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**Twenty-First Meeting of the Parties to the
Montreal Protocol on Substances that
Deplete the Ozone Layer**

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Item 6 (b) of the provisional agenda
for the preparatory segment*

**High-global-warming-potential alternatives to
ozone-depleting substances (decision XX/8):
further consideration of work initiated by the
Open-ended Working Group at its twenty-ninth meeting**

**High-global-warming-potential alternatives to ozone-depleting
substances**

Concept note by the Secretariat

I. Introduction

1. At various times in the history of the Montreal Protocol on Substances that Deplete the Ozone Layer groups of experts have convened at the behest of the Ozone Secretariat to engage in informal consultations. These experts, stepping beyond their national mandates to share their knowledge and expertise in their personal capacities, have been able to speak freely about significant issues related to ozone protection of the moment and thereby contribute to their resolution.

2. The Ozone Secretariat believes that in keeping with this tradition it would be useful at the present time to convene informal consultations on high-global-warming-potential alternatives to ozone-depleting substances, as part and parcel of meetings under the Compliance Assistance Programme. The present note attempts to frame the informal discussions and the issue posed by high-global-warming-potential alternatives in the historical context of the Montreal Protocol. The note also endeavours to review what the Secretariat believes are some of the key outcomes of the initial discussions on this matter during the workshop on the subject and the meeting of the Open-ended Working Group that took place in Geneva in July 2009 and includes a summary of recent developments on the issue.

* UNEP/OzL.Pro.21/1.

3. The initial discussions on hydrofluorocarbons (HFCs) resulted in the emergence of three proposals: one on hydrochlorofluorocarbons (HCFCs), another on HFCs and a third on a list of concepts relevant to the proposed amendment on HFCs. These included inter-related broad issues and key questions where further work or consideration would be needed. The Parties are considering those issues for further discussion by the Twenty-First Meeting of the Parties in Egypt. It is hoped that the informal discussions would enable further thoughts on the matter to be aired to advance understanding of the issue.

II. Context for addressing high-global-warming-potential alternatives to ozone-depleting substances

4. Since the adoption of the Kyoto Protocol, the Parties to the ozone and climate treaties have addressed their concerns regarding the scientific and technical interrelationship between the Montreal Protocol and the Kyoto Protocol by requesting the assessment bodies of the two regimes to work together to assess some of the key issues. A renewed emphasis under the Montreal Protocol to take into consideration climate stemmed from the latest assessment of the Technology and Economic Assessment Panel and the Intergovernmental Panel on Climate Change entitled “Special Report on Safeguarding the Ozone Layer and the Global Climate System: Issues Related to Hydrofluorocarbons and Perfluorocarbons”. A series of further actions followed, including a one-day workshop in 2006 at which the participants further addressed practical measures, including those outlined in the Special Report, and assessed the ozone, climate and other benefits of implementing those measures. Furthermore, the Panel, at the request of the Parties, produced a report in August 2007 on HCFC issues, including assessments of the impact of the Clean Development Mechanism and the emissions-reduction benefits arising from earlier HCFC phase-out and other practical measures.

5. Those actions culminated in the adoption of decision XIX/6, by which the Nineteenth Meeting of the Parties in September 2007 agreed to accelerate the phase-out of HCFCs. Motivated not least by a desire to make additional efforts to protect the climate as ozone-depleting substances are phased out, the decision also called on the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol to give priority to cost-effective projects and programmes that focused on, among other things, “substitutes and alternatives that minimize other impacts on the environment, including on the climate, taking into account global-warming potential, energy use and other relevant factors...”. Implementation of the accelerated controls on HCFCs has necessitated the adoption of available alternatives that include HFCs, most of which are potent greenhouse gases.

6. By its decision XX/8 the Twentieth Meeting of the Parties to the Montreal Protocol called upon the Ozone Secretariat to collaborate with the United Nations Framework Convention on Climate Change and others to, among other things, convene a workshop just before the twenty-ninth meeting of the Open-ended Working Group of the Parties to the Montreal Protocol to provide a forum for an open-ended dialogue of experts on high-global-warming-potential alternatives to ozone-depleting substances.¹ This critical decision embodied at least four key principles that are the hallmark of virtually all major actions that have been taken under the Montreal Protocol.

