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**Open-ended Working Group of the Parties to  
the Montreal Protocol on Substances that  
Deplete the Ozone Layer  
Thirty-third meeting**  
Bangkok, 24–28 June 2013  
Items 3–13 of the provisional agenda\*

## **Issues for discussion by and information for the attention of the Open-ended Working Group of the Parties to the Montreal Protocol at its thirty-third meeting**

**Note by the Secretariat**

**Addendum**

### **Introduction**

1. Section I of the present addendum contains new information on the issues on the agenda for discussion by the Open-ended Working Group of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer at its thirty-third meeting that has become available since the drafting of the relevant note by the Secretariat (UNEP/OzL.Pro.WG.1/33/2). In particular, it contains brief summaries of key information provided by the Technology and Economic Assessment Panel in the three volumes of their 2013 progress report. As referred to in the relevant section of the present addendum, the executive summary of volume 3 of the progress report that responds to decision XXIV/8 is contained in the annex to the present addendum. The annex is presented as received from the Panel; it has not been formally edited.

2. Section II sets out information on matters that the Secretariat would like to bring to the attention of the parties, updating the similar section of the above-mentioned note by the Secretariat (UNEP/OzL.Pro.WG.1/33/2).

## **I. Summary of issues for discussion by the Open-ended Working Group at its thirty-third meeting**

### **Agenda item 3**

#### **2013 progress report of the Technology and Economic Assessment Panel**

3. The 2013 progress report of the Technology and Economic Assessment Panel consists of three volumes. Volumes 1 and 3 were posted on the Ozone Secretariat meeting portal as follows:

(a) Volume 1, containing the essential-use and critical-use evaluation, process agent and feedstock uses, quarantine and pre-shipment report, update on ozone-depleting substances on ships and various progress reports of the technical options committees, was made available on 2 May 2013;

\* UNEP/OzL.Pro.WG.1/33/1.

(b) Volume 3, containing the report of the task force established in response to decision XXIV/8 on the Technology and Economic Assessment Panel organizational and procedural issues, was made available on 7 May 2013.

4. At the time of drafting the present addendum, volume 2, containing the report of the task force established in response to decision XXIV/7, on additional information on alternatives to ozone-depleting substances, was not yet available.

#### Agenda item 4

#### Issues related to exemptions under Article 2A–2I of the Montreal Protocol

##### (a) Nominations for essential-use exemptions for 2014 and 2015

5. The review of, and recommendations on, the two essential-use nominations by China and the Russian Federation for chlorofluorocarbons (CFCs) for metered-dose inhalers by the Technology and Economic Assessment Panel may be found in volume 1 of the Panel's 2013 progress report, section 1.2, while its review and recommendation on the essential-use nomination by the Russian Federation for CFC-113 for the aerospace industry may be found in section 3.6 of the same report.

6. Table 1 summarizes the parties' nominations and the initial recommendations of the Panel. A brief explanation is provided in footnotes where the Panel's recommendation differs from the nominated amount.

Table 1

##### Essential-use nominations for CFCs submitted in 2013 for 2014 and 2015 (in metric tonnes)

| <i>Party</i>   | <i>Approved for 2013</i> | <i>Nominated for 2014</i> | <i>Recommendation</i> | <i>Nominated for 2015</i> | <i>Recommendation</i> |
|--|--------------------------|---------------------------|-----------------------|---------------------------|-----------------------|
| Parties not operating under paragraph 1 of Article 5           |                          |                           |                       |                           |                       |
| Russian Federation (metered-dose inhalers)                     | 212                      | 212                       | 106 <sup>1</sup>      | -                         | -                     |
| Russian Federation (aerospace)                                 | 95                       | 85                        | 85                    | -                         | -                     |
| Subtotal: parties not operating under paragraph 1 of Article 5 | 307                      | 297                       | 191                   | -                         | -                     |
| Parties operating under paragraph 1 of Article 5               |                          |                           |                       |                           |                       |
| China (metered-dose inhalers)                                  | 388.82                   | 236.6                     | 235.05 <sup>2</sup>   | 221.59                    | Unable to recommend   |
| Subtotal: parties operating under paragraph 1 of Article 5     | 388.82                   | 236.6                     | 235.05                | 221.59                    | -                     |
| <b>Total</b>   | <b>695.82</b>            | <b>533.6</b>              | <b>426.05</b>         | <b>221.59</b>             | <b>[0]</b>            |

<sup>1</sup> The Panel has recommended this amount in the light of the delay in the completion of the non-CFC metered-dose inhaler production facilities and the associated market transition to non-CFC metered-dose inhalers that necessitated the Russian Federation having to submit a nomination despite having declared that an exemption would not be required in 2014.

