Cold Chain Helps Feed The Planet

From farm to table

Food production must increase by around 70 per cent by 2050, in order to feed the global population. The population is expected to grow by 2.3 billion, around 85% of which will be living in developing countries.* Agricultural activity will be under enormous pressure. To avoid irreversible environmental damage, minimizing post-harvest losses is critical.

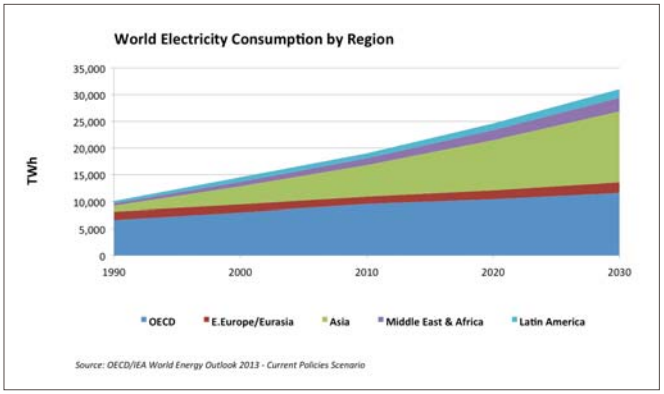
* Estimated by Food Agriculture Organization (FAO)

- 400 million tons of food globally preserved using refrigeration, out of 2,000 million tons that require refrigerated processes (2010)
- 23% of perishable foods lost in the developing world, due to inadequate or no refrigeration
- 2 liters/capita cold storage capacity in Tanzania and Ethiopia, compared with 53 in Morocco and 344 in the USA
- Less than 4% of India's fresh products transported under low-temperature conditions, compared with over 90% in the UK

A cold chain is a temperature-controlled supply chain that operates from farm to table. Setting up extensive and reliable cold chains plays a major role in reducing post-harvest losses worldwide, especially in Africa and Asia Pacific.

Hunger for electricity

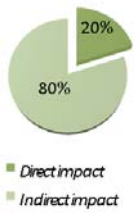
Energy needs worldwide are steadily increasing.



The refrigeration sector, which includes air conditioning, is currently responsible for around 17% of global electricity consumption. For some developing countries this percentage even exceeds 40 per cent of total national electricity demand.

Local cooling, global warming

Refrigeration has a direct impact on global warming through the emission of refrigerants (20%) and an indirect impact through energy consumption (80%).



Reducing the impact is therefore possible by:

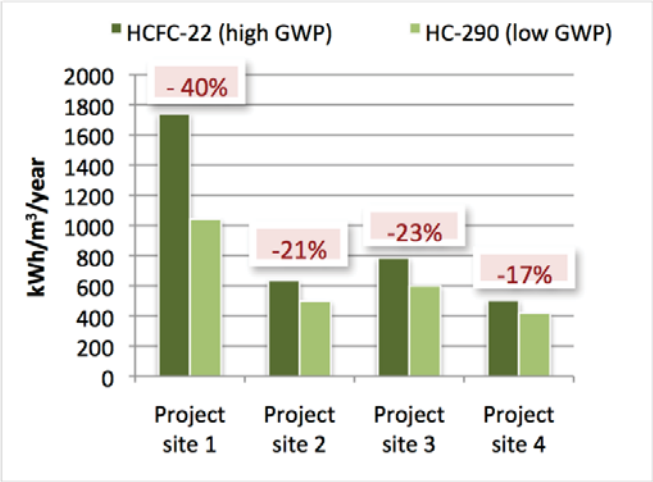
- ✓ Improving energy efficiency of refrigeration systems
- ✓ Adopting refrigerants with zero or low climate impact, such as natural refrigerants.

UNIDO tackles technology transfer

UNIDO promotes the switch to systems which are ozone and climate friendly and energy efficient. This aligns with UNIDO's goal for Inclusive and Sustainable Industrial Development (ISID), which it implements in several ways:

✓ technology transfer
✓ policy and regulatory support
✓ capacity building and training.

The adoption of energy efficient refrigeration technologies can lead to significant energy savings. UNIDO promotes best refrigeration practices and state of the art technologies, thus enabling wider access to effective and efficient refrigeration techniques in countries where limited access to electricity can be a barrier.



CASE STUDY

Reducing greenhouse gas and ozone depleting emissions through technology transfer in industrial refrigeration

Country: Viet Nam

Target group: Cold stores in industrial refrigeration

Objective: To reduce ozone depleting and greenhouse gas emissions. Many cold storage facilities in Viet Nam currently use HCFC-22, a chemical which has a high climate impact. In cooperation with GEF, UNIDO helps create an environment to enable the use of hydrocarbon refrigerants as a replacement for HCFC-22. To promote market development for hydrocarbon refrigerants, the project includes a synergistic combination of policy and regulatory support, technology transfer, capacity building and awareness raising.

Funding Organizations:
GEF (USD 290,000), UNIDO (USD 140,000)

Implementing Partners: UNIDO, Ministry of Natural Resources and Environment, Viet Nam

Project Duration: February 2014 – September 2016

To learn more:
https://open.unido.org/index.html with project ID 120621
YouTube: UNIDO Viet Nam cold chain

To see more, come and join us at
www.facebook.com/EnvironmentDepartmentUNIDO/
Website: http://www.unido.org/unido-united-nations-industrial-development-organization.html
Youtube: https://www.youtube.com/user/UNIDObeta
Facebook: https://www.facebook.com/UNIDO.HQ/