A. State-of-the-art-information as a solid basis for decision-making

7. The first principle is that action should be preceded by and based on the careful collection, analysis and consideration of all available, relevant information. This principle is at the heart of all successful efforts under the Protocol to achieve environmental benefits and has enabled the Parties to take robust decisions that are informed by the most up-to-date scientific, economic and technical information available. This principle formed a basis for the workshop on high-global-warming-potential gases held pursuant to decision XX/8, which brought together not only the best technical minds from the Protocol’s assessment panels but also the vast experience that has been gained under the Protocol in the areas of funding, economics and national regulation. The discussions also benefited greatly from the contributions of key participants from the Kyoto Protocol process.

¹ Workshop participants discussed a number of issues including, in particular, alternatives to hydrochlorofluorocarbons.

B. Synergies

8. The second principle is that actions under the Protocol should promote synergies. The Parties to the Ozone regime have, from its inception, taken into account the impact that their decisions might have on other aspects of the environment, particularly on the global climate system. Thus annex I to the Vienna Convention includes a section on climate research while annex II calls on the Parties to share information on the limitations and risks involved in using chemical or other substitutes for ozone-depleting substances and alternatives to technologies that use ozone-depleting substances. The Montreal Protocol and related decisions of the Parties carried forward the Convention's emphasis on synergies to ensure that adverse impacts were avoided and that actions could bring about added benefits in areas other than ozone protection.

C. Precautionary principle

9. The third principle that underlies both historic Protocol processes and decision XX/8 is what is broadly referred to as the precautionary principle. Notwithstanding the best efforts of the Parties and the Secretariat to assemble the best information possible as a basis for robust decisions the Parties must of necessity base their decisions on information that falls short of perfection. In practice the Parties have had to consider action on the basis of the best information available; indeed, decision XX/8 and the workshop that it called for were intended to develop such information.

10. The practical implications of waiting for more information versus taking action on the basis of the best available information are significant. Instead of waiting for new technologies or further definitive information to become available, Parties, operating under the precautionary principle, took small initial steps, which they were later able to build and expand upon. Those initial steps sent a critical signal to the marketplace that led to the development of alternatives and related technologies, which in turn enabled the Parties later to adopt decisions to phase out CFCs and halons.

D. Principle of common but differentiated responsibilities

11. The fourth principle embodied in the Montreal Protocol is that of common but differentiated responsibilities, according to which the different situations and needs of different countries are taken into consideration in the provisions of the Protocol to enable its fair and equitable implementation. The principle is reflected in particular in the control measures that recognize the special situation of the developing countries and in the operation of the Multilateral Fund, which provides funding to developing countries for agreed incremental costs and capacity-building activities.

III. Outcomes of the workshop and Open-ended Working Group discussion of high-global-warming-potential alternatives to ozone-depleting substances, considerations that may have an impact on future work and more recent actions relating to high-global-warming-potential gases

A. Outcomes of the workshop and Open-ended Working Group meeting

12. With the preceding as background and, it is fair to say, the historical basis for a great deal of the past work under the Montreal Protocol, it is useful to step back and consider what was learned at the July meetings in Geneva. The workshop and Open-ended Working Group meeting produced a great deal of information and enabled a very broad exchange of views on technical issues and a proposal by the Federated States of Micronesia and Mauritius to amend the Protocol in respect of hydrofluorocarbons (HFCs). The participants also discussed three draft decisions: one on HCFCs, another on HFCs and a third on conceptual elements of the proposed amendment. While some of the views expressed were conflicting the Secretariat believes that the following points represent a realistic summary of thoughts that emerged from the discussions:

(a) There was clear recognition that HFCs were currently part of the climate treaties and that a placeholder text proposal to deal with HFCs would have to be discussed during the ongoing negotiations under the climate change regime. It was also envisaged that any further actions on HFCs should be taken through enhanced cooperation under both the ozone and climate treaties;

