

BRIEF PRIMER ON THE MONTREAL PROTOCOL



Many elements of the Montreal Protocol have contributed to its success to date

- The Montreal Protocol was one of the first environmental agreements to formally recognize the precautionary principle. Related actions taken consistent with this principle have included the preemptive decision to ban new ozone depleting substances before they were ever produced commercially;
 - In 2009, the Montreal Protocol became the first treaty in history to achieve universal ratification with 196 governments (Parties). As a consequence, it can now be said that the entire global community has legally committed itself to meeting specific time-bound targets for the virtual phase-out of nearly 100 chemicals that have ozone depleting properties;
- The Protocol includes one of the initial applications of the concept of common but differentiated responsibilities. Special provisions for developing countries include provision of financial and technical assistance, and granting these countries a 10 to 15 years “grace period” for the compliance with the control provisions applicable to developed countries;
- Scientific, Environmental Effects, and Technology and Economic Assessment Panels produce comprehensive and policy relevant reports at least every four years to enable Parties adjust and amend the control measures and take informed decisions. Those reports are recognized to be the most authoritative assessments in the ozone layer protection arena.
- In addition, the Protocol established a Multilateral Fund with the goal of enabling developing countries’ compliance with specific timebound reduction targets for the chemicals controlled by the Protocol. Contributions to the Fund come from developed countries. The Fund is overseen by an Executive Committee made up of 14 Parties, seven from developed countries and seven from developing countries. As of 2010, the Multilateral Fund will have supported nearly 6,000 activities in over 140 developing countries, with a disbursement of about \$2.5 billion, including the closure of plants producing ozone depleting substances and the conversion of manufacturers, large and small, that relied on the use of ozone depleting substances;
- The Protocol has evolved a robust and supportive reporting and compliance procedure. Each Party is required to report annually on its production, import and export of each of the substances it has committed to address. Related data reports are reviewed by an Implementation Committee made up of 10 Parties representing different geographic regions. This committee assesses the compliance status of Parties and makes recommendations to the annual Meeting of the Parties to the Montreal Protocol on how to deal with cases of non-compliance. Non-compliant Parties participate in the development of plans of action that contain time specific benchmarks for ensuring their prompt return to compliance;
- The Protocol includes trade provisions that preclude Parties from trading in ozone depleting substances with non-parties. These and related provisions have encouraged ratification and helped the Protocol to achieve universal participation;
- The Protocol includes an adjustment provision that enables the Parties to respond to evolving science and accelerate the phase-out of agreed ozone depleting substances without going through the lengthy formal process of national ratification. It also includes an amendment provision which has facilitated the addition of new chemicals and institutions within the Protocol. The Protocol has been adjusted six times and amended four times since its initial adoption in 1987.



Chemicals controlled by the Montreal Protocol

As noted above, the Protocol requires the control of nearly 100 chemicals, which are dealt with under the Protocol in several categories:

CFCs: The most commonly used of the chemicals controlled by the Protocol were chlorofluorocarbons, or CFCs. These chemicals were widely used in a large variety of activities and products including refrigeration, foams and metals cleaning. By 2010, CFCs have been virtually phased out worldwide with remaining uses limited primarily to medical inhalers;

Halons: Probably the second most commonly used class of chemicals was halons, which were used as fire fighting agents in everything from extinguishers to total flooding systems in computer rooms. The global community has phased out new production of these chemicals but use from stockpiles and recycled halons still continues for such uses as aircraft and military applications;

Carbon tetrachloride: Another commonly used ozone depleting substance was carbon tetrachloride, which was used primarily as an industrial cleaning solvent. Developed countries phased out the use of this chemical in 1996, while developing countries achieved a 99% reduction by 2009 and are due to achieve total phase-out in 2010. Carbon tetrachloride is also widely used as a feedstock substance in the production of other chemicals. As its use for feedstock results in very small emissions, this use is not controlled by the Montreal Protocol;

HCFCs: Another commonly used class of ozone depleting substances is hydrochlorofluorocarbons, or HCFCs. HCFCs constitute the largest group of chemicals controlled under the Protocol, and currently represent the largest remaining use of ozone depleting substances. These chemicals have, since 1990, been viewed as transitional substances; while their relatively low ozone impact resulted in their use as an early replacement to CFCs in many refrigeration and foams uses, the Parties always knew that they needed to be phased-out. Given the long lifetimes of the applications of these chemicals (e.g., in refrigeration equipment), the Parties originally agreed to an extended phase-out period with a total phase-out in developed countries by 2030 and a final phase-out in developing countries by 2040. However, in an effort to address both the ozone and climate consequences of continued use of these chemicals, the Parties agreed in 2007 to adjust the Protocol's HCFC control schedule to achieve a faster phase-out. In addition, they agreed to strive to achieve that phase-out in a manner that advanced the protection of the climate system. This effort is in keeping with the progressive work of the Parties, which seeks to ensure its efforts maximize total environmental benefits;

Methyl chloroform: Methyl chloroform was used as an industrial cleaning solvent. This use has been phased out in developed countries and developing countries had by 2007 achieved a virtual phase-out, over seven years in advance of the Protocol's phase-out requirements;

Methyl bromide: Another widely used ozone depleting substance is methyl bromide, an agricultural fumigant. This chemical, which was added to the Protocol in 1992, has a wide variety of agricultural uses. Developed countries were to have achieved phase-out of the substance in 2005. While agreed critical uses constituted some 30% of historic uses at that time, the adoption of alternatives has, by 2009, brought that number down substantially. By 2008, developing countries had phased out about 66% of this chemical and were well on their way to achieving a complete phase-out by 2015. Methyl bromide is also used by a large number of countries and for a large number of commodities in trade related uses referred to as quarantine and pre-shipment applications. While the Parties are striving to reduce or eliminate their use of methyl bromide for these applications, this use is currently exempt from the Protocol's phase-out requirements;

Other chemicals: The final categories of ozone depleting substances, hydrobromofluorocarbons (HBFCs), bromochloromethane (BCM) and other fully halogenated CFCs were niche chemicals with very small markets. They were generally included in the Protocol as a precaution, to eliminate the possibility that their usage would increase.