



Context

In many countries, consumer goods, such as domestic refrigerators and freezers, account for a significant share of the overall electricity consumption. In countries with carbon-intensive electricity grids, the energy consumption of refrigerators and freezers result in significant emissions of carbon dioxide (CO₂). Moreover, the most widely-used refrigerants are fluorinated gases (F-gases), which have a high global warming potential.

Tradable emission reduction certificates, which are available under the Clean Development Mechanism (CDM) of the Kyoto Protocol, may provide interesting financial incentives to promote technology change. However, progress in the implementation of climate-friendly end-user technologies in consumer durables has been restricted. Out of the approximately 110 existing CDM methodologies, none were applicable to consumer goods manufacturing. In order to benefit from the CDM mechanisms, new methodologies had to be developed and subsequently approved by the Kyoto Protocol.

Strategy

With the financial support of the Swiss State Secretariat for Economic Affairs, UNIDO worked very closely with two large Indian refrigeration manufacturers (Godrej & Boyce Mfg. Co. and Videocon Appliances Ltd.) towards developing new CDM methodologies, with the aim of reducing environmental pollution and improving competitiveness. The effort benefitted from the inclusion of an international team of experts, led by INFRAS Zurich, with the support of South Pole Carbon Asset Management (Zurich) and Winrock International India (New Delhi). The resulting new methodologies were submitted to the CDM Executive Board, and approved in 2008.

Expected results

Based on the annual production volumes of each company, future estimated emission reductions are as follows:

- 350,000 tons of CO₂, which corresponds to a seven year production of refrigerators; over the expected lifetime of the appliances, CO₂ equivalent emissions are expected to be reduced by 2 to 3 million tons (for Godrej & Boyce Mfg. Co.)
- 250,000 tons of CO₂, which correspond to a seven year production of refrigerators; over the expected lifetime of the appliances, CO₂ equivalent emissions are expected to be reduced by 0.5 to 1 million tons (for Videocon Appliances Ltd.)

Impact/Outlook

The new climate and ozone-friendly production methods are now in the public domain and can be used by all refrigerator manufacturers throughout the world should they wish to. The new methodologies contain a number of innovative elements that were used for the first time under the CDM; they open new perspectives for other areas. The next step is to develop, with the existing industrial partners in India, CDM implementation alternatives.

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At a glance:

Goal:	Promoting cleaner technologies
MDG:	7. Ensure Environmental Sustainability
Thematic area:	Environment and Energy
Donor:	Swiss State Secretariat for Economic Affairs (SECO)
Partners:	Godrej & Boyce Mfg. Co., Videocon Appliances Ltd. Ministry of Industry, India
Budget:	EUR 150,000
Status:	ongoing
Duration:	2001 - 2011