CONSIDERATIONS ON EXPEDITED PROCEDURES
FOR
LISTING NEW OZONE-DEPLETING SUBSTANCES
AS CONTROLLED SUBSTANCES UNDER THE
MONTREAL PROTOCOL

Report prepared for the European Commission
February 2003
I. Introduction

The overall goal of the Montreal Protocol on Substances that Deplete the Ozone Layer is to protect the stratospheric ozone layer by taking precautionary measures to control global emissions of ozone-depleting substances ("ODS"), with the ultimate objective of eliminating such substances based on developments in scientific knowledge.¹ In pursuit of that goal, the Protocol drafters included a provision whereby substances identified as ODS may be added to the Protocol annexes listing the "controlled substances" to which the Protocol's control measures apply.² "New substances" for the purposes of this report are those that currently are not listed in the Annexes of the Montreal Protocol.

However, it has become apparent that the procedure set forth in the Protocol for adding new ODS to the lists of controlled substances is inefficient and unwieldy – with the result that the Protocol's overall goal of protecting the ozone layer is not being met.

Part II of this report discusses the current protracted procedure under the Montreal Protocol for adding new ODS to the Protocol annexes. The Protocol procedure begins with an assessment of the scientific, environmental, technical and economic factors. Next, the Protocol Parties adopt a formal amendment to the Protocol annexes. Finally, the amendment is subject to ratification, acceptance or approval by a sufficient number of individual Parties before it can enter into force. Moreover, such an amendment enters into force only for those Parties that have ratified, accepted or approved the amendment. Therefore, even after an amendment is adopted, its application is not comprehensive. The need for a more efficient and effective procedure is clear. Tables I, II, and III summarize the results of this protracted procedure for each of the four Protocol amendments adopted to-date, showing both the limited scope of application and the duration of the adoption procedure. The substances identified by Protocol Parties as potential ODS demonstrate how slow the progression can be from the identification of a new ODS to its listing as a "controlled substance" in the Protocol.

Part III of this report demonstrates that a large body of international environmental law supports the use of an expedited procedure for modifying multilateral environmental agreements ("MEAs") to extend their application to new items (e.g., substances, species, methods, protected areas, etc.). Indeed, expedited procedures are a common approach for extending protective measures in MEAs. Therefore, in addition to better protecting the ozone layer, adopting an expedited procedure to add new ODS to the Montreal Protocol would harmonize the Protocol with numerous other MEAs, many of which the individual Parties to the Montreal Protocol already have adopted.

¹ Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987 (entered into force Jan. 1, 1989), at Preamble (as amended) (sixth preambular paragraph) (hereinafter "Montreal Protocol").
² See id., at Art. 2(10).
Based on the overall goals of the Montreal Protocol, and the precedents and experience of other MEAs, Part IV of this report proposes a set of general principles that the Protocol Parties may wish to bear in mind when considering an expedited procedure for adding new substances to the Protocol. These principles are not intended to be controversial and do not pre-suppose any particular mechanism. Rather, these principles are intended to guide the Parties' considerations to ensure that the mechanism chosen best advances the goals of the Montreal Protocol, draws on international precedent of other MEAs as well as the experience of the Protocol itself, and optimally utilizes the most current scientific and other information.

Note that it is not the intent of this report to recommend any specific expedited procedures for the Montreal Protocol. Such recommendations would need to be developed in the future and are not the subject of this report. The aim of this report is for the Parties to agree on the desirability of expedited procedures. If the Parties agree expedited procedures are desirable, a Working Group should be established to determine the most appropriate procedures, taking into account also the prior work of the Legal Drafting Group in 1999 and in 2001.

II. Current Montreal Protocol Procedure for Adding New Ozone Depleting Substances

A. Scientific, Environmental, Technical and Economic Assessment Process

Under Decision IX/24, adopted by the Parties at the September 1997 Ninth Meeting of the Parties ("MOP"), individual Parties may bring to the attention of the Ozone Secretariat new substances believed to have potential to deplete the ozone layer. Pursuant to the terms of the Montreal Protocol, the first step in the addition of such new ODS to the Protocol is to assess scientific consensus on the potential ODS, as part of a scientific, environmental, technical and economic assessment conducted by the Parties every four years ("quadrennial assessment").

