

19th Session of the Conference of the Parties to the UNFCCC

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A CALL TO ACTION ON HFCs

Our planet is on the brink. The recently released IPCC Summary for Policymakers warns of the dangers of the already changing climate – warmer oceans, melting snow and ice, and increased sea levels.¹

It provides a clear signal that there is no more time to waste when it comes to tackling the most serious challenge facing humanity today. Swift, effective and large reductions in greenhouse gases must start now. At the 19th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP19), countries have the opportunity and the obligation to prove that they are serious about reining in climate change. One quick and relatively straightforward initiative they can take is to support action under the Montreal Protocol to phase down the fastest growing source of man-made greenhouse gas emissions, the family of chemicals known as hydrofluorocarbons (HFCs). Taking action on HFCs now will mitigate at

least 100 billion tonnes of CO₂ equivalent by 2050—but we must start now. The technical paper prepared for the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP-2) specifically listed phasing down HFCs under the Montreal Protocol as one of the actions with “sizeable technical mitigation potential.”²

Therefore, EIA calls on the Parties to the UNFCCC at COP19 to formally support an immediate and global phase-down of the production and consumption of HFCs under the auspices of the Montreal Protocol, with accounting and emissions remaining under the UNFCCC.



ABOUT EIA

EIA is an independent campaigning organisation committed to bringing about change that protects the natural world from environmental crime and abuse. As part of our work, we have undertaken groundbreaking investigations into the illegal trade in ozone depleting substances (ODS) and have been closely involved in the international ozone and climate negotiations for well over a decade.

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WHAT ARE HFCs?

HFCs are man-made fluorinated gases (F-gases) developed and commercialized to replace CFCs, HCFCs and other chemicals that deplete the ozone layer. HFCs are powerful greenhouse gases (GHGs), with global warming potentials hundreds and thousands of times more powerful than carbon dioxide (CO₂), and are primarily used in refrigeration, air conditioning, foam blowing, aerosols, fire protection and solvents.³

In just two decades of commercial production HFCs already represent approximately one percent of global GHG emissions.⁴ Although their contribution to climate forcing is still relatively small, it is expected to soar in the coming decades, with emissions of HFCs increasing at a rate of 10-15 percent per year.⁵ Unless action is taken, global HFC emissions could reach 5.5–8.8 GtCO₂e per year in 2050, equivalent to 9–19 percent of projected global CO₂ emissions under a business-as-usual scenario.⁶ A large share of this increase will take place in developing countries, where emissions are projected to be as much as 800 percent greater than developed countries' emissions by 2050.⁷ However, climate-friendly alternative refrigerants and technologies are available, which means that HFCs do not need to be used as replacements for ozone depleting substances, and those that are already in use can be phased-out over time.⁸

THE MONTREAL PROTOCOL

The Montreal Protocol is hailed as the world's most successful international environmental treaty, having successfully eliminated 95% of ozone depleting chemicals (ODS). By eliminating most ODS, which are also potent greenhouse gases, it has made an invaluable contribution to the fight against climate change, avoiding emissions of 8 gigatonnes CO₂e per year between 1990 and 2010 for a total of approximately 160 gigatonnes CO₂e.⁹ These avoided annual emissions

are about four times greater than the annual emissions reductions achieved during the first commitment period (2008-2012) of the Kyoto Protocol which only reduced approximately 8 gigatonnes CO₂e in total.¹⁰

The Montreal Protocol has achieved this while following the legal principle of "common but differentiated responsibilities" (CBDR) by basing country commitments on mandated phase-out schedules, with developed countries going first, in recognition of their larger historical contribution to ozone depletion, and developing countries' right to continued growth and development. In addition, the Montreal Protocol has financially supported the phase-out of ODS in developing countries through monetary contributions and technology transfer.¹¹

Despite the Montreal Protocol's past successes, rapidly rising HFC emissions will largely negate the positive climate benefit of the ODS phase-out, unless rapid action is taken now to eliminate HFCs.

Proposals to amend the Montreal Protocol to regulate production and use of HFCs have been filed every year since 2009 by Micronesia, and by Canada, Mexico and the United States.¹² Since that time, and despite the formal support of over half the nations of the world for action to regulate HFCs, progress on the so-called "Amendment Proposals" has been repeatedly blocked by a few Parties.

One frequently stated reason for some countries' reluctance to move forward on the Amendment Proposals is that the UNFCCC is the more appropriate forum to discuss HFCs. However, while it is true that HFC *emissions* are included in the Kyoto basket of greenhouse gases, production and consumption are not. In fact, there is a clear legal imperative for HFC *production and consumption* to be dealt with under the Montreal Protocol as HFCs were commercialized as direct substitutes for ODS and the Montreal Protocol is obligated to prevent any "adverse effects" being caused by its actions.¹³

The Amendments proposed by Canada, Mexico and the US would provide estimated **avoided emissions of 2.2 GtCO₂e by 2020 and 85 GtCO₂e by 2050, with an additional 11.3 GtCO₂e from HFC-23 by-product control for a total of almost 100 GtCO₂e by 2050.**¹⁴ With anticipated gains in energy efficiency from the HFC phase-out factored in to reflect technological improvements and the documented energy efficiency gains from using low-GWP technologies, the mitigation from an HFC phase-down will be significantly greater.

