

Vienna International Centre (VIC)

Setting a first step



Employees at the Vienna International Centre (VIC) have access to a small supermarket owned by the IAEA (International Atomic Energy Agency), offering special products from around the world.

In 2017, it became clear, that the VIC would need to make some changes to the refrigeration unit installed in this facility. EU and therefore Austrian regulations required a replacement of their outdated system by 2030. The system was leaking, which made refilling with HCFCs impossible.

Interested in installing something long-lasting, the facility's management delegated most of the decision-making to technicians at the Buildings Management Services Division (BMS). An external consultant was hired to take over coordination, supervision and planning of the project with the aim of reconciling engineering with environmental standards. BMS and the consultant chose a system based on natural refrigerants, in this case transcritical CO₂. Once the choice of system was made, they published a call to attract a suitable technology supplier, eventually choosing a manufacturer in Denmark.

Four stakeholders – Five barriers – Five ways to overcome them

In conversation with the following **four stakeholders**, we are presenting the main barriers throughout the process and ways to overcome them:

-  Shopping Facility Manager, VIC
-  Technicians, Buildings Management Services Division (BMS) UNIDO
-  Technology supplier, Advansor (Denmark)
-  Consultant, Klimadirekt



BARRIERS AND HOW TO OVERCOME THEM

01

A lack of internal or external policies can impair implementation.

Since the facility had to comply with European standards, the old system did not pass the threshold anymore. The advice was to switch to a CO₂-based system. According to the facility management, these motivations along with additional factors such as advantageous maintenance costs drove the change.

Low awareness of technical options and a lack of suitable suppliers can be hindering.

The people in charge were involved in financial and logistical processes but delegated the technical evaluation to technicians and experts through UNIDO procurement. The consultant said that considering the age of the HCFC-based cooling system, a renewal was inevitable. Contrary to the technicians' belief, it was possible to use natural refrigerants in a quantity as small as required by the facility. With a technology supplier from another country, a frictionless provision could have been a problem. However one of their local companies was able to take over the installation.

02

03

The perception of risk and safety needs to be plausible and balanced.

According to the technicians, all stakeholders seemed to be very reluctant to use the natural refrigerant ammonia due to its flammability. The final decision to use CO₂ was made by the technicians. Some safety risks were tackled in advance: Employees put up stickers, indicating what to do in case of an alarm, f.e. a CO₂ leakage.

Financial risk can be a barrier in the implementation of an apt technology.

Technical aspects and future orientation, not financial concerns, primarily influenced the decision on the system. The supermarket made no financial losses because they chose the month of except for renting costs of a number of deep-freeze containers, which granted space during the settling process. A further financial loss was overcome by choosing the months of January and February as the time of installation – the months with least customer frequency and lowest risk for customer operations.

04

05

The lack of local technology suppliers can hinder implementation of energy-efficient technology and – in the worst case – can lead to market failure.

With the consultant's help, this danger was overcome, and change was supervised on a professional level. Additional work such as writing the terms of reference or collecting invoices was taken off the technicians' hands. This made the consultant a general facilitator to launch and successfully implement the change.



All stakeholders confirmed that the technological aspect of the project constituted the biggest barrier: BMS was not able to replace the systems at once as this would have impaired operations. Consequently, installation proceeded room by room with old and new refrigeration systems running simultaneously at certain times. Since they had set up temporary containers in a separate space, the incremental installation posed no problem. Like this, the pre-financed project was implemented within a year.

Today, the facility benefits from the lower cost in maintenance and first signs of an improved energy efficiency, electricity consumption, and ultimately a cheaper electricity bill.



What does this case mean for Article 5 countries?

Governments should use more funding and regulations to introduce new equipment. The role of the consultant as a general facilitator is seen as crucial by all stakeholders, especially when it comes to launching and successfully implementing the change. In Article 5 countries, however, the availability and possibility of hiring a consultant can be restricted.