<sup>2</sup> The Panel was unable to recommend 1.55 tonnes of CFCs for the manufacture of metered-dose inhalers for the active ingredients isoprenaline and salbutamol.

7. Parties may wish to consider the review and recommendations of the Panel and plan the way forward for further consideration and appropriate action by the Twenty-Fifth Meeting of the Parties in 2013.

##### (b) Nominations for critical-use exemptions for 2014 and 2015

8. The evaluation by the Methyl Bromide Technical Options Committee of the five critical-use nominations submitted by Australia, Canada and the United States of America, and the Committee's interim recommendation on each nomination, may be found in chapter 9 of the Panel's 2013 progress report, volume 1.

9. Table 2 summarizes the parties' nominations and the interim recommendations of the Committee.

Table 2

**Summary of the nominations for 2015 critical-use exemptions for methyl bromide submitted in 2013 and interim recommendations of the Methyl Bromide Technical Options Committee (in metric tonnes)**

| <i>Nominating party and sector</i>  | <i>Nomination</i>      | <i>Interim recommendation</i> |
|---|------------------------|-------------------------------|
| 1. <b>Australia</b><br>Strawberry runners                                     | 29.7                   | [0]                           |
| 2. <b>Canada</b><br>Strawberry runners  | 5.261                  | [5.050]                       |
| 3. <b>United States of America</b><br>Strawberry fruit<br>Dates<br>Cured pork | 373.66<br>0.31<br>3.24 | [224.196]<br>[0]<br>[3.24]    |
| <b>Total</b>  | <b>412.231</b>         | <b>232.486</b>                |

10. The Parties may wish to consider the review and recommendations of the Committee and plan the way forward for further consideration and appropriate action by the Twenty-Fifth Meeting of the Parties, keeping in mind that the Panel will prepare a final report with final recommendations for the Twenty-Fifth Meeting of the Parties, taking into account any further information and bilateral discussions with the nominating Parties.

(c) **Handbook on critical-use nominations for methyl bromide (decision XXIII/14, paragraph 2; report of the Sixteenth Meeting of the Parties (UNEP/OzL.Pro.16/17), annex I, paragraph 29)**

11. The Methyl Bromide Technical Options Committee has prepared a draft version 7.1 of the handbook on critical-use nominations for methyl bromide, incorporating the comments and concerns expressed by a number of parties at the Twenty-Fourth Meeting of the Parties on the decision-making process of the Committee and the economic guidelines. The changes made to the handbook since draft version 7 was presented to the parties in 2012 are tracked in draft version 7.1, which is available from the Ozone Secretariat meeting portal.<sup>1</sup>

12. The Parties may wish to consider draft version 7.1 of the handbook with a view to possible approval of the handbook by the Twenty-Fifth Meeting of the Parties.

(d) **Quarantine and pre-shipment uses of methyl bromide (decisions XXIV/15, paragraph 1; XXIII/5, paragraph 6)**

13. In decision XXIII/5, paragraph 6, the Meeting of the Parties requested the Technology and Economic Assessment Panel to provide, for consideration by the Open-ended Working Group at its thirty-third meeting, a concise report based on the information that parties reported to the Secretariat by 31 March 2013 on methyl bromide use to comply with phytosanitary requirements, in accordance with paragraph 2 of the same decision. As at 31 March 2013, one party had reported such information, while six more Parties provided information after the deadline date but in time for its inclusion in the report of the Panel. In decision XXIII/5, paragraph 5, the Panel was requested by the Meeting of the Parties to provide, for consideration by the Open-ended Working Group at its thirty-second meeting in 2012, a concise report on trends in methyl bromide use for quarantine and pre-shipment purposes based on Article 7 data and guidance on procedures and methods for data collection.

14. The Panel's response to decision XXIII/5 is contained in sections 8.4 and 8.5 of its 2013 progress report, volume 1. Section 8.4 sets out the report on trends in methyl bromide production and consumption for quarantine and pre-shipment purposes, based on the Article 7 data submitted by the parties to the Secretariat for 2011; the registration status of alternatives; and a review of International Standard for Phytosanitary Measures No. 15 (ISPM 15), which was developed under the International Plant Protection Convention. The report updates the information presented to the parties in 2012 in chapter 10 of the Panel's 2012 progress report, volume 1. Section 8.5 responds to decision XXIII/5, paragraph 6, and reviews the information provided by seven parties on their methyl bromide use for quarantine and pre-shipment purposes.

<sup>1</sup> <http://conf.montreal-protocol.org/meeting/oewg/oewg-33/presession/default.aspx>.

