TREND IN USAGE OF CFC'S IN SRI LANKA AND PHASE OUT UNDER MONTREAL PROTOCOL

W L Sumathipala, K I A Kularathne & M M M Senevirathne
National Ozone Unit, Ministry of Environment and Natural Resources

With the development of halogenated hydrocarbons by E.I.Du Pont de Nemours & Co (USA) as refrigerants, there had been an increase in usage of these chloroflurocarbons (CFCs) in refrigeration applications worldwide since 1950, mainly because these substances have excellent thermodynamic and safety characteristics. In Sri Lanka the consumption of CFC was increased rapidly up to 1995 (Table 1). Scientists had discovered the effects of CFCs on the earth's ozone layer in nineteen seventies and it was agreed by large number of countries to phase out the production and usage of CFCs by becoming party to the Montreal Protocol. The Montreal Protocol on Ozone Depleting Substances (ODS) was signed in 1987 to implement the phase out programme. Sri Lanka became a party to this Protocol in 1989 and is bound to implement phase out ODSs by dates specified by the Protocol. In order to reach that target, National Ozone Unit (NOU) was established in the Ministry of Environment and Natural Resources in 1994. NOU has implemented several projects in order to reduce consumption of CFC with the assistance of Multilateral Fund (MLF) of the Protocol.

Table 1 Use of CFC in Sri Lanka

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CFC	209	185	216	294	347	520	498	319	250	216	220	190	171	180	155

Sri Lanka has introduced a licensing system in 1998 to control the imports of CFCs and so far achieved successful reduction of CFC consumption. The table 1 shows the downward trend of CFC consumption as a result of action taken by the NOU. As an Article 5 country under the Montreal Protocol Sri Lanka need to phase out CFC consumption by 2010. However, Sri Lanka has taken steps to phase out CFC by the end of 2007.

To achieve phase out as planned, three refrigerator manufacturers were funded to convert from CFC -11 to HCFC -141b and from CFC 12 to R 134a, converted an aerosol manufacturing plant from CFC 12 to Hydrocarbons and launched a scheme to pay incentives for converting CFC refrigeration plants

to non-CFCs. In addition the NOU has taken steps in awareness creation, training of refrigeration technicians and recovery and recycling of CFC. As a result, consumption of CFC in the manufacturing sector has been phased out and remaining consumption in the servicing sector could be eliminated through projects already planned.

Apart from ozone layer depletion, CFCs are powerful greenhouse gases much stronger than CO_2. Therefore it is important to reduce emission of CFC not only to save the ozone layer but also to prevent global warming and climate change.