

## "Virtual Technology Revolution through Partnership Approach"

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'Partnerships for Sustainable Development' is powerful and most effective tool aimed at implementing sustainable development agenda. Rio Declaration on Environment and Development of Agenda 21 in 1992 identified the potential of Partnerships that could pool financial, technological and creative resources together to achieve the goals of sustainability of our life on the planet Earth..

Global political leaders participating in the World Summit on Sustainable Development (WSSD) in May 2003, reaffirmed that these partnerships are -a complement to, not a substitute for- intergovernmental commitments to implement the global environmental agenda.

The Declaration on Sustainable Development and the Johannesburg Plan of Implementation adopted at the World Summit on Sustainable Development, Committed to achieving internationally agreed development goals, including those contained in the United Nations Millennium Declaration, through , *interalia*, partnership approach.

In year 2000, much before the WSSD at Johannesburg, two of the prominent multi-nationals- Coca Cola and McDonalds requested UNEP to provide advice on alternative technologies that are climate and Ozone Friendly. That was the tipping point for the virtual technology revolution in food and beverage industry all over the world for the sustainable cooling technology, in the midst of the global warming.

### How the environmental scene was set up

- **F-gases** are potent greenhouse gases with no natural sources that contain the compounds hydrogen, carbon and fluorine. The chemical industry developed these chlorine-free substitutes in the 1980s to replace ozone-depleting (and chlorine containing) gases (ODS) such as chlorofluorocarbons (CFCs) and hydrochloro-fluorocarbons (HCFCs), which are currently being phased out globally under the 1987 Montreal Protocol to protect the Earth's Ozone Layer. Hydrofluorocarbons (HFCs) are the most commonly used type of F-gases and is currently the standard replacement for CFC and HCFCs. HFC is a potent greenhouse gases with a very high global warming potential (GWP) and is regulated by the Kyoto Protocol.
- **Commercial refrigeration**, covering diverse units such as beverage coolers, vending machines, ice cream freezers, open deck coolers and freezers used in supermarkets etc., represents 25% of the total HFC market – and 40% of total HFC emissions expressed as CO<sub>2</sub>-equivalent.
- **Integrated Considerations** are at the core of the selection of the alternative technologies. It is not just emissions of the F-gases that are the causes of the climate problems, it is the energy consumption in the equipment in the cooling equipment that uses such F-gases that contribute to most of the GHGs. Hence the enhancing the energy efficiency of the equipment that uses the alternative refrigerants is the crucial consideration for the sustainability. Life Cycle Climate Performance ( LCCP) are the effective tools, though difficult to employ, for the selection of alternative solutions.

- **If current trends were to continue in the industry, HFC's overall contribution to global warming pollution** would increase from 1.5% today to somewhere between 2% - 3% and 8.6% by 2050. Although the immediate impact of action on HFCs may seem rather small, the long-term impact is great. In 2050 HFCs will do as much damage to the climate as all passenger cars do today when looking at the gases' impacts in the 20 years after their release. According to NASA researchers, a global temperature rise of around 0.15-0.25°C could be due to so-called 'F-gases' (of which the most important are HFCs) by second half of 21st Century - given the amount of climate change already inevitably in store for us, avoiding this could be highly significant. Despite these facts, HFCs still receive relatively little political and public attention. Immediate private-sector action to shift refrigeration technology towards the use of natural refrigerants is potentially very important.
- **Accelerated HCFC phase-out in developing countries as agreed by the Parties to the Montreal Protocol:** climate friendly replacement technology solution is crucial for global climate
- **Natural refrigerants** are naturally occurring substances that can be used as cooling agents in refrigerators and air conditioners. These substances include hydrocarbons (propane, iso-butane, and cyclopentane), CO<sub>2</sub>, ammonia, water and air. Natural refrigerants are ozone- and climate-friendly substances.
- **Refrigerants, Naturally!** is compassing some of the largest food and drink companies in the world and operating more than 12 million coolers and freezers, the initiative is **significantly contributing to decrease the environmental impact of point of sale refrigeration equipment.**

### **Why is UNEP supporting Refrigerants, Naturally! ?**

- This partnership follows the Principles of Plan of Action of WSSD.
- Aims at achieving the goals of the sustainable development
- Has potential of achieving many of the Millennium Development Goals
- Realises tangible ozone and climate protection benefits
- Implements several multilateral environmental agreements
- Follows voluntary, pro-active approach in advance of regulations
- Stimulates demand for new environmental technology
- Follows multi-stakeholder process (private sector, NGO, UN system)
- Encourages open dialogue between partners, and between partner and supporters
- Shares technical information and best practices
- Serves as a corporate role model for developing countries (crucial for HCFC phase out)

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