

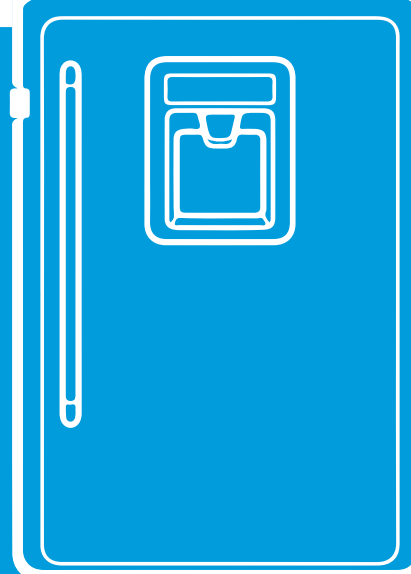


KIGALI
COOLING EFFICIENCY PROGRAM

For use in supermarkets

Energy Efficiency (EE) in Retail Refrigeration

August 2020



INTRODUCTION

Cooling systems contribute to the global warming through the use of an extensive amount of electricity, mainly generated by burning fossil fuels, which in turn results in a higher demand for cooling. Together with the International Institute of Refrigeration (IIR), the United Nations Industrial Development Organization (UNIDO) has compiled a report “for an energy efficient and HFC-free refrigeration system in the retail sector” which you will find on our [website \(https://bit.ly/2Z4ztH4\)](https://bit.ly/2Z4ztH4). Our decision-making tree can help you through a possible transition to a more sustainable refrigeration future – a future, which might bring down your energy costs as well.



HOW TO GO THROUGH THE DECISION TREE?



First, are you aware of how to save energy costs when using your refrigeration system?



Second, think about the implementation of quick-wins actions:

Have you chosen the right cabinet? Improved insulation, ventilation and further improvements mentioned in the longer report on our website?



The third question you should ask yourself is about the barriers to long term business and investment plans:

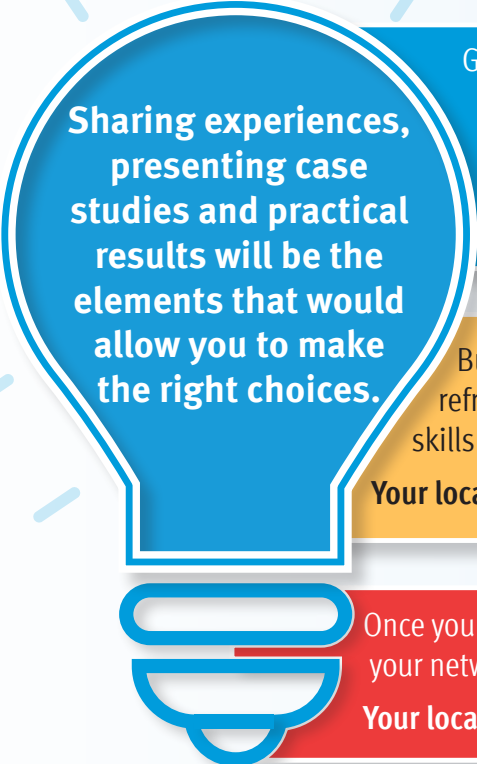
Is investment the major constraint? Would you choose minimum cost at the expense of sustainability?

Are you aware of how to minimise your environmental footprint and energy consumption?

Are you aware of new/alternative refrigerants available on the market?

Is your technical environment satisfactory? i.e. do you have local competencies to help you design, commission, and maintain your future installation?

Are you ready to make the decision?



Sharing experiences, presenting case studies and practical results will be the elements that would allow you to make the right choices.

Gather like-minded key stakeholders including supermarket managers, local installers/maintenance providers, local experts/consultants and technology manufacturers around you.

Your local NOU (National Ozone Unit) correspondent can help you with building such a team!

Build a medium-long term master and business plan for your future refrigeration devices. Base your decisions on shared experience or use the skills of the local or foreign refrigeration technicians and local experts

Your local NOU correspondent can help you find the adequate competencies!

Once you have upgraded your refrigeration system, share your experience in your network to help others make the right choice.

Your local NOU correspondent can help you in disseminating your experience!

