OPEN-ENDED WORKING GROUP OF THE PARTIES TO
THE MONTREAL PROTOCOL ON SUBSTANCES THAT
DEPLETE THE OZONE LAYER

Twentieth meeting
Geneva, 11-13 July 2000

SUMMARY OF THE RECOMMENDATIONS OF THE TECHNOLOGY AND
ECONOMIC ASSESSMENT PANEL

Note by the Secretariat

1. The report of the Technology and Economic Assessment Panel (TEAP) for the
year 2000 has been communicated to all the Parties. The present note provides a
summary of the recommendations of the Panel on various issues.

   Agenda item 3(a): Presentation of the report of the Technology and Economic
   Assessment Panel on emissions of ozone-depleting substances from feedstock
   applications (decision X/12)

2. The Panel estimated the emissions of carbon tetrachloride, used as a
feedstock to manufacture CFCs, at 26,378 tonnes in 1998. The methodology of
arriving at this figure is detailed by the Panel in paragraph 3.6.2 of its
report.

3. The main source of the emissions is from CFC production in Article 5
Parties and countries with economies in transition. The Panel has suggested the
closure of CFC manufacturing facilities as soon as possible and use of emissions
control technology in CTC and CFC manufacturing facilities in all countries.
The Panel estimated that the emissions would be reduced to zero by the year
2010, concurrent with the phase-out of CFCs in all countries.

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meetings and not to request additional copies.
4. The Panel has been unable to update available data on emissions of other ozone-depleting substances arising from use as feedstocks. The Panel stated that it will collect this information in the report for the year 2001.

Agenda item 3(b): Applications for essential-use exemptions for ozone-depleting substances for the year 2001 and beyond

5. Four parties, Australia, European Community, Poland and United States of America have applied for essential-use exemption for metered-dose inhalers (MDIs). The Panel’s observations are as follows:

(a) The Australian nominations showed a commendable reduction in quantities of CFCs used, from 302 tonnes in 1993 to 110 tonnes in 2000. The nominations for the years 2001 and 2002 of 74.95 tonnes for each year were recommended.

(b) Concerning the European Community, the general trend toward a reduction in anticipated use of CFCs is commendable. However, the stockpile of CFCs of 4,272 tonnes in 1999 is high and warrants further comment and elaboration from the nominating Party. The amount of 2,785 metric tonnes was recommended, with the recommendation to reduce the stockpile as production declines.

(c) Concerning Poland, the nominated quantities continue to decline yearly and this is commendable. The nominations for the years 2001 and 2002 of 320 and 300 tonnes, respectively, were recommended.

(d) Concerning the United States of America, the strategic reserve of CFCs has decreased by 22 per cent and this is commendable. The nomination for 2002 of 2,900 tonnes was recommended.

6. The Panel has observed that the total CFC use for MDIs by non-Article 5 Parties has fallen by 9.5 per cent, from 8,290 tonnes in 1996 to an estimated 7,501 tonnes in 1999. The Article 5 Parties use about 1,500 tonnes of CFCs for MDIs. Of 450 million MDIs manufactured in 1999, 380 million were MDIs with CFCs and 70 million were HFC-based MDIs.

7. The Panel noted that the current nominations included information about prevalence of asthma and about diseases treated with MDIs. This information is reported annually, unchanged. The Panel recommends that, unless there are new developments in this information, information under section (II) A (1) of the Handbook on Essential Use Nominations is not required if the proposed use is for the treatment of asthma and chronic pulmonary obstruction diseases (COPD). The Panel also recommends that additional information be provided regarding CFC-free MDIs currently licensed, trends in the usage of non-MDI treatments, etc. The Panel will change the Handbook, as appropriate.

8. The Panel has also noted that, although two companies make MDIs with CFCs in the Russian Federation, that country has made no essential-use nomination for 1999 and beyond.

9. The Russian Federation established a halon - 2402 management programme which is making good progress. For that reason, the Russian Federation has not submitted another essential-use nomination of halon 2402 for 2001. A halon
recovery and recycling programme is under development and the Global Environment Facility is considering supporting it.

