Climate-friendly supermarket refrigeration installed in Jordan

The project aims to demonstrate the feasibility of carbon dioxide refrigeration systems in high temperature environments

Amman, March 2, 2018: Al Salam military supermarket in Amman, Jordan, became the region’s first to trial an advanced refrigeration system that uses carbon dioxide (CO$_2$) as a refrigerant. The trial is part of a project to test alternatives to high global warming potential hydrofluorocarbons (HFCs), which can be 100’s to 1000’s of times more powerful than carbon dioxide at warming our atmosphere. The new systems are also much more energy efficient than the refrigerators they replace.

The project seeks to showcase the feasibility of non-hydrofluorocarbon-based technology in high ambient temperature environments, as part of the global commitment to phase out hydrochlorofluorocarbons (HCFCs) through the Montreal protocol. It is being implemented by the United Nations Industrial Development Organization (UNIDO) with the support of the Ministry of Environment of Jordan and is funded by the Climate and Clean Air Coalition (CCAC).

Ahmad Al Qatarneh, Secretary-General of the Ministry of Environment, represented the Minister of Environment, Nayef Al Fayez at the official ceremony to unveil the new refrigeration system earlier this week. Mr Qatarneh stressed the importance of the government’s partnership with the private sector, saying true sustainable development can only happen with the integration of the private sector in the process. Mr Qatarneh said the project reflects Jordan’s deep commitment to advance environment-friendly solutions in all areas.

Sulafa Mdanat, UNIDO Country Representative in Jordan said the state-of-the-art technology is spreading very fast across the world.

“The project has installed the first transcritical CO$_2$ refrigeration system in a supermarket in the entire region and is truly state-of-the-art technology. It is considered one of the most energy-efficient and climate-friendly refrigeration technologies for the retail sector,” Ms Mdanat said. “UNIDO is happy and proud to assist Jordan reach this milestone today and to showcase Jordan as a pioneer in the region.”

Previously, the Al Salam supermarket used a system with a refrigerant that both depleted the ozone layer and contributed to global warming. It has been replaced by an innovative, environmentally friendly refrigeration system manufactured by an Italian system manufacturer, Enex S.r.l., with display cabinets designed, manufactured and installed by Jordanian company, Abdin Industrial.

Wider use of CO$_2$ refrigeration systems has the potential to substantially contribute to environmental protection because CO$_2$ does not deplete the ozone layer, has a much lower global warming potential than HFCs and HCFCs, and the newer systems are highly energy efficient.
“We are happy and proud to have the trust of and support of the Government of Jordan and the CCAC to together realize such an innovative technology demonstration project. One that is expected to set an example of good-practice for the entire region,” said Stephan Sicars, Director of the Department of Environment, UNIDO.

Nayef Al Fayez, Jordan’s Minister of Environment, said: “We welcome this great opportunity for Jordan to showcase our pioneering spirit and deep commitment to advancing environmentally friendly solutions in all areas. We are impressed by the high level of technical know-how demonstrated by UNIDO in the implementation of the project and we look forward to sharing results and to seeing replication in the country and the region.”

Dina Kisbi, Director of the Climate Change Directorate at Jordan’s Ministry of Environment, said: “We are proud to confirm that Jordan is a global pioneer in refrigeration technologies and we commend the efforts of local companies in moving ahead towards more efficient refrigeration technologies.”

The Climate and Clean Air Coalition’s HFC Initiative brings together governments, private sector, and intergovernmental organizations to share knowledge and strategies for developing, deploying, and promoting climate-friendly technologies in an effort to transition away from high-GWP HFCs and minimize HFC leakages.

The work in Jordan is part of three ongoing demonstration projects in Chile, Jordan and India to showcase the possibilities of HFC alternative technologies in commercial refrigeration and mobile air conditioning and will provide information on the performance and energy use associated with these alternatives.

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