

## **Environmental Investigation Agency (EIA) submission to the fourth part of the second session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action**

**10-14 March 2014, Bonn, Germany**

Globally, climate change is manifesting itself in ever more alarming ways. Devastating bush fires in Australia, historic drought in Texas, and recurrent flooding in Europe are sparking a bitter public backlash in the developed world. The effects of climate change are also having a severe impact on economic and social development in the developing world, where communities already on the brink face a crisis of existential proportions. Every year, the body of scientific evidence supporting the need for drastic action to address the drivers of climate change becomes more compelling. In fact, rarely in the field of scientific endeavour has such a solid consensus been reached.<sup>1</sup>

Against this backdrop, the political response has been overwhelmingly inadequate. The international community has spent more than two decades constructing an elaborate framework to address climate change which has thus far yielded very little. What is more, at last year's UNFCCC climate conference in Warsaw, several Annex 1 Parties signalled their intention to retreat from their existing emissions reduction commitments under the Kyoto Protocol. And yet, if ever there was a time for the international community to increase its commitments that time is now.

The Environmental Investigation Agency (EIA) submits these comments in the hope that 2014 will mark a turning point in the global response to climate change. We are calling for a radical departure from the current negotiation dynamic, which has achieved little in terms of emission reductions and undermined the credibility of the international policy process.

In particular, 2014 could be a major watershed in the journey towards a global agreement on eliminating hydrofluorocarbons (HFCs), a family of super greenhouse gases which only exist because of the ongoing phase-out of ozone depleting substances (ODS) under the Montreal Protocol. In the quarter-century since its inception, the Montreal Protocol has prevented over 200 billion tonnes (Gt) of carbon dioxide-equivalent (CO<sub>2</sub>e) from reaching the atmosphere through its ODS phase-outs. A conservative estimate puts future savings from a phase-down of the consumption and production of HFCs under the Montreal Protocol at 2.2 GtCO<sub>2</sub>e by 2020 and over 100 GtCO<sub>2</sub>e by 2050.<sup>2</sup>

With an ever-widening gap between the emissions reductions required to limit global temperature rise to below 2°C by 2020 and actual climate pledges, the international community can ill afford to ignore such massive potential for climate mitigation. With an eye on the UN Secretary-General's Climate Summit in September 2014, which is explicitly aimed at catalyzing "substantial" mitigation commitments ahead of COP21, Parties attending the fourth part of the ADP's second session in Bonn must hold detailed and substantive discussions on the steps required for an agreement to globally

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<sup>1</sup> See for example: "Joint Science Academies' Statement: Climate Change Adaptation and the Transition to a Low Carbon Society", June 2008 <http://royalsociety.org/policy/publications/2008/climate-change-adaptation/>

<sup>2</sup> See summary of the North American proposal to amend the Montreal Protocol available here: <http://www.epa.gov/ozone/downloads/HFC%20Amendment%20Summary%202012.pdf>

phase-down the consumption and production of HFCs under the Montreal Protocol and communicate those discussions to the Montreal Protocol.

## HFCs

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

HFCs currently represent around 1% of global GHG emissions.<sup>4</sup> Although their contribution to climate forcing is still relatively small, it is expected to soar in the coming decades, with emissions increasing at a rate of 10-15% per year.<sup>5</sup> Working Group I of the IPCC reports that the radiative forcing of HFCs has close to doubled since its Fourth Assessment Report (2007).<sup>6</sup>

Unless action is taken, global HFC emissions could reach 5.5–8.8 GtCO<sub>2</sub>e per year in 2050, equivalent to 9–19% of projected global CO<sub>2</sub> emissions under a business-as-usual scenario.<sup>7</sup> A large share of the increase will take place in developing countries, where emissions are projected to be as much as 800% greater than developed countries' emissions by 2050.<sup>8</sup> However, climate-friendly alternative refrigerants and technologies are available, which means that HFC use can be eliminated over time.

## Parties must act now

UNEP's *Emissions Gap Report 2013* shows that there is a gap of 8-12 gigatonnes of CO<sub>2</sub>-equivalent emissions (GtCO<sub>2</sub>e) between the emissions reductions required to limit global temperature rise to below 2 degrees centigrade by 2020 and Parties' current pledges.<sup>9</sup> Of all the options to tackle climate change in the short term, addressing HFCs under the Montreal Protocol is the most tangible prospect for immediate, cost-effective action to achieve significant additional reductions.