10. Poland has requested CFC -113 for use in the maintenance of oxygen systems in torpedoes. Since alternatives were available for this use, the Panel requested the Solvent Technical Options Committee (STOC) to hold discussions with the manufacturer of the torpedoes in Kazakhstan and with Poland on the need for the CFC-113. Some members of the STOC held meetings with the manufacturers in Kazakhstan and with Polish Navy Headquarters to discuss alternatives to CFC-113. Both the Polish Navy and the manufacturers agreed to evaluate further technical options and submit reports. In view of the long time required to adjust to the alternative, the Panel recommends that Poland be granted 0.85 tonnes of CFC-113 for the year 2001 only.

11. A summary of the recommendations of the Panel is given in the table below:

<table>
<thead>
<tr>
<th>No.</th>
<th>PARTY</th>
<th>CFCs</th>
<th>CFC 113</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Australia</td>
<td>74.95</td>
<td>74.95</td>
</tr>
<tr>
<td>2.</td>
<td>European Community</td>
<td>-</td>
<td>2,785</td>
</tr>
<tr>
<td>3.</td>
<td>Poland</td>
<td>320</td>
<td>300</td>
</tr>
<tr>
<td>4.</td>
<td>United States of America</td>
<td>-</td>
<td>2,900</td>
</tr>
<tr>
<td>5.</td>
<td>TOTAL</td>
<td>394.95</td>
<td>6,059.95</td>
</tr>
</tbody>
</table>

Agenda item 4(a): n-propyl bromide (decision X/8, paragraph 5(a))

12. The Panel has noted that global consumption of the substance currently lies between 2,000 and 5,000 tonnes per annum and is increasing. It is used as a solvent. Its consumption could increase to 60,000-100,000 tonnes in the next five years. The Scientific Assessment Panel will report to the Working Group meeting on the ozone-depleting potential.

Agenda item 4(b): Halon -1202 (decision X/8, paragraph 5(b))

13. Halon-1202 is used in three types of military aircraft. It is estimated that about 2 tonnes are used annually, out of 110 tonnes installed. Increases in atmospheric concentrations of halon -1202 cannot be explained by its use as a fire extinguisher. Halon- 1202 is also used as a feedstock for the production of halon-1211. Emissions of halon-1202 are mostly due to use as feedstock during the production of halon -1211 by Article 5 Parties.

Agenda item 4(c): New ozone-depleting substances (decision IX/24, paras. 3 and 4)

14. There is no new information on this issue.
Agenda Item 5: Other issues arising out of the report of the Technology and Economic Assessment Panel

15. The Panel has given a progress report on the adoption of alternatives to CFCs in the various sectors.

16. The Panel has coordinated its work on available and potential ways and means of limiting emissions of hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) with the United Nations Framework Convention on Climate Change (UNFCCC).

17. A joint Intergovernmental Panel on Climate Change (IPCC)/TEAP Expert Meeting was held at Petten, Netherlands, from 26-28 May 1999, and the reports of the meeting were distributed to the Parties.

18. One aspect of the ongoing collaboration with the Subsidiary Body on Science and Technology (SBSTA) under UNFCCC, as well as with IPCC, is that several TEAP and TOC members are lead authors of the Appendix to Chapter 3 of the IPCC Third Assessment Report, Working Group III, entitled “Options to Reduce Global Warming Contributions from Substitutes of Ozone-Depleting Substances.”

19. The Panel has conducted a self-assessment of its operations and suggested the following other issues arising out of the report of the Panel:

   (a) The Technical Options Committees (TOCs) may be renamed Technical Assessment Committees (TACs) in view of the increasing availability of technical options and the shift in emphasis to technical assessment of the alternatives.

   (b) Each TAC may have 20-35 reporting members and a similar number of consulting members. The reporting members will attend the meetings of TOCs and help with the completion of the reports, while the consulting members provide technical information, as necessary.

   (c) The Economic Options Committee (EOC) will be transformed. The EOC Co-Chairs will be TEAP Senior Economic experts and will use consulting members to respond to assignments from Parties.

   (d) Mr. J. Corona, Co-Chair of the Solvents TAC will become senior expert member of the Panel. Effective December 2000, Dr. T. Bachelor and Dr. Rodrigo Rodrigues-Kabana will resign as Co-Chairs of the Methyl bromide Technical Options Committee (MBTOC) and as members of the Panel, though both will continue as members of MBTOC.