At least one year prior to publication of the assessment, the Scientific Assessment Panel ("SAP") and Technology and Economic Assessment Panel ("TEAP") are required to begin work. Thus, under the terms of the Protocol, if a new ODS were to be brought to the attention of the Secretariat after the (minimum) one-year period required for SAP/TEAP to begin their respective analyses prior to the next quadrennial assessment, it could be five years or more before the required assessment is completed – i.e., one year for SAP/TEAP to complete their analyses for the current assessment, and four years before the assessment at which the new ODS in question could be considered. Although Decision IX/24 allows the Parties to request

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4 Montreal Protocol at Arts. 2(10) and 6.
5 Id.
TEAP/SAP to conduct an ODS assessment at any time, in practice such assessments are conducted only every four years. In part, this is because the Parties have not provided TEAP/SAP with funds to conduct anything but the quadrennial Assessment.

In fact, the timeframe for conducting the requisite assessments has, in practice, extended out to more than 5 years. For example, SAP’s analysis for the 1998 quadrennial assessment was actually initiated with the definition of the scope of the analysis at MOP-7 in December of 1995 – a full three years before the MOP at which the quadrennial science assessment was presented to the Parties. Any new substance that might have been identified subsequent to that date would not have been part of the SAP analysis. As one SAP co-author has noted, before a substance will be considered for assessment by SAP it must first have been analyzed in a peer-reviewed scientific journal. In the best of circumstances, the necessary research and calculations to analyze a new substance take a minimum of 2 - 6 months. Thus, any new substance identified later than, e.g., October 1995, could have gone without formal assessment by the SAP for at least seven years (i.e., three years from December 1995 to the 1998 quadrennial assessment, then another four years before the next quadrennial assessment at which the new substance could be considered).

B. Adding an Assessed Substance to a Control Annex

Under current Protocol procedures, once the required scientific, environmental, technical and economic assessment is completed and reported to the Parties, the Parties may only add a new ODS to a Protocol annex by the Protocol’s formal amendment procedure. The amendment procedure, established by the Vienna Convention and adopted by reference in the Protocol, involves several steps:

1. The text of a proposed amendment must be communicated to the Parties to the Montreal Protocol at least six months before the MOP at which it is proposed for adoption.

2. The amendment must be adopted at the MOP either by consensus or, if no consensus can be reached, by a two-thirds majority of the Parties present and voting.

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7 Telephone interview with Malcolm Ko, Ph.D., Head, Chemistry and Dynamics Division, NASA-Langley Research Institute, Nov. 15, 2002.

8 Id.


3. An adopted amendment does not enter into force until a requisite number of Parties have ratified, accepted or approved the amendment. The Convention provides for ratification, acceptance or approval by two-thirds of the Parties. However, the Parties have opted to establish lower thresholds in the terms of the amendments.

4. After an amendment enters into force, the Convention provides that it does so only for those Parties that have ratified, accepted or approved the amendment. The Parties have reiterated this limitation when adopting amendments to add new ODS.

The addition of bromochloromethane to the Protocol, with an ozone-depletion potential ("ODP") of 0.12, provides the most recent example of the duration of the amendment process for a new ODS. The Parties added bromochloromethane to the Protocol via the Beijing Amendment in December 1999. As of February 21, 2003 – more than three years after the Beijing Amendment was adopted – only 46 of 184 Parties to the Protocol (i.e., 25%) had ratified, acceded to, accepted or approved the Amendment.