15. In accordance with decision XXIV/15, paragraph 1, the parties may wish to consider whether to request the Panel to undertake an analysis of trends in Article 7 data on methyl bromide use for quarantine and pre-shipment purposes, taking into account the information submitted in accordance with decision XXIII/5 and how to improve that information.

(e) **Uses of controlled substances as process agents (decisions XXII/8, paragraph 5; XVII/6, paragraph 6; XXIV/6, paragraph 4)**

16. A number of decisions of the Meeting of the Parties have requested the Technology and Economic Assessment Panel to periodically review process-agent uses, including progress made in reducing such uses and related emissions, emissions-reducing techniques, make-up quantities as well as the development and adoption of alternatives. In the most recent decision on process-agent uses, decision XXIII/7, paragraph 6, the Meeting of the Parties requested the Panel to provide to the Open-ended Working Group, at its thirty-second meeting, a summary report updating the Panel's findings on the remaining 14 process-agent uses listed in table A of decision X/14 and, taking into account relevant information from previous investigations, to estimate emissions from process-agent uses and their impact on the ozone layer and the climate. In response to that request, the Panel reviewed five (i.e., numbers 1, 2, 6, 9 and 14) of the 14 remaining uses and identified that three uses (i.e., numbers 10, 11 and 12) were no longer being applied. The Panel indicated that it would review the remaining uses in future progress reports.

17. In 2013, the Panel received further specific information from relevant parties and concluded their review of an additional three uses (i.e., numbers 5, 7 and 8) in table A of decision X/14. In accordance with decision XVII/6, paragraph 6, the report of the Executive Committee is expected to be available in due course.

18. The Twenty-Fourth Meeting of the Parties adopted decision XXIV/6 on feedstock, which is of some relevance to process agents, particularly paragraph 4 on vinyl chloride monomer (VCM) production facilities in which carbon tetrachloride is used as either feedstock or process agent. In 2012, the Panel reviewed VCM processes in India and the European Union and concluded that in those processes the use of carbon tetrachloride was a feedstock use; this was confirmed by the Twenty-Fourth Meeting of the Parties in decision XXIV/6, paragraph 3. In 2013, the Panel reviewed the VCM process in the United States of America and concluded that it differed from those employed in India and the European Union and was not a feedstock use.

19. The parties may wish to consider the reports of the Panel and the Executive Committee and discuss the way forward.

## **Agenda item 5**

### **Report by the Technology and Economic Assessment Panel on additional information on alternatives to ozone-depleting substances (decision XXIV/7, paragraph 1)**

20. In response to decision XXIV/7, the Technology and Economic Assessment Panel established a task force to prepare a draft report on alternatives to ozone-depleting substances, updating information on alternatives and technologies in various sectors. The report of the task force was not available at the time of drafting the present addendum. Once it has been finalized, a brief summary of the report will be included in the second addendum to the note by the Secretariat (UNEP/OzL.Pro.WG.1/33/2/Add.2).

## **Agenda item 7**

### **Organizational issues related to the Technology and Economic Assessment Panel**

(a) **Report of the Technology and Economic Assessment Panel on operational and organizational issues (decision XXIV/8, paragraphs 1 and 3)**

21. In response to decision XXIV/8, the Technology and Economic Assessment Panel established a task force to make recommendations on the future configuration of its technical options committees bearing in mind anticipated workloads and to compile information on the standard operating procedures of the technical options committees. The report is contained in the Panel's 2013 progress report, volume 3, and the executive summary of the report is set out in the annex to the present addendum.

22. The report makes recommendations for the future configuration of the technical options committees based on the current phase-out scenario of the Montreal Protocol and, assuming that the term “configuration” applies to the membership and operation of a technical options committee, the balance of expert members of the committee from parties operating under paragraph 1 of Article 5 and parties not so operating as well as the gender balance and regional representation. The Panel suggests that those balances can be improved to comply with decision XXIV/8, while retaining and recruiting the requisite technical expertise based on issues anticipated to come before the parties. The following paragraphs provide a brief summary of the recommendations. The parties are encouraged to read the full report of the Panel in order to understand the background to its recommendations. Table 3 below sets out the estimated future membership of the technical options committees.

Table 3

**Estimated future membership of the technical options committees**

|              | <i>2013–2014</i> | <i>2014–2018</i>    | <i>Post-2018</i>   |
|--------------|------------------|---------------------|--------------------|
| <b>CTOC</b>  | 15               | ~17                 | ~5                 |
| <b>FTOC</b>  | 18–24            | 18–24 <sup>a</sup>  | 12–18 <sup>b</sup> |
| <b>HTOC</b>  | 21               | ~15                 | ~10–15             |
| <b>MTOC</b>  | 28–29            | ~10–14 <sup>c</sup> | ~1–4               |
| <b>MBTOC</b> | 31               | ~20–25              | ~20–25             |
| <b>RTOC</b>  | 38               | 35–40               | 35–40              |

a One third corresponding members (members who participate solely by electronic or telephonic means - for full definition see section 3.2.1, volume 3, of the Panel’s 2013 progress report).

b Two thirds corresponding members.

c Four corresponding sterilants experts, 21–22 metered-dose inhaler experts (one member from a party operating under paragraph 1 of Article 5 retired immediately after the 2013 MTOC meeting), and three co-chairs, decreasing the total to 10–14 corresponding members, including four sterilants experts, during the period 2014–2015.