ENERGY EFFICIENCY CO-BENEFITS

Significant improvements in the energy efficiency of the new refrigeration and air conditioning equipment being installed worldwide is an important co-benefit of phasing down HFCs. The large reductions in energy use associated with the phase-out of ODS under the Montreal Protocol are well documented.¹⁵ With soaring demand for cooling in the emerging economies, aggregate energy efficiency gains from an HFC phase-down could be significant. The supermarket sector is one of the largest end-users of HFCs. Spurred on by environmental concerns and the imperative to reduce energy use, a number of big chains have already chosen to switch to climate-friendly natural refrigerants.¹⁶ Companies invariably report greater than anticipated efficiency gains from the installation of HFC-free systems. For example:

- Japanese retail giant AEON reports energy savings of between 10-30 percent and an overall CO₂ reduction of 50 percent in the stores it has converted to natural refrigerants since 2009.¹⁷
- Carrefour's store in Istanbul, Turkey, which uses natural refrigeration, reports energy efficiency improvements of about 15 percent;
- In Thailand, Tesco has begun using natural refrigerant systems, resulting in five percent energy savings;
- All newly built and refurbished Coop Schweiz stores in Switzerland use natural refrigerant systems for cooling and a quarter of their stores are already running on this technology, reducing their energy needs by about 30 percent.
- In Hungary, Auchan has also achieved energy savings of 35 percent with its natural refrigerant systems.¹⁸
- H-E-B in the southern United States expects to achieve a 50 percent energy reduction in its new store in Austin, Texas, which uses natural refrigeration only.¹⁹

TECHNOLOGY TRANSFER AND FINANCIAL SUPPORT

The Montreal Protocol has over two decades' experience in providing effective technology transfer from developed to developing countries. It also plays a critical role in enhancing capacity building and development. As economically viable and energy-efficient substitutes and alternatives already exist for the largest and most common sectoral uses of HFCs, a transition away from HFCs could be quickly adopted and rolled out worldwide.

To assist developing countries in complying with the ODS phase-out schedule; the Montreal Protocol provides financial support through its Multilateral Fund (MLF).²⁰ The MLF covers incremental costs incurred as a result of efforts to phase down consumption and production of HCFCs, and would similarly be available to aid developing countries in financing a phase-down of HFCs. The HFC Amendment Proposals specifically state that additional monies will be provided to the MLF to pay the incremental costs of an HFC phase-down incurred by developing countries.²¹ Since the first meeting of the MLF, the Executive Committee has approved and provided approximately US\$3 billion for the implementation of projects including industrial conversion, technical assistance, training and capacity building.²²

The Montreal Protocol also deploys ozone officers at 146 national offices organized into nine networks throughout the developing world. This network of professionals implements phase-out schedules agreed to under the Montreal Protocol and efficiently utilizes funding supplied by the MLF.²³ This existing capacity of seasoned and qualified experts in the exact industrial sectors where HFCs are used is available to successfully implement an HFC phase-down tailored to match the scale and timing of the problem.

“ The Amendments proposed by Canada, Mexico, and the US would provide an estimated avoided emissions of almost 100 GtCO₂e by 2050.”

BOTTOM:
Spurred on by environmental concerns and the imperative to reduce energy use, big supermarket chains have chosen to switch to climate-friendly natural refrigerants.



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CONCLUSION

In a year that has seen concentrations of atmospheric carbon dioxide pass the 400 ppm mark and the world's scientific community issue its starkest warning yet that human activities will result in far-reaching disruption of the climate system, the need to swiftly rein in anthropogenic greenhouse gas emissions has never been more acute.

Support for global action on HFCs has significantly advanced over the past few months, from the Arctic Council calling for a phase-down of HFCs under the Montreal Protocol in March, to the US-China announcement in June following a meeting between Presidents Barack Obama and Xi Jinping, to the G20 leaders' statement at the St. Petersburg summit in September and, most recently, the joint declaration by Presidents Manmohan Singh and Obama in Washington, D.C. establishing a task force to resolve issues surrounding an HFC phase-down.

Global leaders have recognized that this action would in no way diminish the UNFCCC's ability or authority to regulate HFC emissions, similar to the actions approved by the UNFCCC for action on marine vessels and airplanes, but rather create a parallel and reinforcing process to those efforts. However, failure to act now on this opportunity will undermine the very objective for which the UNFCCC was established, that is "to achieve...stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

At COP19, the nations of the world have a unique opportunity to expedite the elimination of some of the most harmful man-made chemicals in use today. We owe it to ourselves and to future generations not to squander this important chance. We call on all Parties to support the consumption and production phase-down of HFCs under the Montreal Protocol.

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