In May 2013, the UNFCCC Secretariat published a technical paper discussing both the considerable mitigation potential of a global phase-down of HFCs, as well as important co-benefits, such as energy efficiency improvements associated with their elimination. The paper also noted the Montreal Protocol's successful history of providing technology transfer and finance, describing its role in "helping industry to replace chemicals and equipment, reorganizing production processes and

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<sup>3</sup> For example, GWPs of some HFCs are: HFC-125= 3500; HFC-134a= 1430; HFC-143a= 4470. See Velders, et al., *The large contribution of projected HFC emissions to future climate forcing*, 106 PROC. NAT'L. ACAD. SCI. 10949, 10952 (2009), available at <http://www.pnas.org/content/early/2009/06/19/0902817106.abstract>

<sup>4</sup> UNEP (2011), HFCs: A Critical Link in Protecting Climate and the Ozone Layer, p.20

<sup>5</sup> UNEP (2011), HFCs: A Critical Link in Protecting Climate and the Ozone Layer, p.19

<sup>6</sup> Intergovernmental Panel on Climate Change (IPCC), 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)], p.661.

<sup>7</sup> Velders, et al., *The large contribution of projected HFC emissions to future climate forcing*, 106 PROC. NAT'L. ACAD. SCI. 10949, 10952 (2009), available at <http://www.pnas.org/content/early/2009/06/19/0902817106.abstract>

<sup>8</sup> Velders, et al., *The large contribution of projected HFC emissions to future climate forcing*, 106 PROC. NAT'L. ACAD. SCI. 10949, 10952 (2009), available at <http://www.pnas.org/content/early/2009/06/19/0902817106.abstract>

<sup>9</sup> UNEP, *The Emissions Gap Report 2013*, p.xii

<http://www.unep.org/publications/ebooks/emissionsgapreport2013/>

stimulating the redesign of products, including through funding for developing countries through the Multilateral Fund [MLF] for the Implementation of the Montreal Protocol.”<sup>10</sup>

### **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 known. With soaring demand for cooling in the emerging economies, aggregate energy efficiency gains from an HFC phase-down are likely to be far higher.

This has already been documented in the retail sector, one of the largest end-users of HFCs. Spurred on by environmental concerns and the imperative to reduce energy use, a number of big supermarket chains have chosen to switch from HFCs to climate-friendly natural refrigerants. 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% and an overall CO<sub>2</sub> reduction of 50% in the stores it has converted to natural refrigerants since 2009;<sup>11</sup>
- French retailer Carrefour’s store in Istanbul, Turkey, which uses natural refrigeration, reports energy efficiency improvements of around 15%;<sup>12</sup>
- Tesco has begun using natural refrigerant systems in one of its Thai stores, resulting in 5% energy savings;<sup>13</sup>
- All newly built and refurbished Coop Schweiz stores in Switzerland use natural refrigerant systems for cooling and a quarter of its stores are already running on this technology, reducing their energy needs by about 30%;<sup>14</sup>
- In Hungary, Auchan has also achieved energy savings of 35% cent with its natural refrigerant systems;<sup>15</sup>
- H-E-B in the southern United States expects to achieve a 50% energy reduction in its new store in Austin, Texas, which uses natural refrigeration only.<sup>16</sup>

### **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.

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<sup>10</sup> UNFCCC (28 May 2013) “Compilation of information on mitigation benefits of actions, initiatives and options to enhance mitigation ambition” FCCC/TP/2013/4

<sup>11</sup> Presentation at Consumer Goods Forum Summit on Sustainable Refrigeration, June 2013

<sup>12</sup> EIA (2013), Chilling Facts V: Retailers on the Cusp of a Global Cooling Revolution available at <http://www.eia-international.org/chilling-facts-v>

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> R744.com (2010), “CO2 supermarkets on the rise in Hungary”, available:

<http://www.r744.com/news/view/1128>

<sup>16</sup> H-E-B Opens New Store with Hussmann Designed Propane Refrigeration System, July 26 2013 (press release), available here:

[http://www.hydrocarbons21.com/web/assets/link/4455\\_Press%20Release,%20Hussmann\\_H-E-B\\_Propane\\_072513.pdf](http://www.hydrocarbons21.com/web/assets/link/4455_Press%20Release,%20Hussmann_H-E-B_Propane_072513.pdf)

The Montreal Protocol also deploys “ozone officers” at 146 national offices organized into nine networks throughout the developing world. This network of professionals implement phase-out schedules agreed to under the Montreal Protocol and efficiently utilizes funding supplied by the MLF. This existing capacity of seasoned experts in the exact industrial sectors where HFCs are used would allow for a successful and timely implementation of an HFC phase-down.

