

Kigali Agreement

[UPSC Notes]

What is the Kigali Agreement?

Kigali Agreement held on the 28th meeting of the parties in Kigali, Rwanda to amend the Montreal Protocol to phase out hydrofluorocarbons(HFCs), which are the substances, that depletes the ozone layer.

- The Montreal Protocol has undergone many amendments since it came into force in 1989.
- The eighth amendment of the Montreal Protocol is the Kigali Agreement.
- Kigali Agreement occurs during the 28th meeting of parties to amend the 1987 Montreal Protocol.
- It is so named because the Montreal Protocol was amended in Kigali, the capital of Rwanda in 2016.
- From 2019, the Kigali Agreement for hydrofluorocarbons reduction will be binding on the countries.
- The 197 countries under the legally binding Kigali Amendment have agreed to reduce the use of hydrofluorocarbons by roughly 85% of their baseline by 2045.
- According to a 2015 study by the Institute for Governance and Sustainable Development, the elimination of hydrofluorocarbons will help to reduce global warming by 0.5 degrees celsius by 2100.
- Since hydrofluorocarbons do not have any impact on ozone depletion so to replace the CFCs and hydrochlorofluorocarbons(HCFCs), hydrofluorocarbons(HFCs) are used.
- Hydrofluorocarbons are one of the most powerful greenhouse gases.
- The Kigali Agreement made the Montreal Protocol more powerful to fight against greenhouse gases.

Features of Kigali Agreement

The Kigali Agreement plays an important role in addressing the vital question of hydrofluorocarbons. As hydrofluorocarbons are one of the most powerful greenhouse gases and to mitigate climate change countries must reduce their uses and production of hydrofluorocarbons. The important features of the Kigali Agreement are as follows-

- To ensure its implementation there are non-compliance measures and the agreement between the signatories is legally binding.
- Depending upon the states of development that are developed, underdeveloped, or developing; different socio-economic constraints, and varying Science and Technology capacities. The Kigali Agreement sets the different targets accordingly.
- The principle of Common but Differentiated Responsibility is upheld by the Kigali Agreement.

- Signatory parties of the Kigali Agreement are classified into three groups based on reduced production or use of hydrofluorocarbons.
- The first group of developed countries such as the United States and the European Union countries must reduce their use of hydrofluorocarbons by 10% by 2019 as compared to 2011-2013 levels, and then 85% by 2036.
- The second group of developing countries such as China and African nations, must reduce their use of hydrofluorocarbons by 10% by 2029 as compared to 2020- 22 levels, and then 80% by 2045.
- The third group of developing countries such as India, Pakistan, Iran, Iraq, and the Arab Gulf States, must reduce their hydrofluorocarbons use by 10% by 2023 as compared to 2024-2026 levels and then by 85% by 2047.

Kigali Agreement and India

- In fighting to phase out HFCs, which are harmful greenhouse gases that are known to accelerate Global Warming, India officially ratified the Kigali Amendment of the Montreal Protocol. India consumes only 3% of hydrofluorocarbons which is very less compared to the United States which consumes 37% and China, which consumes 25%.
- According to the Kigali Agreement, India should start the phase-down process in 2028 and reduce hydrofluorocarbons emission by 10% by 2032 as compared to 2024-2026 levels.
- There are financial implications of the Kigali Amendment in India as India is a developing economy.
- More investment should be done in research and development of alternatives if the country wants to entirely give up hydrofluorocarbons.
- In India, air conditioners and refrigerators are used extensively in many regions due to the tropical country.

Kigali Agreement Benefits for India

- The Kigali Agreement would help to generate jobs and domestic manufacturing.
- There is a need for the market to move toward cleaner gases from the harmful hydrofluorocarbons which seems possible after the passage of the Kigali Amendment.
- Also helps in attaining the targets of SDG (sustainable development goals) 13, which seeks to combat climate change.
- The Kigali Agreement helps India to fulfill its climate obligations under the Paris Agreement.
- After ratifying the Kigali Agreement, India will prove that it is well prepared to compete for low GWP refrigerants, which are environment-friendly in the market.

Significance of Kigali Agreement

- The Kigali Agreement played a crucial role in attaining the target of limiting the global rise temperature by 2 degrees celsius over pre-industrial levels.
- According to a recent assessment from the IPCC (Intergovernmental Panel on Climate Change), the earth's average temperature has already increased by 1.1 degrees Celsius.
- Since hydrofluorocarbons did not destroy the Ozone Layer they were not considered restricted or harmful substances by the Montreal Protocol in 1987 but hydrofluorocarbons were one of the harmful greenhouse gases that are why the Kyoto Protocol (1997) and the Paris Amendment (2015) the emissions of hydrofluorocarbons were targeted to reduce.
- The Montreal Protocol is one of the most successful protocols which already phases out 98.6% of ozone-depleting chemicals.

Implications of Kigali Agreement on India

There are significant technological and financial implications or repercussions on the Indian industries that use HFCs like the automobiles, refrigeration, and air conditioning industries. These implications are-

- **Technological Implications:** Some industrialized countries have already begun to find the alternative to the HFCs, replaced some of them, and are very well versed in using them. If there is no transfer of such technology and research to the developing nations, it would be difficult for the domestic industries to compete with them on a global platform and in the domestic market too.
- **Financial Implications:** Industries must either spend the money on research and development to figure out alternatives to HFCs or they have to buy the proprietary materials and technologies from the MNCs. The production cost will rise subsequently which may result in decreased demands in the market for their goods and products.

What is Ozone Layer Depletion?

- Ozone is natural gas or it is an allotrope of oxygen consisting of three atoms of oxygen bound together in a nonlinear fashion.
- The rate at which Ozone is being formed is much slower than the rate at which it is being destroyed.
- A significant decrease in the concentration of ozone in a particular region of the atmosphere is known as Ozone Depletion. for example- the atmosphere over Antarctica, has only 50% of ozone as compared to the originally occurring there.
- In the year 1985, the actual realization of ozone depletion came to be known.
- According to the temperature, weather, latitude, and altitude, the concentrations of ozone vary naturally in the atmosphere.
- There is a measurable impact on the Ozone levels by the substances ejected by natural events such as volcanic eruptions.
- The Kigali protocol or the Montreal Protocol on substances that deplete the Ozone Layer was designed to protect the earth's fragile Ozone Layer by reducing

the production and consumption of ozone-depleting substances that are used in refrigeration and air conditioning, electronics, fire fighting, etc.

- To protect the Ozone layer on 19 June 1991, India became a party to the Vienna Convention for protection of the Ozone layer and on September 17, 1992, India became a party to the Montreal Protocol on substances that deplete the ozone layer.

Hydrofluorocarbons(HFCs) in Kigali Agreement

- An organic compound that consists of hydrogen atoms and fluorine.
- Unlike the other greenhouse gases which are mostly wasted or byproducts, hydrofluorocarbons are manufactured.
- The chlorofluorocarbons and the hydrochlorofluorocarbons are replaced by the hydrofluorocarbons.
- They are mainly used in refrigerants and air conditioning.
- Although hydrofluorocarbons do not cause ozone layer depletion, hydrofluorocarbons are the greenhouse gases that accelerate Global Warming.
- Hydrofluorocarbons have a thousand times more potential to cause global warming as compared to other greenhouse gases, for example- HFC-23, and HFC-134a.