



### **UNEP DTIE OzonAction Programme under the Multilateral Fund**



### **Study on the Potential for Hydrocarbon Replacements in Existing Domestic and Small Commercial Refrigeration Appliances**

#### **INFORMATION RELEASE - New Publication**

**June 1999**

The UNEP DTIE OzonAction Programme under the Multilateral Fund has released a new technical publication, **Study on the Potential for Hydrocarbon Replacements in Existing Domestic and Small Commercial Refrigeration Appliances**, which helps government and industry decision-makers in developing countries understand the advantages and disadvantages of this "ozone-friendly" retrofitting option.

This is the first time that a worldwide investigation on retrofitting with hydrocarbons (HCs) has been conducted specifically for the benefit of developing countries, which normally do not discard such equipment but rather continue using it by repairs.

The possibility of using HCs to retrofit existing CFC-based domestic and small commercial refrigeration appliances (e.g. refrigerators, freezers, small display cases, soft drink and ice cream coolers) has been informally considered and applied for some years as a possible option to help developing countries (known as "Article 5 countries") meet their obligations under the Montreal Protocol. Until now, this issue has not been substantially investigated and documented in the context of the Multilateral Fund for the Implementation of the Montreal Protocol. With only anecdotal stories and isolated data available, Article 5 countries, developed countries and other interested parties within the Multilateral Fund community have had little on which to base potential future decisions about the viability of this technical option. This study helps close the information gap.

The study provides key information: conclusions a crucial international forum on this subject (the Workshop Report), existing technical information collected from diverse sources (the Desk Survey), newly collected data from the field (the three Country Studies) and a "big picture" report that ties each of these elements together (the Synthesis Report). It also identifies additional work that needs to be done before making decisions.

Although developed countries, bilateral agencies and refrigeration sector experts and others should find the data and conclusions useful and thought-provoking, the study will be of particular interest to low volume ODS-consuming countries (LVCs). Like mid- and large-sized Article 5 countries, LVCs have committed to reducing and eliminating CFCs and other ozone depleting substances (ODS) under the Montreal Protocol. However unlike their larger brethren, LVCs have more limited options available in the short term to reduce CFC consumption in order to meet their 1999 freeze and subsequent reduction commitments under the Protocol. Retrofitting with hydrocarbons is one approach that could help them meet these targets.

The need for this study emerged during late 1996 at meetings of the Regional Networks of ODS Officers, during which UNEP received repeated requests for information on such issues as the technical and economic feasibility of equipment conversion, safety and liability aspects, servicing requirements and training needs. The study was approved and funded as part of UNEP's Work Programme under the Multilateral Fund with additional financial support from Environment Canada, GTZ/Proklima, National Research Council Canada, the Netherland's Ministry of Development Cooperation and the Swiss Agency for Environment, Forests and Landscape (BUWAL).

This publication is part of the information exchange services provided by UNEP to developing countries to help them meet their obligations under the Montreal Protocol. The OzonAction Programme also provides other clearinghouse services (Training & Networking of ODS Officers) as well as assistance with the development of national ODS phase out strategies (Country Programmes) and Institutional Strengthening support. For more information, contact: UNEP DTIE OzonAction Programme, Tour Mirabeau, 39-43 quai Andre Citroen, Paris 75739 cedex 15, France or  
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Web: <http://www.uneptie.org/ozone/home.html>.

To make this document widely available, the OzonAction Programme is publishing the hard

copy and making it accessible through OzonAction Programme's web site at <http://www.uneptie.org/ozone/home.html>.

To Order: Study on the Potential for Hydrocarbon Replacements in Existing Domestic and Small Commercial Refrigeration Appliances 600 FF/US\$ 100

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### About the UNEP Division of Technology, Industry and Economics

The mission of the UNEP Division of Technology, Industry and Economics is to help decision-makers in government, local authorities and industry develop and adopt policies and practices that: are cleaner and safer; make efficient use of natural resources; ensure adequate management of chemicals; incorporate environmental costs; reduce pollution and risks for humans and the environment.

The UNEP Division of Technology, Industry and Economics (UNEP DTIE) located in Paris, is composed of one centre and four units: The International Environmental Technology Centre (Osaka), which promotes the adoption and use of environmentally sound technologies with a focus on the environmental management of cities and freshwater basins, in developing countries and countries in transition. Production and Consumption (Paris), which fosters the development of cleaner and safer production and consumption patterns that lead to increased efficiency in the use of natural resources and reductions in pollution. Chemicals (Geneva), which promotes sustainable development by catalyzing global actions and building national capacities for the sound management of chemicals and the improvement of chemical safety world-wide, with a priority on Persistent Organic Pollutants (POPs) and Prior Informed Consent (PIC, jointly with FAO). Energy and OzonAction (Paris), which supports the phase-out of ozone depleting substances in developing countries and countries with economies in transition and promotes good management practices and use of energy, with a focus on atmospheric impacts. The UNEP/RISØ Collaborating Centre on Energy and Environment supports the work of the Unit. Economics and Trade (Geneva), which promotes the use and application of assessment and incentive tools for environmental policy and helps improve the understanding of linkages between trade and environment and the role of financial institutions in promoting sustainable development.

UNEP DTIE activities focus on raising awareness, improving the transfer of information, building capacity, fostering technology cooperation, partnerships and transfer, improving understanding of environmental impacts of trade issues, promoting integration of environmental considerations into economic policies and catalyzing global chemical safety.

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