(b) There was clear recognition that the use of HFCs was growing, with the greatest growth taking place in Parties operating under paragraph 1 of Article 5. There was clear recognition that at least some of this growth was being fuelled by the need of these Parties to meet the accelerated HCFC phase-down and phase-out requirements under the Montreal Protocol;

(c) There was clear recognition that the Montreal Protocol approach offered key advantages for the control of HFCs. Such advantages included the successful history of the Protocol in achieving reductions in the production and consumption of similar chemicals in both developed and developing countries; the successful experience with funding the incremental cost of phasing out similar chemicals through the internationally recognized excellence of the Multilateral Fund for the Implementation of the Montreal Protocol; and the vast experience of the technical bodies of the Montreal Protocol in understanding HFC-related sectors and alternatives. Those advantages notwithstanding, some Parties expressed the view that the Kyoto Protocol was the sole instrument through which HFCs should be addressed;

(d) There was clear recognition that while cost-effective, safe and energy-efficient alternatives to HFCs might be available for some applications they were not widely available for all applications;

(e) There was clear recognition that the cost associated with taking action to reduce production and consumption of HFCs through a Protocol amendment or some other modality was currently unclear but was likely to be considerable;

(f) There was clear recognition that the parties operating under paragraph 1 of Article 5 of the Protocol faced near-term challenges in the implementation of their recently agreed accelerated HCFC reduction obligations; many of those Parties were concerned about both the ability and willingness of the Parties to support their phase-out efforts and their own ability to meet their HCFC reduction obligations while simultaneously taking on a commitment to significant new controls on HFCs at the current time;

(g) There was clear recognition that unless near-term action was taken to reduce the rate of growth in HFC use related emissions would grow significantly and constitute a dangerous threat to the climate system;

(h) There was clear recognition that the Twenty-First Meeting of the Parties would continue discussions on the draft decisions on HCFCs and HFCs together with the proposed amendment relating to HFCs;

(i) There was clear recognition that at the national level interaction between climate and ozone experts was crucial to facilitate the exchange of information on issues being discussed under the climate and ozone treaties.

13. In summary, there was clear recognition that on the one hand the global community was faced with a near-term problem of large proportions while on the other hand the full set of tools needed to resolve the issue, including funding, was not yet available. Put in another way, the need for action was clear but the timing of and funding for such action was in question.

B. Further considerations

14. Taking into account the above, informal discussions on this issue might further benefit from the following considerations:

(a) However HFCs are addressed the task will be substantial and it will be essential to conduct the required studies, collect the relevant information, organize any relevant groundwork and strengthen relevant institutions to enable them to undertake necessary activities;

(b) The success of the Montreal Protocol in bringing about reductions in the production and consumption of chemicals similar to HFCs is undeniable. Elements of this approach could therefore be also applied in addressing HFC-related issues;

(c) The early, incremental action by the Parties to address ozone-depleting substances spurred a partnership with industry by sending the right signal, which resulted in the development of new technologies that enabled goals to be met and new, more ambitious goals to be established;

(d) The Parties, operating through the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol, have always provided sufficient funding to cover the agreed incremental costs and the operation of national ozone units to enable Parties operating under paragraph 1 of Article 5 to implement the Montreal Protocol and comply with their Protocol obligations.

C. More recent actions on high-global-warming-potential gases

15. Some further actions on high-global-warming-potential alternatives to ozone-depleting substances have been taken since the twenty-ninth meeting of the Open-ended Working Group. First, on 10 August 2009 the presidents of Mexico and the United States of America and the Prime Minister of Canada committed themselves to working together to achieve low-carbon development goals through a variety of activities, including working together under the Montreal Protocol to phase down the use of HFCs and bring about significant reductions in emissions of these potent greenhouse gases.

16. In addition, a consultation took place in the context of the climate negotiations. As noted above and during the Open-ended Working Group meeting, the proposals currently being considered in the climate discussions include a framework proposal for the treatment of HFCs. While the climate consultations that took place in mid-August did not move this issue further, the Secretariat understands that further discussions are likely to be considered at the next round of climate negotiations, which are currently scheduled to take place in September 2009 in Bangkok.

17. The Secretariat will strive to keep Parties informed of any further events that take place prior to the Twenty-First Meeting of the Parties.
