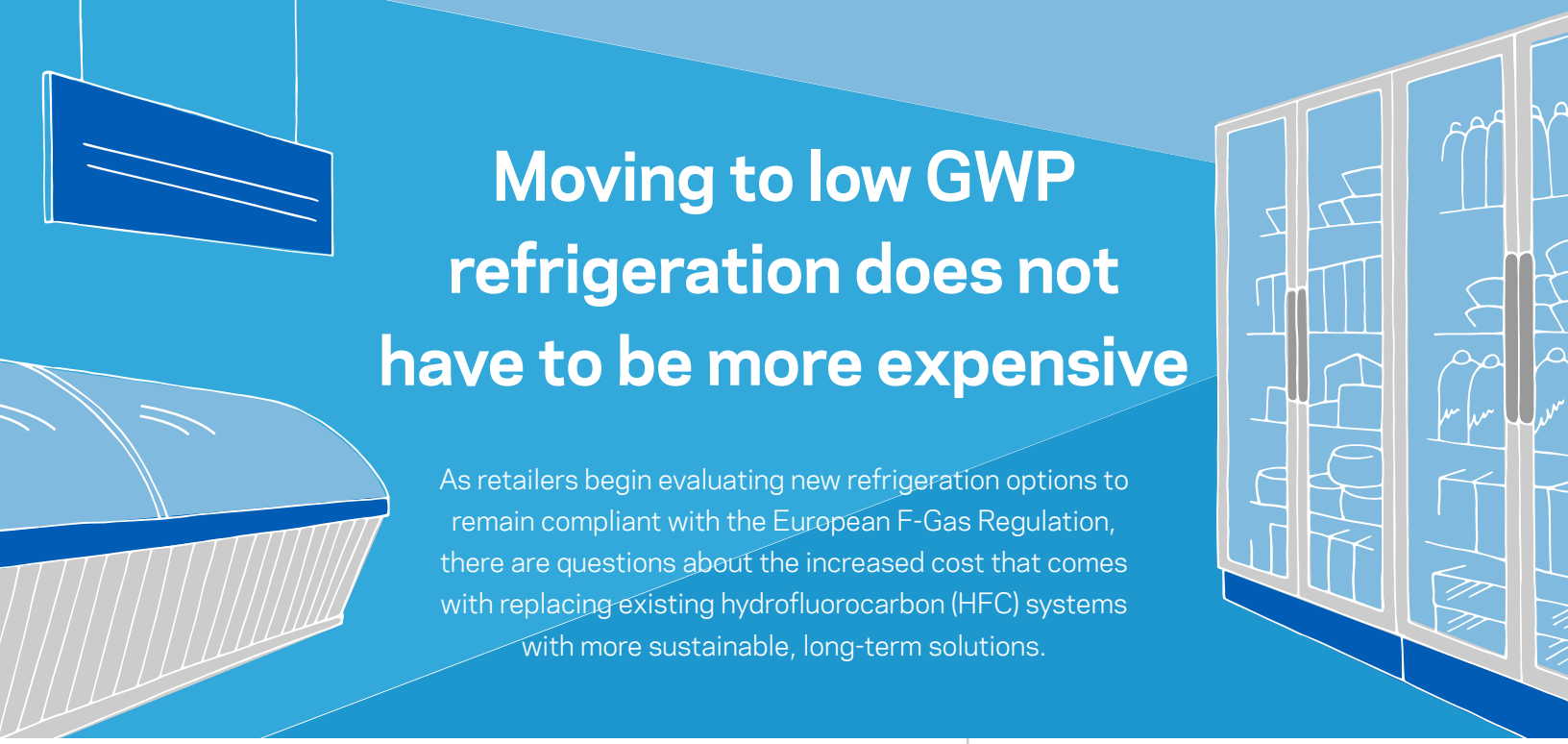
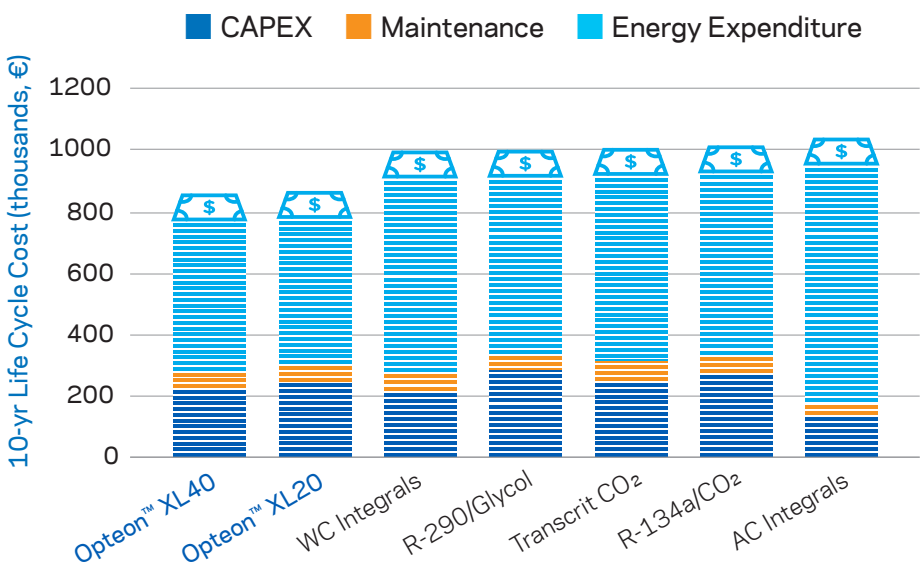


Moving to low GWP refrigeration does not have to be more expensive

As retailers begin evaluating new refrigeration options to remain compliant with the European F-Gas Regulation, there are questions about the increased cost that comes with replacing existing hydrofluorocarbon (HFC) systems with more sustainable, long-term solutions.

When making the switch, it's important to think beyond initial expenses and consider the **total** life cycle cost (LCC) to determine the most cost-effective low global warming potential (GWP) alternative.



Data from standard-sized supermarket in Leicester, UK (~2000 m² sales area with design loads of 160 kW medium temperature/30 kW low temperature). Data for Sevilla, Spain also available in the white paper.

Total Cost

Both CAPEX and OPEX must be evaluated to fully understand long-term refrigeration cost.

Capital Expenditure (CAPEX)
initial cost of purchasing and installation

Operational Expenditure (OPEX)
ongoing maintenance and energy cost

With the lowest climate change emissions at the lowest LCC, Opteon™ XL hydrofluoroolefin (HFO) refrigerants from Chemours provide an ideal long-term solution for meeting regulatory requirements without sacrificing performance. While they are similar to current HFC/HFO systems, they clearly outperform alternative systems.

Opteon™ XL HFO refrigerants
are the right choice for most sized retailers, with an average LCC increase of only 5-6% over incumbent technology.

Store sizes: 300-2,000 m²

Alternatives like carbon dioxide (CO_2) and hydrocarbons (R-290)
can result in an average cost increase of over 20%!

Opteon™ XL refrigerants compared to current HFC refrigerants:
Equal cooling performance
Superior energy efficiency
Lower global warming potential
Similar ease of installation and maintenance
More sustainable and compliant with regulations

Opteon™ XL refrigerants compared to other low GWP alternatives:
Lower total emissions
Lower life cycle cost
Lower flammability than hydrocarbons
Lower operating pressure than CO_2
Superior energy efficiency

wave

See the proof. Read about the independent comparison study for small- and standard-sized supermarkets conducted by Wave Refrigeration in our new white paper, **The Path to Reducing Climate Change Emissions from Commercial Refrigeration Applications**.

Opteon™