Indeed, as shown in Table I, below, none of the Protocol amendments adopted to-date is yet applicable to all Protocol Parties. The broadest scope of applicability of any of the amendments is that for the London Amendment, which currently stands at just

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11 Id. at Art. 9(3)-(4).
12 Id. at Art. 9(5) (providing for entry into force 90 days after receipt of notices of ratification, approval or acceptance of at least two-thirds of the Parties).
13 See e.g., United Nations Environment Programme, Report of the Eleventh Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer (hereinafter MOP-XI Report), at Annex V (Dec. 17, 1999) (amending the Protocol to add bromochloromethane and providing for entry into force on January 1, 2001, provided that at least 20 instruments of ratification, acceptance or approval are deposited by that date, or 90 days from the date on which this condition is fulfilled) (hereinafter "Beijing Amendment").
14 Vienna Convention at Art. 9(5). Note that the Montreal Protocol at Article 2(10) expressly provides that the procedure in Article 9 of the Convention (i.e., "opt-in" ratification) applies to the adoption of amendments adding substances to the Protocol annexes.
15 See e.g., Beijing Amendment at Article 3 (providing that the amendment will enter into force for Parties that did not deposit their instrument of ratification, acceptance or approval prior to entry into force of the amendment only 90 days following deposit of such instrument).
16 Montreal Protocol at Annex C, Group III.
17 MOP-XI Report at Annex C, Group III.
89% of all Protocol Parties. The Beijing Amendment's scope of applicability is just one quarter of all Protocol Parties. Of thirteen example Parties selected for this report, only six have ratified the Beijing Amendment.

Moreover, as shown in Tables II and III, for many of the Parties, the progression from adoption of an amendment at a Meeting of the Parties to actual ratification and entry-into-force of the amendment is a years-long process. For example, the London, Montreal and Beijing Amendments each took 26 months to enter into force (i.e., 90 days after ratification by 20 Parties). Furthermore, after entry-into-force, reaching a "critical mass" of Parties to truly protect the ozone layer can take more than a decade: for example the 1992 Copenhagen Amendment has not yet obtained 80% coverage of the Protocol Parties.

In sum, even after the process of adopting an amendment is completed, the actual scope of application of that amendment is apt to be far less than comprehensive for several years. Thus, the ratification/approval/acceptance process – which itself can be a prolonged and highly-politicized process in many countries – not only further delays the entry into force of an amendment, but also limits the scope of the amendment's effect.

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19 See Table I at columns 3 and 4.
20 Id.
21 Id. at column 5. The selected example Parties include: developed countries – United Kingdom, Italy, Germany, France, United States, Japan, and Canada; and developing countries – China, India, Mexico, Brazil, Kenya, and Malaysia.
22 See Table II at columns 4 and 5 and Table III.
23 See Table I at column 4.
24 In the United States, for instance, ratification of a treaty (i.e., international agreement) requires the advice and consent of the Senate on a two-thirds majority vote. See U.S. Constitution, Art. II, § 2.
TABLE I
Scope of Application of Protocol Amendments

<table>
<thead>
<tr>
<th>Amendment</th>
<th>Substance(s) Added</th>
<th>No. of Parties(^1)</th>
<th>% of Current Total Parties to Original Protocol (184)</th>
<th>Selected Country Parties(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>Other fully halogenated CFCs, carbon tetrachloride, methyl chloroform, and HCFCs</td>
<td>164</td>
<td>89%</td>
<td>B, C, Ch, F, G, I, It, J, K, M, Mx, UK, US</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>Other HCFCs, HBFCs and methyl bromide</td>
<td>144</td>
<td>78%</td>
<td>B, C, F, G, It, J, K, M, Mx, UK, US</td>
</tr>
<tr>
<td>Montreal</td>
<td>None</td>
<td>90</td>
<td>49%</td>
<td>C, G, It, J, K, M, UK</td>
</tr>
<tr>
<td>Beijing</td>
<td>Bromochloromethane</td>
<td>46</td>
<td>25%</td>
<td>C, G, J, K, M, UK</td>
</tr>
</tbody>
</table>

\(^1\) Includes ratifying, acceding, accepting, and approving Parties as of Feb. 21, 2003.

