

1. Brazil

1. Brazil promulgated the Vienna Convention and Montreal Protocol and all the related amendments and has been undertaking activities to protect the Ozone Layer for more than two decades, starting with an administrative rule from the National Health Surveillance Secretariat published on August 10th 1988 regulating the information about the use of CFC in the products.

2. The Government of Brazil created an Interministerial Executive Committee for Ozone Layer Protection – *Prozon* with the purpose of establishing guidelines and coordinating the ozone layer protection activities. The Ministry of Environment coordinates the Committee that is composed of the following ministries: Environment; Foreign Affairs; Farming and Supply; Health; Science and Technology; Development, Industry and Foreign Trade, and Finance. Besides the *Prozon*, the Ministry of Environment created a CFC and then a HCFC Working Group composed of public and private institutions to involve the private sector in the implementation of the activities to protect the Ozone Layer. The partnership with the private sector was crucial to the success of the achievement of the Montreal Protocol targets.

3. The Ministry of the Environment acts as the National Ozone Unit for the Montreal Protocol and coordinates the formulation and implementation of all projects funded by the Multilateral Fund for the Implementation of the Montreal Protocol - MLF.

4. The National Institute of Environment and Natural Renewable Resources – *IBAMA* linked to *MMA* is the institution responsible for the control of imports, exports, trade, use, destruction, collection, recycling and recovery of ODS in Brazil.

5. From 1992 to 2010, besides the legal and control measures, individual and group investments projects were implemented with the support of the Multilateral Fund for the Implementation of the Montreal Protocol – MLF. The following sectors received the support of the MLF: Foam, Commercial Refrigeration, Solvents, Agriculture, Chemical Industry and RAC servicing, in order to phase out the use of CFCs, Halons, CTC and Methyl Bromide (except for quarantine and pre-shipment) to phase-out the ODS.

6. Brazil implemented approximately 305 projects during this period with a total cost of US\$ 86.29 million and resulted in the phase out of 17,204.58 ODP tonnes. The mentioned projects had an important contribution on the phase out of these ODSs in Brazil and guaranteed the sustainability of private sector activities during and after the transition phase to alternative substances.

7. In 2002, the MLF approved for Brazil the National CFC Phase out Management Plan aiming the consumption phase out of 9,276 ODP tonnes de ODS from Annex A, Group I (CFCs). Several investments, non-investment, technical assistance and training activities were implemented, to achieve this target, such as:

- i. Investment/Manufacturing:
 - a. Conversion project for the phase out of CFC consumption in the Foam and Manufacturing Sector.
- ii. Refrigeration Servicing Sector
 - a. CFC Recovery, Recycling and Regeneration Project in the Domestic and Commercial Refrigeration Sector;
 - b. CFC Recovery, Recycling and Regeneration Project in the Mobile Air Conditioning Sector - MAC;
 - c. CFC Recovery, Recycling, and/or Regeneration Project in the Industrial Refrigeration and Central Air Conditioning (Centrifugal Chillers) Sector;
 - d. Good Practices in Servicing Training for refrigeration technicians
 - e. Training Project for customs agents.
 - f. Technological Data Dissemination Project;
 - g. Technical Standards Project;
 - h. Project for the prevention of illegal ODS trade.

8. Brazil does not produce HCFCs and its exports are insignificant, with amounts historically less than 1% of the imports.

9. Lessons Learned

- The National CFC Phase out Plan projects have contributed to provide a sustainable structure in the Country to manage CFC banks, and will be used for the management of HCFCs.
- The preparation of training activities need to be discussed with stakeholders (including

vocational training institutes, industry, associations, etc...) and the regional differences should be considered and the training respectively adapted.

- Awareness raising and educative activities in several institutional levels is a permanent dialogue between the interested parties, public and private.
- The servicing sector structure is mostly informal. This fact must be considered during the formulation of activities for this sector.
- The interaction with the private sector through formal instruments had an important role to ensure that the planned activities could meet the expectations of CFC user in Brazil and therefore should be maintained.
- The regulatory actions must be previously discussed with the involved sectors to facilitate the gradual accomplishment of established targets.
- The end users are not willing to take the risk of demonstrating innovative practices, thus, it is necessary to use financial incentives.
- All trained and evaluated technicians confirmed the enhancement of environmental awareness regarding the ozone layer, as well as the initiatives taken by the National Government under the NPP and related policies
- Lack of proper equipment and tools to recover ODS in most of the companies which provide maintenance services;
- The training program and its components were, in fact, an important element to improve quality of the servicing in RAC;
- The trained and evaluated refrigeration technicians showed confidence in confirming their understanding of components, ODS, properties of refrigeration systems;
- The self-evaluation of participants confirmed the positive program outcome. Most of the participants affirmed they have enhanced their knowledge on domestic refrigeration after participating in the training program;
- The maintenance companies have already initiated the recycling of other refrigerant fluids (in addition to CFCs and HCFCs);
- In the scope of the National CFC Phase out Plan, five CFCs Recovery Centers were successfully implemented in four important Brazilian cities (São Paulo, Rio de Janeiro, Recife and Porto Alegre).
- It is very important to use and maintain existing infrastructures for the recycling and recovery of HCFCs.