To assist developing countries in complying with the ODS phase-out schedule, the Montreal Protocol provides financial support through its MLF. The MLF covers incremental costs incurred as consumption and production of ozone depleting chemicals are phased out, and would similarly be available to aid developing countries in financing a phase-down of HFCs. Since the first meeting of the MLF, the Executive Committee has approved and provided approximately US\$3.0 billion for the implementation of projects including industrial conversion, technical assistance, training and capacity building.<sup>17</sup>

### **The move away from HFCs is already happening**

Governments and businesses around the world are already beginning to tackle HFCs. The European Union is in the process of adopting legislation mandating a 79% phase-down in the use of HFCs on the European market by 2030 and banning the use of HFCs in some equipment, such as domestic and supermarket refrigeration systems.<sup>18</sup> In the United States, the Environmental Protection Agency has put forward proposals to ban certain HFCs while at the same time approving the use of climate-friendly alternatives. The State of California is currently considering far-reaching legislation modelled on the EU’s phase-down and bans<sup>19</sup> while Japan is also strengthening its domestic regulation on fluorinated gases.<sup>20</sup> Many countries, such as Denmark and Norway, have introduced a tax on HFCs to reflect their high global warming potential.

The private sector has recognised the importance of addressing HFCs for some time. The Consumer Goods Forum (CGF), a body comprising over 650 retailers, manufacturers, service providers and other stakeholders from 70 countries, pledged in 2010 to stop using HFC refrigerants in new equipment starting in 2015. Coca-Cola, Red bull, Pepsi Cola and Unilever have all joined Refrigerants Naturally!, a global not-for-profit initiative committed to substituting harmful fluorinated gases with natural refrigerants. Because of this partnership, as of January 2014, Coca-Cola had installed 100 million HFC-free beverage coolers around the world. The global retail sector, one of the biggest end-users of HFCs, has also undergone a major transformation, rolling out millions of HFC-free units in the past five years alone.

There is growing international support for global action on HFCs. In May 2013, the Arctic Council called for a phase-down of HFCs under the Montreal protocol.<sup>21</sup> This was closely followed by: a landmark agreement to tackle HFCs between the United States and China<sup>22</sup> in June; the G20 leaders’

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<sup>17</sup> See: <http://www.multilateralfund.org/default.aspx>

<sup>18</sup> See [http://ec.europa.eu/clima/policies/f-gas/index\\_en.htm](http://ec.europa.eu/clima/policies/f-gas/index_en.htm) for details on the European Union’s policy on fluorinated gases

<sup>19</sup> California Air Resources Board, Proposed First Update to the Climate Change Scoping Plan: Building on the Framework (February 2014) [www.arb.ca.gov/cc/scopingplan/2013\\_update/draft\\_proposed\\_first\\_update.pdf](http://www.arb.ca.gov/cc/scopingplan/2013_update/draft_proposed_first_update.pdf)

<sup>20</sup> “Japan: €36 million in subsidies for natural refrigerants as new f-gas measures loom” (6 February 2014) [http://www.r744.com/articles/japan\\_36\\_million\\_in\\_subsidies\\_for\\_natural\\_refrigerants\\_as\\_new\\_f-gas\\_measures\\_loom](http://www.r744.com/articles/japan_36_million_in_subsidies_for_natural_refrigerants_as_new_f-gas_measures_loom)

<sup>21</sup> Arctic Council Kiruna Declaration, 15 May 2013, <http://www.arctic-council.org/index.php/en/document-archive/category/425-main-documents-from-kiruna-ministerial-meeting>

<sup>22</sup> United States and China Agree to Work Together on Phase Down of HFCs, June 8 2013, <http://www.whitehouse.gov/the-press-office/2013/06/08/united-states-and-china-agree-work-together-phase-down-hfcs>

statement at St. Petersburg in September<sup>23</sup>; and most recently, the joint declaration by Presidents Manmohan Singh and Obama in Washington DC establishing a task force to resolve issues surrounding a phase-down of HFCs.<sup>24</sup>

Additionally, the Climate and Clean Air Coalition (CCAC), a partnership of governments, IGOs, and NGOs, is addressing the challenge of short-lived climate pollutants. In 2013, the Coalition released a communiqué stating, “CCAC Partner countries will adopt domestic approaches to encourage climate-friendly HFC alternative technologies and work toward a phase-down in the production and consumption of HFCs under the Montreal Protocol.” To help support this communiqué, CCAC has funded HFC inventory studies in Bangladesh, Chile, Colombia, Ghana, Indonesia and Nigeria to increase awareness of where countries are currently using HFCs.