\(^2\) Code key: B = Brazil  I = India  Mx = Mexico  
C = Canada  It = Italy  UK = United Kingdom  
Ch = China  J = Japan  US = United States  
F = France  K = Kenya  
G = Germany  M = Malaysia
<table>
<thead>
<tr>
<th>Amendment</th>
<th>No. of Parties</th>
<th>Date Substance(s) First Discussed</th>
<th>Date Adopted</th>
<th>Entry Into Effect (20 Parties)</th>
<th>40 Parties</th>
<th>80 Parties</th>
<th>140 Parties</th>
<th>160 Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montreal</td>
<td>90</td>
<td>N/A</td>
<td>Sept. 17, 1997</td>
<td>Nov. 10, 1999</td>
<td>July 12, 2000</td>
<td>May 13, 2002</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Beijing</td>
<td>46</td>
<td>April 1997</td>
<td>Dec. 3, 1999</td>
<td>Feb. 25, 2002</td>
<td>Nov. 11, 2002</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

1 As of Feb. 21, 2003.
2 Reflects the earliest official UNEP communication located in which any of the substances in an amendment was discussed as an ODS.
3 Includes ratifying, acceding, accepting, and approving Parties.
TABLE III

Protocol Amendments:
Scope of Applicability Timelines (Adoption to Ratification)

- **Beijing Amend.**
  - 0 12 24 36 48 60 72 84 96 108 120 132 144
  - (Currently 46 Parties)

- **Montreal Amend.**
  - 0 12 24 36 48 60 72 84 96 108 120 132 144
  - (Currently 90 Parties)

- **Copenhagen Amend.**
  - 0 12 24 36 48 60 72 84 96 108 120 132 144
  - (Currently 144 Parties)

- **London Amend.**
  - 0 12 24 36 48 60 72 84 96 108 120 132 144
  - (Currently 164 Parties)

Months (and Years)

- 20 Parties (entry-into-force)
- 40 Parties
- 80 Parties
- 140 Parties
- 160 Parties
C. Potential ODS Not Yet Controlled

1. Introduction

The substances identified by Montreal Protocol Parties as potential ODS demonstrate how slow the progression can be from the identification of a potential new ODS to the listing of that ODS in an annex to the Protocol. This extended time-lag gives producers of an ODS sufficient time to develop a global market, generating demand and creating the potential for economic and political resistance to regulation of the ODS.

2. Substances Identified by the Parties as Potential ODS

As previously discussed, Decision IX/24 provided for individual Parties to bring substances believed to be an ODS to the attention of the Ozone Secretariat. In response to Decision IX/24, as of July 2002, Parties have reported six new substances with the following estimated ODPs:

- Hexachlorobutadiene (ODP = 0.07)
- n-Propyl Bromide ("nPB") (ODP = 0.0033-0.111)
- 6-bromo-2-methoxy-naphtalene (ODP not established)
- Halon-1202 (ODP = 1.25 "best estimate")
- 1-bromo-3-chloro-propane (ODP = 0.05 "guess")

Of these five substances, none has yet been added to the Protocol. One of them, nPB, was first discussed by the Parties at least as early as April of 1997 (i.e., more than five years ago), when the Solvents Technical Options Committee ("STOC") recommended that due to its declared ODP, nPB should "be considered urgently by the Parties to the Montreal Protocol." Similarly, Halon-1202 has been an issue of concern to the Parties at least since August of 1998, when one Party noted that it was not controlled by the Montreal Protocol despite a high ODP. The remaining three new substances were reported by the Secretariat to the Open-Ended Working Group of the Parties in July 2001. Importantly, the lowest estimated ODP of any of these substances (i.e., 0.0033 for nPB) is higher than the lowest ODP of several substances already listed as controlled.

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substances in the Protocol annexes. And, the highest of these substances’ estimated ODPs (i.e., 1.25 for Halon-1202) is greater than the highest ODP of 72 of the 96 ODS listed as controlled substances in the Protocol.

In sum, the process for amending the Montreal Protocol has not yet been initiated for several substances with acknowledged ozone-depleting traits – including some with relatively high ODPs – despite the Parties' awareness of these substances for at least a year-and-a-half, and as long as five-and-a-half years. Clearly, this lag allows producers of such substances more than sufficient time to develop a market for these ODS, generating demand, and creating the potential for political resistance to regulating the substance. The result is greater risk of destruction of the ozone layer. Presciently, STOC has urged that, "in view of the history of introduction of new ODS . . . the STOC suggests that the Parties may wish to consider a mechanism to prevent future marketing of similar products."  