From a practical point of view, possible technical choices are rather limited:



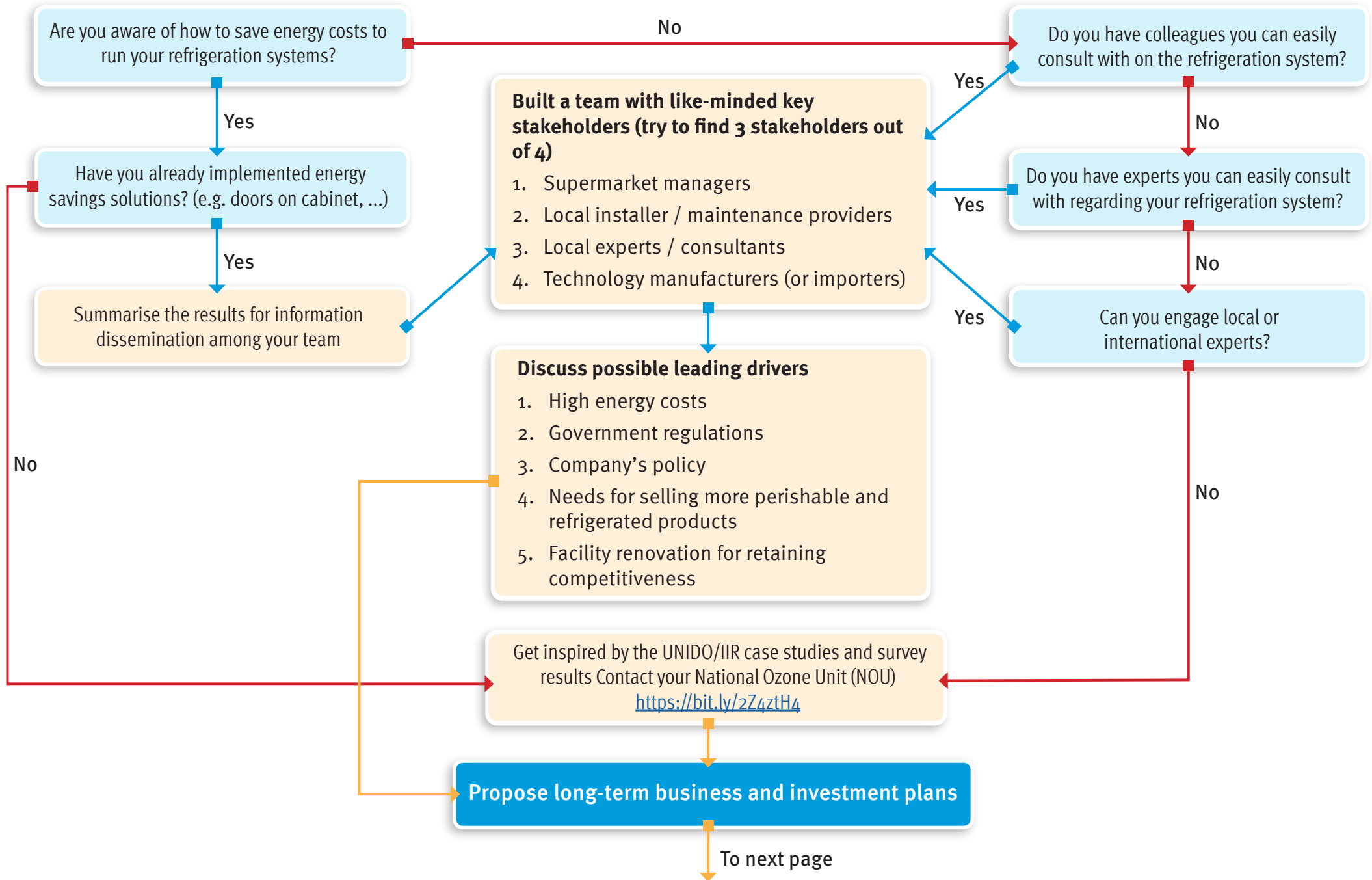
Make sure to implement the quick-wins actions. Major changes should be integrated into the technical specifications of your new installation.



Retrofitting your installation (i.e. replacing the refrigerant with new refrigerant blends) is the cheapest solution but not recommended. This choice is only justified for recent installations and supermarkets with high financial constraints.