23. **Chemicals Technical Options Committee:** The current membership is 15: 8 from parties operating under paragraph 1 of Article 5 and 7 from parties not so operating and countries with economies in transition. Four members are women. The current assignments of the Chemicals Technical Options Committee include:

- (a) To review process-agent uses and emissions of ozone-depleting substances;
- (b) To report on feedstock uses and emissions of ozone-depleting substances;
- (c) To assess essential-use nominations for solvents; to survey ozone-depleting substance solvents, including n-propyl bromide;
- (d) To study discrepancies between top-down and bottom-up carbon tetrachloride emission estimates;
- (e) To review laboratory and analytical uses of ozone-depleting substances;
- (f) To assess destruction technologies.

24. The current configuration of the Chemicals Technical Options Committee is well-matched to the present and anticipated workload according to the 2013–2014 assessment. Most of the Committee members wish to renew their appointments in 2014. A member from India will need to be replaced, and the Government of India has been requested to nominate a successor. One of the co-chairs from a party not operating under paragraph 1 of Article 5 is unlikely to continue to be a member beyond 2013. A third co-chair would be desirable in the light of the need for a balance of expertise and regional representation.

25. The focus of the future workload of the Chemicals Technical Options Committee for 2014–2018 is likely to be as follows:

- (a) Solvents: to assess the technical and economic feasibility of the phase-out of hydrochlorofluorocarbon (HCFC) solvents in parties operating under paragraph 1 of Article 5 and to review low-global-warming-potential and ultra-low-global-warming-potential alternatives;
- (b) Process-agent and feedstock uses: to assess how to handle carbon tetrachloride technical and economic issues and the technical feasibility of phasing out process agent and feedstock uses;

(c) Laboratory and analytical uses: to review alternative methods and their promotion if parties so request;

(d) Destruction: to assess emerging technologies.

26. It would be desirable to attract more members with industry experience for future work. Members could be sought from parties operating under paragraph 1 of Article 5 in which chemicals industries are located so that funding could be leveraged.

27. Post-2018, the assessment of emerging destruction technologies as well as issues related to carbon tetrachloride will remain key issues. Estimated membership of the Chemicals Technical Options Committee is less than 5 in the post-2018 period.

28. **Flexible and Rigid Foams Technical Options Committee:** The current membership is 18: 7 from parties operating under paragraph 1 of Article 5 and 11 from parties not so operating. One member is a woman. Gender balance has been a concern mainly owing to the scarcity of experts who are women within the foam sector. The addition of regulatory expertise may be beneficial in that regard.

29. The workload for 2014–2018 will be dominated by two important reports: the foam sector input into the report of the Technology and Economic Assessment Panel's task force established in response to decision XXIV/7 and the 2014 assessment report. The Foams Committee requires additional expertise in order to deliver optimal outputs. The commercialization of key alternatives and the implications for the implementation of HCFC phase-out management plans will be a critical area of work. Important input from experts from parties not operating under paragraph 1 of Article 5 may be managed via corresponding members.

30. It is expected that the structure of the Foams Committee will need to be retained in the post-2018 period. The proportion of corresponding members could be increased: the membership of the Committee could consist of the co-chairs represented on the Technology and Economic Assessment Panel and corresponding members. All significant transitional issues are expected to be completed by 2022 unless further changes are made to the scope of the Montreal Protocol that require additional steps.

31. **Halons Technical Options Committee:** The current membership is 21 members: 10 members from parties operating under paragraph 1 of Article 5 and 11 members from parties not so operating. Two members are women. The Committee is seeking to strengthen its expertise related to civil aviation uses and maintain or improve its current capabilities for global and regional banking issues related to supplies, availability and quality. A gender bias within the industry itself has resulted in the gender imbalance in the Committee.

32. During the period 2014–2018, the Halons Committee foresees a need to retain a significant portion of its current expertise but also opportunities to reduce its overall size. The work envisaged for the period includes continued work with the International Civil Aviation Organization (ICAO) to monitor and effect progress in halon phase-out in the civil aviation sector, and the provision of technical assessments and assistance for the development of additional changes to the Convention on International Civil Aviation of 1944 (the Chicago Convention) for consideration during the 2016 ICAO General Assembly. Work on halon banks will continue, including on the issue of contamination and purification. In the years following the 2014 assessment, the required membership level should decline by approximately 25 per cent.