III. Expedited Modification Procedures in Other MEAs

A. Expedited Procedures for Adding to Control Lists Are Common in MEAs

The Ozone Secretariat presented its report at the 22nd OEWG in Montreal entitled "Precedents in Environment-Related Conventions Regarding the Procedures for Adding New Substances to a Treaty," as requested under Decision XIII/6. That report provided a useful basis for examining in further detail each of the MEAs reported.

The attached Appendix summarizes the amendment mechanisms in the Montreal Protocol and several other MEAs. As delineated in the Appendix, expedited procedures for adding items to the protective measures in these agreements – i.e., procedures whereby additions enter into force within a limited time period for all Parties to an agreement unless the Parties actively "opt-out" – are common in contemporary MEAs. Eight of the MEAs analyzed use such expedited procedures. Full ratification of such amendments, as in the Montreal Protocol, is required by just three of the other

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29 See Montreal Protocol at Annexes A-C and E.
31 1997 TEAP Report at 162.
32 UNEP/OzL.Pro/WG.1/22/3 3 April 2002 presented at 22nd OEWG, Montreal
33 E.g., substances, species, methods, protected areas, etc.
34 "Opt-out" means a process whereby a State actively objects to or reserves application of an amendment, thereby excepting itself from the otherwise automatic application of the amendment under an expedited procedure.
agreements analyzed – *i.e.*, the Kyoto Protocol and the Protocols on Heavy Metals and Persistent Organic Pollutants – the latter two of which are controlled by the same "parent" convention (the Convention on Long-Range Transboundary Air Pollution).

In light of the prevalence of expedited procedures in MEAs for adding to control lists, there is no reason that a proposal to adopt a similar procedure for adding new ODS to the Montreal Protocol should be viewed as novel, much less radical. On the contrary, adopting an expedited procedure for adding new ODS would bring the Montreal Protocol into concordance with the significant body of international environmental law represented by the MEAs analyzed here. Moreover, doing so would advance the goals of the Protocol itself – *i.e.*, to protect the stratospheric ozone layer by taking precautionary measures to control global emissions of ozone-depleting substances ("ODS"), with the ultimate objective of eliminating such substances based on developments in scientific knowledge.\(^{35}\)

As discussed in Part II, using the full, formal amendment procedure for adding new ODS conflicts with these goals, resulting in both delay and ineffectiveness of measures to protect the ozone layer.

**B. Expedited Procedures Are Efficient and Effective**

As set forth in the Appendix to this report, expedited procedures in MEAs commonly establish a mechanism – separate from the formal amendment procedure that is typical of all international agreements – whereby modifications to control lists are proposed by individual Parties for consideration by an executive body comprised of Member State representatives. Generally, the proposal is adopted by consensus or, failing consensus, a super-majority of the Member State representatives voting at the executive body meeting. Once a modification is adopted, it is circulated to the Parties for their consideration for a limited period during which Parties may opt-out of its application (*i.e.*, by entering an objection or reservation). Upon the expiration of that period, the modification becomes effective for all Parties except those that opt-out. As indicated in the Appendix, this period is usually just 90 days or six months. At the latest, entry into effect occurs one year after adoption (*e.g.*, Stockholm Convention on Persistent Organic Pollutants). In fact, the ‘opt-out’ option is very rarely used (see Table IV of the Appendix).

This stands in stark contrast to the timelines for entry-into-force and applicability of amendments to the Montreal Protocol, discussed in Part II and shown in Tables II and III above, which show a lag of more than a year between adoption of an amendment and ratification by a sufficient number of Parties merely to enter into force generally in each instance – indeed, sometimes nearly two years (*e.g.*, the Montreal and London Amendments). In the case of the London Amendment, it has taken nearly *twelve years* just to reach 164 Parties, representing only 89% of all Montreal Protocol Parties.