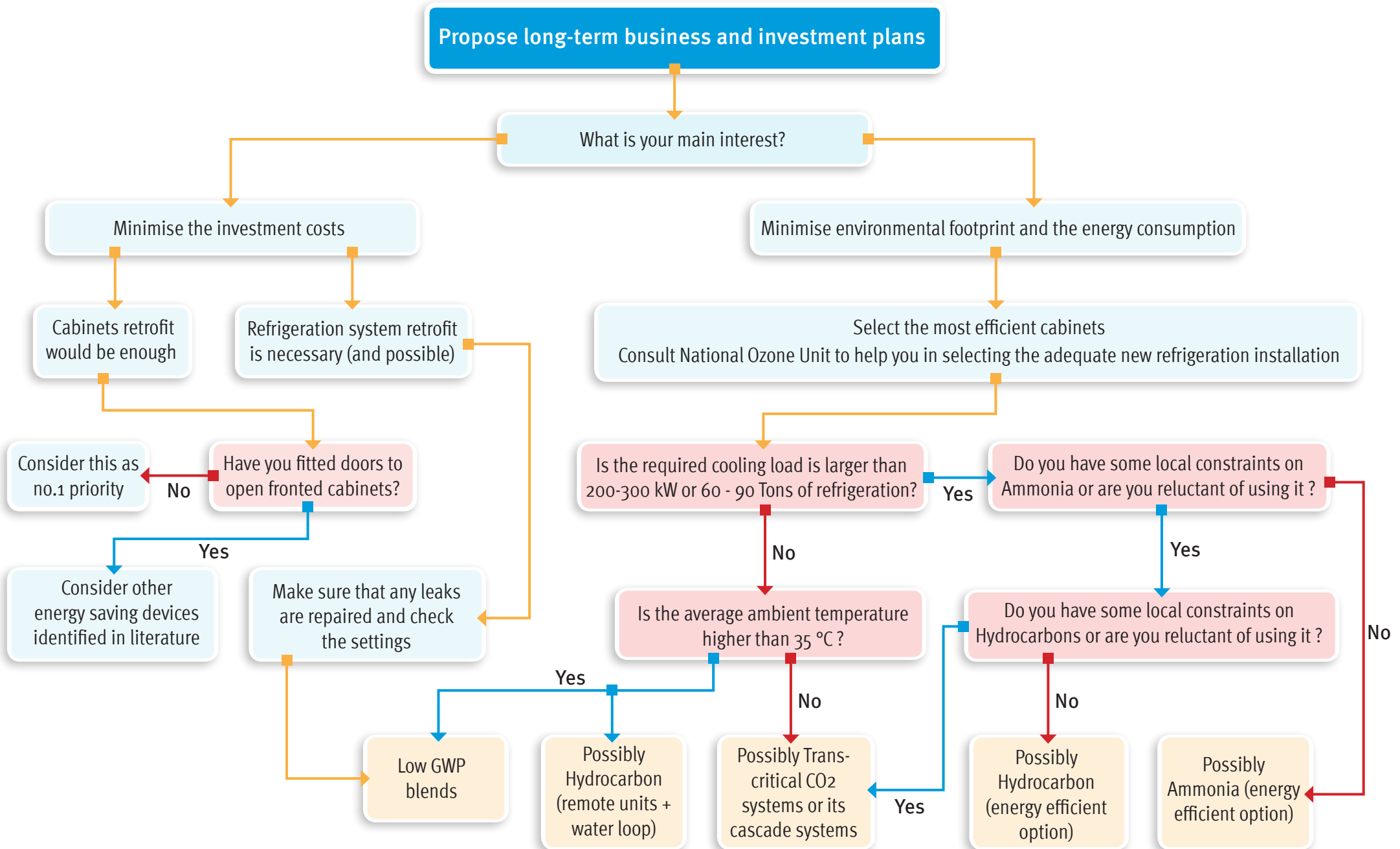
Decision Tree

1- Get to know your environment to get closer to competent people



2- Make the adequate technical choice, depending on your technical environment

(availability of local competencies, maintenance, components, ...)



For further assistance and inquiries,

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The full report can be found on the UNIDO website

<https://www.unido.org/our-focus-safeguarding-environment-implementation-multilateral-environmental-agreements-montreal-protocol/energy-efficient-and-green-cold-chain>