



UNITED NATIONS ENVIRONMENT PROGRAMME

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Программа Организации Объединенных Наций по окружающей среде    برنامج الأمم المتحدة للبيئة

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## Information Note

### **Manual for the Refrigeration and Air-conditioning Technicians and Engineers: Post phase-out period of CFCs and beginning of phase-out of HCFCs**

Paris, France, 23 September 2010: The world is witnessing a total phase-out of chlorofluorocarbons (CFC) production and consumption in the refrigeration and air-conditioning industries. From 1 January this year, 147 developing countries have ended their use of CFCs in new products. This is a historic moment. But refrigeration and air-conditioning mechanics, engineers and contractors still have to deal with nearly 450,000 tonnes of CFCs produced before 1 January that remain in the tens of thousands of pieces of equipment which are still running. Servicing of such equipment requires special care as CFCs need to be contained and recycled as they are a valuable source for other similar old equipment till the end of their life.

Today a new publication – the *Manual for Refrigeration Servicing Technicians* – is launched to address this timely need. Produced by the OzonAction Branch of the United Nations Environment Programme, the manual provides new approaches to prevent emissions of CFCs during the operation and servicing of equipment and catalogues steps to recycle the CFCs and retrofit the equipment.

Developing countries, called Article 5 countries under the Montreal Protocol on Substances That Deplete the Ozone Layer are also embarking on the second stage i.e. phasing-out of hydrochlorofluorocarbons (HCFCs), the last remaining refrigerant that is ozone depleting. The manual also contains the guidelines for the prudent use of HCFCs and emission preventing actions. These help countries slow down the growth of HCFCs and ease phase-out efforts.

CFCs and HCFCs are powerful greenhouse gases. Over the past few years the environmental and technical issues surrounding the use of refrigerants have evolved at a remarkable speed. Indeed, the variety and types of ozone and climate-friendly refrigerants currently available are significantly different from those commonly used a few years ago, as is the way in which they may be applied. Using the procedures outlined in the manual would help protect the ozone layer as well as provide other environmental benefits, including some that would help in the fight against climate change.

*“This manual is a final guideline for closing the global CFCs chapter forever - lock, stock and barrel,”* said Mr Rajendra Shende, Head of OzonAction. *“At the same time, it also makes beginning of the end of HCFCs,”* he added.

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It is important that managers, engineers and technicians are fully conversant with the technical and safety issues of these new refrigerants. This is essential so that they can make proper decisions about refrigerant usage in the near- to medium-term, but also have an eye on options for the longer-term to get maximum climate benefit. The manual is also intended to be a supplementary tool for the effective delivery of the national training programmes for technicians. It includes environmental aspects of refrigerants, their types and selection criteria, refrigerant management, servicing practices, retrofitting and, importantly, safe refrigerant handling. The manual is available as an e-publication at:

<http://www.unep.fr/ozonaction/ebooks/refrigeration-manual/>

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**Note to Editors:**

About UNEP DTIE's OzonAction Branch. The OzonAction Branch of the United Nations Environment Programme's Division of Technology, Industry and Economics assists developing countries and countries with economies in transition (CEITs) to enable them to achieve and sustain compliance with the Montreal Protocol. With this programme's assistance, countries are able to make informed decisions about alternative technologies and ozone-friendly policies. The Branch has the distinction of implementing more than 1,000 projects and services that benefit more than 100 developing countries and 17 CEITs, plus other services that assist another 40 developing countries.

Please see: [www.unep.fr/ozonaction](http://www.unep.fr/ozonaction)

and [www.unep.fr/ozonaction/topics/hcfc.asp](http://www.unep.fr/ozonaction/topics/hcfc.asp) (HCFC Help Centre).