

# THE MONTREAL PROTOCOL EVOLVES TO FIGHT CLIMATE CHANGE

## A major transformation

An important amendment to the Montreal Protocol was agreed on October 15, 2016 in Kigali, Rwanda. During the 28<sup>th</sup> Meeting of the Parties to the Montreal Protocol, more than 170 countries agreed to amend the Protocol to include hydrofluorocarbons (HFCs) among controlled substances. The amendment will enter into force on 1 January 2019, provided it has been ratified by at least 20 parties.

The agreement reached in Kigali represents a milestone in the international community's commitment to tackle climate change. The accord is the first major step towards limiting global warming after the Paris Agreement was reached in December 2015.

Until the amendment, the Montreal Protocol only controlled substances that damage the ozone layer. HFCs, however, do not impact the ozone, but have high global warming potential. The extension of the treaty's scope opens a new era for the Montreal Protocol to phase down substances with high global warming potential.

In the past, as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) were phased out under the Montreal Protocol, the use of HFCs greatly increased, particularly in the refrigeration and air conditioning sector. The Kigali Agreement will mean further interventions in this sector.



28<sup>th</sup> Meeting of the Parties to the Montreal Protocol.

Learn more at: UNIDO's YouTube channel - The Kigali Amendment (<https://youtu.be/pI6u5pc3aQ>)

## Cooling off in a warming world

By phasing down the use of HFCs, the Kigali Amendment is expected to avoid an increase in atmospheric temperature of 0.5°C by the end of the century. Furthermore, it could reduce the emission of CO<sub>2</sub> equivalents in the atmosphere by 70 billion tons by 2050.

The amendment also emphasizes the importance of energy efficiency. In developing countries, demand for refrigeration and air conditioning is growing rapidly. Currently, demand encompasses more than 40 per cent of total electricity consumption, and this is expected to rise due to economic and demographic growth, urbanization and global warming. Worldwide, the growing demand for refrigeration and air conditioning may raise electricity usage by 80 per cent between 2010 and 2100. HFCs can contribute to global warming through direct refrigerant leakage and indirect emissions from refrigeration equipment. Improving the energy efficiency of refrigeration systems therefore plays a key role in climate change mitigation, and represents an essential goal for future projects.



Climate & Clean Air Coalition Executive High Level Assembly,  
Vienna, Austria, July 2016



Framework	Vienna Convention	UN Framework Convention on Climate Change
Treaty	MONTREAL PROTOCOL	PARIS AGREEMENT
Substances	CFCs, halons, other fully halogenated CFCs, carbon tetrachloride, methyl chloroform, HCFCs, HBFCs, bromochloromethane, methyl bromide	All greenhouse gases not controlled by the Montreal Protocol: $\text{CO}_2$ , $\text{CH}_4$ , $\text{N}_2\text{O}$ , PFCs, $\text{SF}_6$ , $\text{NF}_3$ , aggregated F-gases, unspecified mix of HFCs and PFCs, <b>HFCs</b>
	Additionally introduced by the KIGALI AMENDMENT: <b>HFCs</b>	
Goals	<ul style="list-style-type: none"><li>Recognize the importance of updating international standards for flammable low global warming potential (GWP) refrigerants</li><li>Support introduction to the market, as well as manufacturing, operation, maintenance, handling of zero GWP or low-GWP refrigerant alternatives to HCFCs and HFCs</li></ul>	<ul style="list-style-type: none"><li>Keep the increase in global average temperature to well below 2°C above pre-industrial levels</li><li>Increase ability to adapt and foster mitigation</li><li>Ensure finance flows are consistent with a pathway towards low carbon and climate-resilient development</li><li>Reach global peak of greenhouse gas emissions as soon as possible</li></ul>
Criteria for entering into force	Once at least 20 parties ratify the amendment	Once 55 countries that produce at least 55% of the world's greenhouse gas emissions (according to a list produced in 2015) ratify, accept, approve or accede to the agreement <i>Entered into force on 4 November 2016</i>
Differences between developing/developed countries	Two plans for Article 2 parties (developed countries) and two plans for Article 5 parties (developing countries)	Based on the principle of common but differentiated responsibility, but no division between developed and developing nations
Approach	Specific targets and timetables to phase down controlled substances	Bottom-up: Nationally Determined Contributions (NDCs)
Compliance	Ensured through a robust compliance support scheme, backed up with sanctions	Countries have to communicate their NDCs every five years, but NDCs are not legally binding

## A brand new chapter for UNIDO

With decades of experience undertaking conversions in the industrial sector, training technicians and raising awareness, UNIDO is perfectly positioned to assist developing countries and economies in transition to shift from HFCs to ozone- and climate-friendly alternatives and to improve energy efficiency.

UNIDO remains committed to implementing truly innovative approaches and promoting cutting-edge technologies to meet the imperative challenges of tackling climate change and safeguarding the environment, while also fostering inclusive and sustainable industrial development.

To learn more, visit [www.unido.org/kigali amendment](http://www.unido.org/kigali amendment)