

17. The Montreal Protocol

Introduction

In 1985 an international agreement, the Vienna Convention, was signed after three years of negotiating under the auspices of the United Nations Environment Programme. The Vienna Convention established mechanisms for international co-operation in research, monitoring, and exchange of data on emissions, on concentrations of CFCs and halons, and on the status of stratospheric ozone. It also set a framework for international negotiations on actual reductions of emissions. That same year, 1985, marked another seminal development in the evolution of scientific and public policy recognition of the stratospheric ozone issue - the discovery of the Antarctic ozone hole. On the basis of the Vienna Convention (1985), *the Montreal Protocol on Substances that Deplete the Ozone Layer* was negotiated and signed by 24 countries and by the European Economic Community in September 1987. The Protocol called for the Parties to phase down the use of CFCs, halons and other man-made halocarbons.

The Protocol

The Montreal Protocol represented a landmark in the international environmentalist movement. For the first time whole countries were legally bound to reducing and eventually phasing out altogether the use of CFCs and other ozone depleting chemicals. Failure to comply was accompanied by stiff penalties. The original Protocol aimed to decrease the use of chemical compounds destructive to ozone in the upper atmosphere by 50% by the year 1999. The agreement was supplemented by agreements made in London in 1990 and in Copenhagen in 1992, by which the same countries promised to stop using CFCs and most of the other chemical compounds destructive to

ozone by the end of 1995. The Protocol has been subsequently amended twice more, at Montreal in 1997 and at Beijing in 1999.

In most cases it has been fairly easy to develop and introduce compounds and methods to replace CFC compounds. CFC use in aerosols and foam plastic packaging has already been abandoned in most countries. On the other hand, compounds capable of replacing CFC compounds in cooling devices and insulating materials are still under development.

In order to deal with the special difficulties experienced by developing countries it was agreed that they would be given 10 years grace, so long as their use of CFCs did not grow significantly. China and India, for example, are strongly increasing the use of air conditioning and cooling devices. Using CFC compounds in these devices would be cheaper than using replacement compounds harmless to ozone. An international fund has therefore been set up to help these countries to introduce new and environmentally more friendly technologies and chemicals. The depletion of the ozone layer is a world-wide problem which does not respect the frontiers between different countries. It can only be affected through determined international co-operation.

The Timetable

Montreal Protocol (1987)

CFCs (11, 12, 113, 114, 115): Phase down 1986 levels by 20% by 1994; 50% by 1999.

London Amendment (1990)

CFCs 13, 111, 112, 211, 212, 213, 214, 215, 216, 217: Phase down 1989 levels 20% by 1993; 85% by 1997; 100% by 2000.

Halons (1211, 1301, 2402): Phase down 1986 levels 50% by 1995; 100% by 2000.

Carbon Tetrachloride: Phase down 1989 levels 85% by 1995; 100% by 2000.

Copenhagen Amendment (1992)

CFCs: phase out by 1995

Halons: phase out by 1993

Carbon Tetrachloride: phase out by 1995

HCFCs: phase down 1989 levels 35% by 2004; 90% by 2014; 100% by 2029.

The Beijing Amendment (1999) has introduced a freezing of HCFC production by 2003.