

POSITION PAPER

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European HFC Producers support action under the Montreal Protocol for a consumption cap and reduction of HFCs

The European Fluorocarbons Technical Committee (EFCTC) encourages Parties to the Montreal Protocol to move forward with a constructive dialogue to achieve an agreement for a global cap and reduction for HFC consumption on a GWP-weighted basis. This would build perfectly on the discussions in Paris in July 2015 at the 36th Open-ended Working Group of the proposals for an amendment to the Montreal Protocol to reduce the production and consumption.

The Montreal Protocol has played a critical role in successfully controlling consumption of CFCs and HCFCs and can provide the necessary expertise to effectively implement a similar system for HFCs. In addition, we believe that including provisions for controlling the placing on the market of HFCs under the Montreal Protocol would complement and strengthen the HFC emissions provisions of the UNFCCC and its Kyoto Protocol.

A clear long-term regulatory framework and time frame is already in place in the European Union with the new F-Gas Regulation. This is encouraging research, development and deployment of new low GWP alternatives to progress at the required speed and manufacturers of equipment and products are undertaking the necessary programmes to adopt these alternatives.

Significant progress has already been made by HFC producers to find low GWP alternatives for a range of applications including technical aerosols, mobile air-conditioning, insulating foams and commercial refrigeration that deliver the same attributes in terms of safety, energy efficiency and favourable life-cycle costs as the current mainstream HFCs. Already an alternative fluid has been developed for mobile air-conditioning; it has a GWP of less than 1 compared to a GWP of 1300¹ for the HFC currently being used.

On a global scale, it is estimated that the overall global warming impact of HFC emissions currently represents less than 2% of the worldwide greenhouse gases emissions. Because HFCs are the preferred solution for many societal needs due to their safety and performance advantages, without action the demand for HFCs will grow, especially in developing countries. These countries are still replacing HCFCs and face an increasing demand for refrigeration and air-conditioning. Such growth would result in the use of HFCs becoming a more significant source of emissions in the future.

¹ GWP values taken from the IPCC Fifth Assessment Report (AR5) - Climate Change 2013: The Physical Science Basis, available through <http://www.ipcc.ch/report/ar5/wg1/>

Many of the elements of the proposals submitted, in particular that of a cap and reduction of HFC consumption on a GWP-weighted basis, in our opinion form a good initial framework for a dialogue, recognizing that any final agreement needs to be realistic, balanced, flexible and fair, meeting the needs of Parties, and taking into account industrial planning timescales and the capacity of industry to invest in new lower GWP products and applications.

We consider that any final agreement should focus on consumption, which determines use and as such determines emissions. Legislative control of production is not necessary as the consumption cap will maintain the required high level of environmental ambition. Furthermore, there should also be a requirement for production reporting from 2015. We recommend the OEWG to consider the appropriateness of amending the proposal in such a way that developing nations commit to take on legally binding reduction targets by 2020 based upon the experiences gained by the developed countries during the transition to low GWP technologies.

We believe that this approach will allow HFCs to be used wisely for their safety and performance and where appropriate. It will encourage innovation for the use of lower GWP alternatives and applications, without significantly disrupting the industries that use HFCs.

We look forward to a constructive dialogue at the resumed 36th Meeting of the Open-ended Working Group to the Montreal Protocol in Dubai, October 29th – 30th, 2015 and the following the 27th meeting of the Parties to the Montreal Protocol, November 1st – 5th, 2015.

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Background note

Possibilities for a meaningful international agreement on reducing the consumption of Hydrofluorocarbons Greenhouse Gases with a high Global Warming Potential in the context of COP-21.

Since 2009, there have been efforts to bring HFCs² under the remit of the Montreal Protocol with a view to reducing the emissions associated with their use in dispersive applications such as Refrigeration, Air-Conditioning, Insulation Foam, Solvents and Aerosols. One of the main stumbling blocks for progress is that some Parties have argued that HFCs are non-Ozone Depleting Substances, and therefore cannot be legitimately regulated under the Montreal Protocol on Ozone Depleting Substances. This would seem a rather formalistic objection which can be remediated if the Parties to the UNFCCC adopt a resolution requesting UNEP to make the mechanisms under the Montreal Protocol available to achieve a substantial reduction of HFC consumption thus meeting the overall objective of the UNFCCC to reduce the impact of Greenhouse Gas Emissions.