33. Similar types of work are envisaged for the post-2018 period. The production of aircraft that require halon for their initial set up and lifetime support will probably continue well beyond 2018. Owing to a lack of halon of sufficient quality, the need may arise for evaluation of essential-use nominations. The Committee will also monitor progress and assess the impact of the new low-global-warming-potential agents. After 2018, the membership requirements may decline further and the use of consulting experts may be optimal for matters that require infrequent assessment or that are not predicted to be important.

34. **Medical Technical Options Committee:** The current membership is 29: 11 members from parties operating under paragraph 1 of Article 5 and 18 members from parties not so operating. Four members are women. In terms of expertise, 21 are metered-dose inhaler experts and four are sterilants experts (corresponding members from parties not operating under paragraph 1 of Article 5). Although the Committee in the past has included medical aerosols experts, there are none at present. To date, one member (metered-dose inhalers expert) has announced his retirement in March 2013, and two (one metered-dose inhalers expert and one sterilants expert) have announced their retirement at the end of 2014.

35. The Medical Technical Options Committee has considered alternative means of participation of its members to ensure that adequate expertise is retained and the most efficient methods of working are employed. For example, the Committee's sterilants experts are wholly corresponding members who have been working solely by electronic means for around 15 years. In addition, the Committee as a whole has managed to prepare quadrennial reports entirely via correspondence for the last two assessments, without any need for a physical meeting.

36. From 2014 onwards, the annual workload of the Committee is likely to diminish with only one country likely to be nominating essential-use exemptions for chlorofluorocarbons for metered-dose inhalers in 2014 and the global phase-out of chlorofluorocarbon metered-dose inhalers expected to conclude during 2015–2016. In 2014, the Committee will review any nominations for essential-use exemptions and prepare its 2014 assessment report. Current expertise for chlorofluorocarbons for metered-dose inhalers is adequate and remains necessary for 2014–2018. Renomination will therefore be sought for existing members who are willing and able to continue serving on the Committee. Parties not operating under paragraph 1 of Article 5 are likely to continue the phase-out of HCFCs in sterilization. Only a brief 2018 assessment report will be required.

37. One option for the Committee would be to merge its membership into another technical options committee, such as the Chemicals Technical Options Committee. It could, for example, maintain two sitting members on the Chemical Technical Options Committee who could be responsible for coordinating a small group of corresponding metered-dose inhalers and sterilants experts. The broad expertise required to service an amalgamated Chemicals Technical Options Committee and Medical Technical Options Committee might, however, result in larger-than-desirable total membership numbers. A transition to new arrangements might be appropriate during the period 2014–2015.

38. Towards the end of the current decade, HCFC phase-out in sterilization will be completed in parties not operating under paragraph 1 of Article 5 while the same transition in parties operating under paragraph 1 of Article 5 will be dependent on the lifetimes of existing HCFC-containing equipment. The appointment of a senior expert member on the Technology and Economic Assessment Panel to provide advice on sterilants and continuing metered-dose inhaler issues may be considered. The senior expert member could be supported by corresponding members as necessary.

39. **Methyl Bromide Technical Options Committee:** Current membership is 31: 13 members from parties operating under paragraph 1 of Article 5 and 18 members from parties not so operating. Five members are women. The Committee comprises expertise related to two clear technical disciplines with entomology and pathology skills, which are important for both controlled and exempted (i.e., quarantine and pre-shipment) uses of methyl bromide. The Committee operates three subcommittees on: (a) soils; (b) structures and commodities; (c) quarantine and pre-shipment.

40. Continuing and current tasks of the Committee can be summarized as follows:

(a) To produce quadrennial assessments on current uses of methyl bromide and alternatives, and progress in phase-out and emissions elimination. Work is under way to prepare the 2014 assessment report;

(b) To report on progress in eliminating methyl bromide usage in all forms, including in quarantine and pre-shipment;

(c) To provide technical guidance on critical-use nominations. At present, two reports are prepared annually on the evaluation of such nominations and associated recommendations. The number of nominations decreased from 116 in 2003 to 5 in 2013. Parties operating under paragraph 1 of Article 5 may submit nominations from 2014;

(d) To provide technical guidance to the parties on issues deemed to be of relevance to the phase-out and reduction of methyl bromide.