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\(^{35}\) Montreal Protocol at Preamble (as amended) (paragraph beginning "Determined") (emphasis added).
Granted, given the qualitative differences in the substantive scope of various MEAs, each MEA imposes different costs on the Parties involved. Nonetheless, in light of the great contrast in timelines between the expedited procedures discussed here and the actual experience under the Montreal Protocol, it is clear that expedited procedures like those in the other MEAs are much more efficient than the Montreal Protocol's procedure.

These expedited procedures are also quite effective, in that the vast majority of the Parties to the MEAs become party to the modification adopted via the procedures. Although an opt-out option exists, it is not often exercised by Parties to the respective MEAs. Table IV at the back of the Appendix shows that the Parties to the MEAs analyzed have accepted virtually all modifications adopted via the expedited procedures. As this table shows, the average number of "opt-outs" (i.e., reservations or objections) to modifications adopted via these procedures by all Parties is far less than one per modification. This demonstrates that expedited procedures are vastly more effective than standard amendment procedures like those in the Montreal Protocol for ensuring that additions to, or modifications of, control lists are of very broad – indeed, nearly universal – scope of application. This enhanced effectiveness would better advance the Protocol's stated ultimate objective of completely eliminating ODS.

C. Montreal Protocol Parties Accept Expedited Procedures in Other MEAs

As the Appendix illustrates, each of Parties to the Montreal Protocol selected as examples for this report is also a Party to several MEAs that use expedited modification procedures. As discussed above, these Parties have not only accepted the legitimacy of an expedited modification procedure, but almost always agree with modifications made via these procedures (i.e., by not opting-out). As Table IV shows, the number of times any of the selected example Montreal Protocol Parties has opted-out of such modifications is negligible. Hence, although it is true that not all countries accept expedited procedures in all MEAs, the selected countries have accepted both expedited modification procedures and the substantive changes to control lists resulting from the expedited mechanisms on numerous occasions in other MEAs.


It is suggested that the Parties to the Montreal Protocol keep in mind the following set of principles when considering a possible expedited mechanism for adding new ODS. These principles will help guide the Parties to a decision that best promotes the Protocol’s goal of protecting the stratospheric ozone layer from ODS.
Principle 1:  
**Responsive to scientific, technical and economic assessment of new ozone depleting substances**

While no one disagrees that all Protocol decisions must be based on sound scientific knowledge, new ODS must be assessed and reported more frequently than is currently the case. Basing decisions on sound and responsive scientific, technical and economic assessments will best advance the Protocol's stated objective of eliminating ODS "based on developments in scientific knowledge taking into account technical and economic considerations."

Principle 2:  
**Fast & widespread application of modifications to control lists**

A new mechanism should ensure that, after scientific, technical and economic assessment, new ODS is added quickly to the Protocol and that controls apply to as many Parties as possible and as quickly as possible, taking into account existing national constitutional structures and legislation that may already be in place. The Protocol’s Annex modification mechanism must be efficient (that is, the process for adding new ODS should be fast), and effective (that is, once adopted, the applicability of modifications to the Parties should become widespread).

Principle 3:  
**Responsive to new information, flexibility in timing and scope of control**

A new mechanism for adding ODS to the Protocol should consider new information as soon as it becomes available, even during the Annex modification process. However, all new information must be verified by SAP before it is assumed to be accurate. Based on scientific information, the new mechanism should consider appropriate timing and level of control. The other treaties discussed in this report contain exemplary procedures for establishing multiple layers of control based on, for example, the degree of scientific certainty and specific nature of the threat.

Principle 4:  
**Consistent with established international precedent**

A new expedited procedures mechanism should consider successful precedents in other treaties which are now accepted by a broad spectrum of Parties. These precedents provide tested examples to guide the Montreal Protocol Parties' consideration of an expedited mechanism for adding new ODS to the Protocol. In addition, the Montreal Protocol's own adjustment mechanism for changing ODPs and control schedules for currently listed controlled substances provides a good precedent for the Parties' consideration of an expedited mechanism.
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