The key argument for using the Montreal Protocol Mechanisms is that there is no need “to re-invent the wheel”. The Montreal Protocol has demonstrated its effectiveness and efficiency in the reduction of Ozone Depleting Substances emissions. One of the key success factors was the Technical and Economic Assessment Panel (TEAP) which identified the options that were both technically and economically feasible to achieve the emission reductions needed. It would seem a waste of resources if the accumulated expertise of the TEAP were not be utilised to address the issue of growing HFC emissions.

The issue was brought to the fore in an article by Guus Velders et al: “The large contribution of projected HFC emissions to future climate forcing”.³ The opening sentence of the article shows the immediate link to the Montreal Protocol: “The consumption and emissions of hydrofluorocarbons (HFCs) are projected to increase substantially in the coming decades in response to regulation of ozone depleting gases under the Montreal Protocol.”

Tailor Made Solution

Velders et al estimate that, if no action is taken, HFC emissions may represent 9 – 19% of total GHG emissions by 2050. The Fifth Assessment Report of Working Group I of the Intergovernmental Panel on Climate Change forecasts much lower, but still significant HFC emissions, taking into account different social and economic futures⁴. Many emerging economies have just started their ODS Phase-Out under the Montreal Protocol, and this represents a unique opportunity to “leap-frog” technology and move directly to low GWP solutions.

Since at present HFCs make up less than 2% of total GHG emissions, it will be difficult to achieve a global agreement on the subject under UNFCCC which will dedicate its full attention to emissions of CO₂. It must also be noted that, contrary to all other GHGs covered by UNFCCC, HFCs (and SF₆) are produced for a specific purpose, and are not the by-product of other processes. This all argues in favour of treating HFCs under the mechanisms of the Montreal Protocol. It will, however, be necessary to recognise that there will not be a “one-on-one” transposition from HFCs to alternatives under the Montreal Protocol.

² Hydrofluorocarbons were developed in response to the concerns associated with (Hydro)Chlorofluorocarbons which have an Ozone Depleting Potential. They bring similar attributes as (H)CFCs such as low toxicity, good thermodynamic properties and low/non flammability, and have no Ozone Depleting Potential.

³ www.pnas.org/cgi/doi/10.1073/pnas.0902817106

⁴ See EFCTC Factsheet on ‘Radiative Forcing of Well Mixed Greenhouse Gases’, available through www.fluorocarbons.org

Moreover, it offers the opportunity to learn from past actions taken under the Montreal Protocol that can be addressed more effectively for the transition from HFCs. Below some key points to take into account are set out:

- The Montreal Protocol envisages a complete phase-**out** of Ozone Depleting Substances⁵. For HFCs, a phase-**down** seems more appropriate since they will be needed for a considerable time to service existing installations and in (critical) applications where substitutes are not (yet) fully validated.
- The agreement should focus on consumption of HFCs, and leave the production of these substances unaffected.
- It is important to exempt HFC consumption for feedstock purposes where HFCs are chemically transformed to non GHG substances. This exemption is also recognised for ODSs.
- A GWP threshold is desirable. HFCs with a GWP ≤ 10 should be exempt from the agreement, similar to substances with a negligible ODP which are exempt from the current Montreal Protocol.

Actions under the Montreal Protocol

Two proposals were brought forward in 2009 from North American countries (Canada, Mexico and the United States of America) and the Federated States of Micronesia to phase down the production and consumption of HFCs under the Montreal Protocol. This issue has been discussed at every Open-ended Working Group and Meeting of Parties to the Montreal Protocol since that time, as well as at specific meetings looking into the feasibility and ways of managing HFCs.

At the recent OEWG-36 in July 2015 in Paris, there were four proposals aimed at controlling HFCs under the Montreal Protocol. These originated from the North American countries, The European Union, India and a group of Island States. There was a long discussion on how to deal with these proposals which was not concluded and will be continued at the resumed 36th Open-ended Working Group in Dubai on 29-30th October, 2015.

Options to substitute HFCs

The industry has developed a range of low and ultra-low GWP solutions (typically with GWPs between 1 and <1500) which will require minimal adjustments in the equipment designed for HFC-use.

TEAP has already documented a considerable amount of information about these alternatives, particularly their technical and economic performance and availability, and the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants is supporting the wide communication of the low GWP options. It is time to move forward and adopt these alternatives where appropriate.

⁵ In the sense that listed ODS are subject to complete phase-out rules; substances with a *de minimis* Ozone Depleting Potential, typically <0.01 are not listed.