41. A reduction in membership occurred recently with the resignation of four members of the Committee. A major review of the Committee's membership is expected to start in January 2014, when membership could be further reduced from 31 to around 25 in view of the reduced workload. The Methyl Bromide Technical Options Committee proposes to divide itself back into two subcommittees with a membership of 10–12 each, the first on soils and the second on quarantine, structures and commodities, under the coordination of three co-chairs, a reduction from the present number of four co-chairs. The number of co-chairs could be reduced further to two in accordance with the expected workload after 2014. New members may be required if new sectors seek critical-use nominations.

42. The workload in 2014–2018 and the post-2018 period is difficult to predict. Progress reports and a 2018 assessment report will probably be required, but it is virtually impossible to predict the critical-use nominations or quarantine and pre-shipment scenarios that might arise.
43. **Refrigeration, Air-conditioning and Heat Pumps Technical Options Committee:** Current membership is 38: 13 members from parties operating under paragraph 1 of Article 5 and 25 members from parties not so operating. There are no women members of the Committee. During the previous two years, certain members have resigned and new nominations (six of which are from parties operating under paragraph 1 of Article 5) have been approved for membership of the Committee.
44. For future assessments, the Committee is unlikely to make many further changes to its organization and the mechanism for conducting its work. Any adjustments required would be made after the completion of the 2014 assessment. Contact is being made with relevant companies to forestall any possible future lack of expertise on commercial refrigeration in the Committee. In addition, expertise in the area of emissions and banks of refrigerants from the different applications may be needed in the future. The need to maintain the chapters in the assessment report on domestic and mobile air-conditioning will require careful consideration.
45. Bearing in mind that the HCFC phase-out schedule for developing countries predicts a 35 per cent consumption reduction in 2020, most of the HCFC phase-out management plans will be in the second phase of their implementation before the refrigeration and air-conditioning sector are targeted (the first phase targeted the foam sector for most countries), and for several refrigeration and air-conditioning applications, no new refrigerants or alternative technologies are likely to enter the market in the near future. The Committee is likely to continue to play an important role in providing technical information to the parties to the Montreal Protocol in support of the goals of the HCFC phase-out schedule.

**(b) Status of the membership of the Panel and its technical options committees (decision XXIII/10, paragraphs 10 and 11)**

46. Decision XXIII/10, paragraphs 10 and 11, stipulates:
- “10. That parties may revisit the status of the Panel and its technical options committee membership at the Twenty-Fifth and Twenty-Sixth Meetings of the Parties respectively if more time is needed by the parties to submit nominations;
11. To invite the parties having co-chairs and members currently serving on the Panel and its technical options committees to submit renominations for those experts in line with paragraphs 7, 8 and 9 of the present decision for consideration at the Twenty-Fifth and Twenty-Sixth Meetings of the Parties respectively;”
47. As highlighted in the note by the Secretariat (UNEP/OzL.Pro.WG.1/33/2), paragraph 9 of the same decision stated that the terms of all the members of the Panel and its technical options committees would expire at the end of 2013 and 2014, respectively, in the absence of reappointment by the parties prior to that time, except for those experts that had already been nominated for four-year terms in previous decisions.
48. With regard to the membership of the Technology and Economic Assessment Panel, the note by the Secretariat, paragraph 27, provides the status of the reappointment of members and co-chairs of the Panel for four-year terms in accordance with past decisions. Information on the status of renomination of the other Panel members is provided in paragraph 28 of the same note. Any further updates to that information will be provided in the second addendum to that note.
49. In revisiting the status of the membership of the technical options committees, the parties may wish to take into account relevant information contained in chapter 4 of volume 3 of the Panel’s 2013 progress report on the future configuration of the committees and recommendations thereon that take into account the expected future workload. Some information on the membership status is provided in that chapter and the Halons Technical Options Committee also provides relevant information in volume 1 of the same report, section 5.7 of chapter 5.
50. The parties may wish to consider the membership and reappointment status of the Panel and the committees and to take action as appropriate at the Twenty-Fifth Meeting of the Parties and beyond.

## Agenda item 8

### Controlled substances used on ships, including prior informed consent (decision XXIV/9, paragraph 3; report of the Twenty-Fourth Meeting of the Parties (UNEP/OzL.Pro.24/10), paragraph 74)

51. In decision XXIV/9, the Technology and Economic Assessment Panel was requested to provide an updated version of the information provided in its previous progress reports on transport refrigeration in the maritime sector. Accordingly, the Panel provided an update in volume 1 of its 2013 progress report, a summary of which is provided in the following paragraphs.