### **Common but Differentiated Responsibilities (CBDR) under the Montreal Protocol**

Parties to the Montreal Protocol have distinctive responsibilities and obligations. Developed nations are required to implement regulations years in advance of the schedule used for developing nations. This two-tier approach reduces the risk of adverse fiscal impacts by creating extended and gentler transition schedules for developing countries. Developed nations are also obligated to contribute to financing the transitions by developing nations, assisting in technology transfer, and generally facilitating successful implementation of regulations internationally by supplying monetary support. Current proposals to phase down HFCs under the Montreal Protocol follow this successful pattern.<sup>25</sup>

## **CONCLUSION**

**An Amendment to the Montreal Protocol to Phase down HFCs under the Montreal Protocol would:**

- **Place all the pre-2020 responsibilities and efforts on developed countries** in line with the goals of ADP-2 and in recognition of the principle of common but differentiated responsibilities;
- **Provide means of implementation** (finance, technology transfer, and capacity-building) through the Multilateral Fund and other technical bodies within the Montreal Protocol;
- **Build leadership and trust** towards a global climate deal in 2015;
- **Generate substantial energy savings in addition to direct HFC emission reductions** of over 100 billion tonnes of CO<sub>2</sub>e by 2050.

### **Recommendations**

- Our climate is changing; the scientific consensus exists. It is now up to policymakers to craft an international agreement to mitigate carbon emissions which is truly fit for purpose. EIA urges Parties to make 2014 a year of action. Countries must put the high-level statements of 2013 to work, and **begin concrete negotiations to address HFCs under the Montreal Protocol this year.**
- There are a number of practical ways in which Parties can help foster the right conditions for a fair and balanced global agreement on HFCs. One very simple approach to increasing

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<sup>23</sup> United States, China, and Leaders of G-20 Countries Announce Historic Progress Toward a Global Phase Down of HFCs, September 6 2013, <http://www.whitehouse.gov/the-press-office/2013/09/06/united-states-china-and-leaders-g-20-countries-announce-historic-progress>

<sup>24</sup> US-India Joint Statement, 27 September 2013, <http://www.whitehouse.gov/the-press-office/2013/09/27/us-india-joint-statement>

<sup>25</sup> Proposed schedule for phase-down of HFCs in Article 5 and Non-Article 5 countries as per the amendment proposals from North America (Canada, Mexico and United States) available at <http://conf.montreal-protocol.org/meeting/mop/mop-25/presession/default.aspx>

awareness and understanding of the main issues at stake would be to **facilitate internal communication and knowledge-sharing between climate and ozone officials** in the months ahead, leading up to the Montreal Protocol's Open-Ended Working Group (OEWG) meeting in July this year.

- **EIA also encourages Parties to actively participate in the Workshop on Hydrofluorocarbon Management organised by UNEP's Ozone Secretariat on the margins of the OEWG from 11-12 July 2014.**<sup>26</sup> This represents a unique opportunity to discuss any remaining obstacles to international agreement on HFCs. Parties should endeavour to send climate officials to the Workshop to present and exchange views with their ozone counterparts on ways of addressing HFCs under the Montreal Protocol.
- Parties should also continue to push for high level statements that support a global phase down of HFCs under the Montreal Protocol. The **UN Secretary-General's extraordinary climate change summit in September 2014 will offer a platform for world leaders to call for the Montreal Protocol to agree a global phase-down of HFCs at the 26<sup>th</sup> Meeting of the Parties of the Montreal Protocol in November 2014.**

### **The Environmental Investigation Agency**

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. EIA's climate mitigation campaign is primarily focused on HFCs (hydrofluorocarbons), third generation gases produced by chemical producers in response to the phase-out of ozone-depleting CFCs and HCFCs under the Montreal Protocol. Used in refrigeration and air-conditioning, these super greenhouse gases (so-called because their Global Warming Potentials [GWP] are often thousands of times higher than CO<sub>2</sub>) are the fastest growing source of greenhouse gas emissions.

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<sup>26</sup> See: [http://ozone.unep.org/new\\_site/en/index.php](http://ozone.unep.org/new_site/en/index.php)