20. The Panel wishes to network with the Secretariat of the Multilateral Fund for the Implementation of the Montreal Protocol and the implementing agencies, in order to improve its knowledge base and requests the Parties to invite, permit and request them to contribute information to the Panel and to participate in the assessment process.

21. The Panel has suggested that the chapeau of the terms of reference of the Panel, as approved in decision VIII/19 of the Eighth Meeting of the Parties, (see UNEP/OzL.Pro.8/12, annex V) may then read as follows.

   “Parties have requested that the Technology and Economic Assessment Panel (TEAP) annually update the status of technical feasibility and the phase-out...
process. As the availability of technical options increases, the technical issues related to the implementation of alternatives and substitutes have acquired more importance for the purpose of assessment. This warrants that TEAP should, in addition to cataloguing new technical options -- which emerge from time to time -- and evaluating their technical and economic feasibility, assess the technical aspects of the implementation of control measures, as envisaged in Article 6 of the Montreal Protocol. This would include the assessment of solutions to common technical problems encountered during the implementation of technologies.”

The title of section 2 of the terms of reference would read:

“......Technical Assessment Committees (TACs) and Temporary.....”

Section 2.5 of the terms of reference would read as follows:

“2.5 Appointment of Members of TACs

“Each TAC should have about 20-35 reporting members, and a lesser number of consulting members. All the TAC members are appointed by the TAC Co-Chairs in consultation with the TEAP. Reporting members are expected to attend all TAC meetings to provide technical expertise and to ensure that the reports are completed according to the Terms of Reference and the assignments from the Parties. Consulting members contribute technical information but do not necessarily attend TAC meetings. The TAC Co-Chairs periodically review the TAC membership and make adjustments if necessary.”

In the terms of reference (UNEP/OzL.Pro.8/12, annex V) all acronyms “TOC” would have to be replaced by “TAC”.

22. The Working Group may wish to discuss the suggestions of the TEAP.

23. Dr. Lambert Kuijpers, one of the Co-chairs of the Panel, was fully supported by the Netherlands till the middle of 1997. During 1998 and 1999, a number of European countries and the European Commission provided partial financial support for him. The Ozone Secretariat contributed US$20,624 to his budget in 1998 and US$44,323 in 1999. Dr. Kuijpers charges for a part of his
time that he spends on his activities for the Panel. In the year 2000, the contributions from the European Community and the European countries are expected to total US$42,052 and the Ozone Secretariat is to contribute US$42,556.

24. The Working Group may wish to discuss the contribution from the budget of the Secretariat to the services of Dr. Lambert Kuijpers.

Agenda item 6: Review of HCFC control measures for Parties operating under paragraph 1 of Article 5 (decisionVII/3, paragraph 3)

25. The proposal by the European Community to modify the phase-out schedule for consumption of HCFCs in Parties operating under paragraph 1 of Article 5 is contained in document UNEP/OzL.Pro/WG.1/20/2/Add.1. It reflects the 10-year grace period and is based on a freeze of actual HCFC consumption, rather than using the cap methodology which, according to the European Community, could unfairly disadvantage some Article 5 Parties. The table below shows a summary of the proposed phase-out schedule of HCFCs, with the proposed new controls in bold.

<table>
<thead>
<tr>
<th>Control</th>
<th>Non-Article 5(1) Parties</th>
<th>Article 5(1) Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze</td>
<td>1996 (at a cap of 2.8%)</td>
<td>2007 (on 2006 consumption)</td>
</tr>
<tr>
<td>-35%</td>
<td>2004</td>
<td>2014</td>
</tr>
<tr>
<td>-65%</td>
<td>2010</td>
<td>2020</td>
</tr>
<tr>
<td>-90%</td>
<td>2015</td>
<td>2025</td>
</tr>
<tr>
<td>-99.5%</td>
<td>2020</td>
<td>2030</td>
</tr>
<tr>
<td>Phase-out</td>
<td>2030</td>
<td>2040</td>
</tr>
</tbody>
</table>

26. The meeting may wish to consider the above proposal.