MONTREAL PROTOCOL IN A NUTSHELL

CASE STUDY/INSIGHT

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In early 1970s, American scientists found that chlorofluorocarbon (CFC) compounds combine with solar radiation and decompose in the stratosphere and release atoms of chlorine and chlorine monoxide that destroys ozone molecules. After a deep investigation on the above findings, the United States, Norway, Sweden, and Canada had banned CFC based aerosols to protect the ozone layer. On further validation on their work, group of scientists discovered depletion of ozone layer in the Antarctica region. Based on these findings, various countries arrived at a consensus to protect the environment.

Montreal Protocol on Substances that Deplete the Ozone Layer, also known simply as the Montreal Protocol, is an international treaty designed to protect the ozone layer by phasing out the production of ozone depleting substance (ODS). It was entered in to force in 1989 and has undergone nine amendments to phase out CFCs and halons, as well as the manufacture and use of carbon tetrachloride, trichloroethane, hydro fluorocarbons (HFCs), hydro chlorofluorocarbons (HCFCs), hydro bromofluorocarbons (HBFCs), methyl bromide, and other ODSs.

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The Montreal Protocol is signed by 197 countries which was the first treaty in the history of the United Nations to achieve universal agreement and is considered as most successful environmental global action. The UNEP Ozone Secretariat is the responsible entity for the coordination and implementation of the Protocol.

As a result of the Montreal Protocol, the developed countries had phased out the production and consumption of halons by 1994, several other chemicals (such as CFCs, HBFCs, carbon tetrachloride, and methyl chloroform) by 1996, methyl bromide was eliminated in 2005, and HCFCs are scheduled to be completely phased out by 2030. Significantly, the world has phased-out 98% of the ODS contained in nearly 100 hazardous chemicals worldwide.

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On October 15, 2016, signatory countries to the Montreal Protocol adopted the Kigali Amendment to reduce the production and consumption of hydro fluorocarbons (HFCs) worldwide and aim to create market for the new technology that is better for the environment, without compromising on the performance. These HFCs were used as replacements for a batch of ozone-depleting substances eliminated by the original Montreal Protocol. Although they do not deplete the ozone layer, they are known to be powerful greenhouse gases and, thus, contributors to climate change.