52. In 2012, Lloyd's Register was commissioned by the International Maritime Organization to undertake a study on the use of ozone-depleting substances to service ships. The authors of that report determined the previously missing amounts of refrigerant used in each type of refrigeration system using information submitted to Lloyd's Register ClassDirect Live. As reported previously, all vessels have a refrigeration system for food storage and air-conditioning for the engine room, the control room and sometimes for various workshop areas. In small vessels, the refrigerant charge and leakage rates of the self-contained and hermetic systems that are used is minimal. Many ships also have an air-conditioning system for occupied cabin space. In addition, the 2012 Lloyd's report identifies several vessel types for which refrigeration is used for process or cargo cooling, including cruise ships, ferries, refrigerated cargo ships, LPG carriers, porthole container ships, nuclear fuel and juice carriers, fish factory ships and fishing trawlers. The 2012 Lloyd's report further provides details of the typical charge size for these different types of vessels and the number of ships that are in operation.

53. The Panel estimated the ozone-depleting substance inventory on the basis of the Lloyd's report and other available assessments, and compared the estimates to those provided by the Panel in the 2012 progress report. The 2012 Lloyd's report quantified the inventory of ozone-depleting-potential refrigerant for 41 flag administrations whose estimated stock was greater than 100 tonnes, at 17,696 tonnes. Provided that these 41 countries made up over 82 per cent of the estimated ozone-depleting-potential refrigerant used in the marine sector, the total inventory is estimated to be 21,580 tonnes. Using a much less sophisticated approach, the 2012 progress report arrived at a total inventory of 27,650 tonnes (28 per cent higher than the 2013 estimate).

54. The 2012 Lloyd's report also provided a type-specific estimate of refrigerant leakage rates. The percentages were lower (5–15 per cent) for cruise and refrigerated cargo ships, and higher (50 per cent on average) for the fish factory ships and fishing trawlers. Regardless of type, the 2012 progress report provided an estimated leakage rate of 30 per cent for HCFC-22, which was considered to be used aboard 80 per cent of ships. Based on these numbers, the refrigerant charge size and the fleet size, the annual leakage was estimated at 4,858 tonnes in the 2012 Lloyd's report and 8,420 tonnes in the 2012 progress report of the Panel (73 per cent higher). More detailed information is required from the fishing sector to clarify future developments in the use of ozone-depleting substances. The fishing industry is likely to adopt alternatives that have been proven in stationary applications, including many low-global-warming-potential solutions, such as ammonia-carbon dioxide cascade systems which are being introduced aboard fishing vessels. The Panel is making an effort to further review refrigerant options for existing and new equipment in the various types of vessels with a target for completing an update on that issue in April 2014.

55. The parties may wish to consider the updated report of the Technology and Economic Assessment Panel and address further the issue of ozone-depleting substances on ships.

## II. Matters that the Secretariat would like to bring to the parties' attention

### A. Secretariat interactions with other international bodies

56. The Joint Inspection Unit of the United Nations System has embarked on a review of environmental governance within the United Nations system following the United Nations Conference on Sustainable Development (Rio+20). The outcome document of Rio+20, "The future we want", was endorsed by the General Assembly of the United Nations in its resolution 66/288. The outcome document includes an agreement to continue implementing measures to strengthen international environmental governance within the context of the institutional framework for sustainable development and to promote a balanced integration of the economic, social and environmental dimensions of sustainable development. At its sixty-seventh session, the General Assembly also endorsed in the outcome document of Rio+20 the importance of enhancing the voice of the United Nations Environment Programme (UNEP) and its ability to review and strengthen coherence

and coordination among institutions and help avoid duplication of effort and review progress in implementing sustainable development. It also recognized the significant contributions to sustainable development made by the multilateral environmental agreements.

57. In its review, the Joint Inspection Unit intends to follow up on the recommendations contained in its 2008 report entitled “Management review of environmental governance within the United Nations system” (JIU/REP/2008/3) and seeks to assess how the systematic consolidation of the strategy being pursued in the environmental sector is taking place following Rio+20. The team from the Joint Inspection Unit visited UNEP in late April 2013 and interviewed representatives of the relevant units and other UNEP staff members about the issue. The Executive Secretary of the Ozone Secretariat was also interviewed and provided information and ideas.

## **B. Side events associated with the thirty-third meeting of the Open-ended Working Group**

58. At the time of the preparation of the present addendum, the Secretariat has been notified of the following side events that are planned to be held during and immediately after the thirty-third meeting of the Open-ended Working Group.

59. On Wednesday, 26 June 2013, the Institute for Governance and Sustainable Development will hold a side event entitled “New urgency for fast action on an HFC phase-down”; on Thursday, 27 June 2013, two side events will be held concurrently: one by Shecco entitled “Update on natural refrigerant solutions” and another hosted by the European Partnership for Energy and the Environment.

## **C. Organizational issues regarding the Twenty-Fifth Meeting of the Parties**

60. Owing to unforeseen circumstances, the venue for the Twenty-Fifth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer has been changed from Kyiv to Bangkok (United Nations Conference Centre). The dates of the Twenty-Fifth Meeting of the Parties (21–25 October 2013), the fifty-first meeting of the Implementation Committee (18 and 19 October 2013), and the meeting of the Bureau of the Twenty-Fourth Meeting of the Parties (19 October 2013) remain unchanged.

61. The decision to change the venue was taken in consultation with the President of the Bureau of the Twenty-Fourth Meeting of the Parties and selected parties and Bureau members in the light of logistical constraints and challenges related to completing essential preparations in time for the meetings. Due consideration was given to holding the meeting at the seat of the Secretariat in Nairobi and at the United Nations Conference Centre in Bangkok, especially in view of the arrangements already made by the Secretariat to hold the thirty-third meeting of the Open-ended Working Group at the latter location. After considering the dates, costs, previous arrangements and the feasibility of holding the meeting at the two alternative venues, the Secretariat decided to hold the meeting at the United Nations Conference Centre in Bangkok.

## Annex

### May 2013 progress report of the Technology and Economic Assessment Panel

#### Volume 3

Decision XXIV/8 Task Force Report, Terms of Reference, Code of Conduct and Disclosure and Conflict of Interest Guidelines for the Technology and Economic Assessment Panel and its Technical Options Committees and Temporary Subsidiary Bodies

#### EXECUTIVE SUMMARY

The history of the Montreal Protocol, its success as a global environmental treaty as well the challenges Parties face in its implementation over 25 years, is inextricably linked to the history of the Technology and Economic Assessment Panel (TEAP) and its Technical Options Committees (TOCs). Since their creation in 1989, TEAP and its TOCs have provided advice that has mostly been proven both accurate and timely: innovation and emerging technologies have received objective review, Essential Use Nominations (EUNs) and Critical Use Nominations (CUNs) have been reviewed and approved after thorough evaluation, and nominations have decreased from year to year.

Historical membership in TOCs show spikes in numbers of members reflecting critical decision periods of the Parties (i.e., amendments under the Protocol) but have remained essentially unchanged since 2006. Today, over 150 experts serve on the TEAP, its six TOCs, and Temporary Subsidiary Bodies (TSBs). Since its creation, over 900 experts from about 65 countries have participated in the assessment process. With expertise being the priority consideration in its membership, TOCs have generally been successful in recruiting and retaining the balance of expertise needed to address the issues facing Parties. Co-chairs of each TOC continually strive to maintain and strengthen the relevant expertise within its membership while making every effort to also reach the goals of geographical distribution, A5/non-A5 and gender balance.

Over this period, TEAP and the TOCs invariably faced the challenge of retaining the needed expertise and balance as its working environment has changed. As noted in the previous Decision XXIII/10 report, as the Montreal Protocol has matured in its implementation, there have been changes in both emphasis and focus, particularly over the past ten years. The shift from a mix of transition activities in Non-Article 5 and Article 5 Parties to transition activities predominantly by Article 5 Parties has had a particular bearing on the issues that TEAP and its TOCs have been asked to address. However that shift has not been reflected in the TEAP and its TOCs, as membership of needed expertise from Article 5 Parties remains a challenge for TOC co-chairs seeking qualified new members with required expertise for balance.

In Decision XXIV/8, TEAP takes the opportunity to consider the near- and long-term issues related to the on-going transition under the Protocol and recommend a re-configuration of its TOCs to support Parties' deliberations and decisions on these issues. The recommendations are as follows:

- For the period 2013-2014, TEAP suggests that the TOCs membership generally remain at their current numbers to meet the need for required expertise, and because 2014 is an Assessment year; regional and A5/non-A5 balance has been achieved by some TOCs but still challenging to the majority of TOCs; gender balance remains a significant, continuing challenge to all TOCs;
- For the period 2014-2018, the TOCs membership numbers are anticipated to remain the same or decrease from the 2013-2014 period due to anticipated attrition during the 2014 reappointment process and some anticipated decrease in workload in this period; the exception is RTOC which is likely to retain its previous membership numbers based on anticipated, continuing work on issues related to transition in its sectors of use; and
- For the period beyond 2018, there is significant uncertainty in the likely TOC membership numbers, although significant reductions are anticipated for CTOC and MTOC based on the anticipated workload after 2018; that the need for retention of the necessary expertise from these committees beyond this date must be considered.

These recommendations for TOC configurations are made under the current Protocol phase out; any significant changes to that would necessitate a re-evaluation of these recommendations. The challenge remains in ensuring that the TOCs are structured in size and expertise to continue supporting the future efforts of the Parties.

As requested by the decision, TEAP is also providing in this report its operating procedures, including organization and logistics and the process of achieving consensus.

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