

**Stockholm Convention
on Persistent Organic
Pollutants**

Persistent Organic Pollutants Review Committee
Seventh meeting
Geneva, 10–14 October 2011

**Report of the Persistent Organic Pollutants Review Committee
on the work of its seventh meeting****I. Opening of the meeting**

1. The seventh meeting of the Persistent Organic Pollutants Review Committee was held at the Varembe International Conference Centre from 10 to 14 October 2011. Mr. Reiner Arndt (Germany), Chair of the Committee, declared the meeting open at 10 a.m. on Monday, 10 October 2011.
2. Mr. Jim Willis, Executive Secretary, welcomed the Committee members and observers. Commending the Committee on its work since its inception, he noted the importance of achieving synergies at all levels – international, regional and national – and underscored the Committee's importance in providing a strong scientific basis for the Stockholm Convention on Persistent Organic Pollutants and for global chemical safety. Lastly, he drew the Committee's attention to the work before it, in particular on hexabromocyclododecane and the three chemicals proposed for listing in the annexes to the Convention: chlorinated naphthalenes, hexachlorobutadiene and pentachlorophenol and its salts and esters. He wished all participants a successful meeting.

II Organizational matters**A. Adoption of the agenda**

3. The Committee adopted the agenda set out below on the basis of the provisional agenda that had been circulated as document UNEP/POPS/POPRC.7/1:
 1. Opening of the meeting.
 2. Organizational matters:
 - (a) Adoption of the agenda;
 - (b) Organization of work.
 3. Review of outcomes of the fifth meeting of the Conference of the Parties to the Stockholm Convention relevant to the Committee's work.
 4. Operational issues:
 - (a) Rotation of the membership;
 - (b) Workplan for the intersessional period between the Committee's seventh and eighth meetings.
 5. Consideration of the draft risk management evaluation on hexabromocyclododecane.
 6. Consideration of chemicals newly proposed for inclusion in Annexes A, B and/or C to the Convention:

- (a) Chlorinated naphthalenes;
 - (b) Hexachlorobutadiene;
 - (c) Pentachlorophenol and its salts and esters.
7. Technical work in relation to chemicals listed in the annexes to the Convention with exemptions:
 - (a) Assessment of alternatives to endosulfan;
 - (b) Assessment of alternatives to perfluorooctane sulfonic acid in open applications;
 - (c) Guidance on alternatives to perfluorooctane sulfonate and its derivatives;
 - (d) Evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Convention;
 - (e) Preparatory work for the assessment of alternatives to DDT.
 8. Other technical work:
 - (a) Intersessional work on short-chained chlorinated paraffins;
 - (b) Intersessional work on toxic interactions;
 - (c) Debromination of brominated flame retardants;
 - (d) Work in collaboration and coordination with other scientific bodies:
 - (i) Work with the Basel Convention;
 - (ii) Work with the Rotterdam Convention;
 - (iii) Implications of the study on climate change and persistent organic pollutants;
 - (e) Effective participation of parties in the Committee's work.
 9. Other matters.
 10. Dates and venue of the Committee's eighth meeting.
 11. Adoption of the report.
 12. Closure of the meeting.

B. Organization of work

4. The Chair drew attention to the objectives and possible outcomes of the meeting, as described in the scenario note (UNEP/POPS/POPRC.7/INF/1) and tentative schedule (UNEP/POPS/POPRC.7/INF/2) for the meeting. The Committee agreed to conduct the meeting in accordance with the latter, subject to revision as necessary.

5. The Committee agreed to conduct its work in plenary session and to establish contact, drafting and "friends of the Chair" groups as necessary. In accordance with the amendment to the Committee's terms of reference set out in annex I to decision SC-5/11, the Committee met in closed session on Monday, 10 October 2011, at 9 a.m. and subsequently at 1 p.m. to review issues pertaining to conflicts of interest of the members. None of the Committee members indicated that they had any conflicts of interest relating to the Persistent Organic Pollutants Review Committee process as set out in Article 8 of the Stockholm Convention.

C. Attendance

6. The meeting was attended by the following 29 Committee members: Ms. Norma Sbarbati Nudelman (Argentina), Ms. Tsvetanka Dimcheva (Bulgaria), Mr. Choviran Ken (Cambodia), Mr. Robert Chénier (Canada), Mr. Abderaman Mahamat Abderaman (Chad), Mr. Ricardo Orlando Barra Rios (Chile), Mr. Jianxin Hu (China), Mr. José Álvaro Rodríguez (Colombia), Ms. Floria Roa Gutiérrez (Costa Rica), Mr. Ivan Holoubek (Czech Republic), Ms. Fatma Mohamed Ibrahim Abou-Shok (Egypt), Mr. Timo Seppälä (Finland), Mr. Sylvain Bintein (France), Mr. Reiner Arndt (Germany), Mr. John Pwamang (Ghana), Mr. Pablo Ricardo Rodríguez Rubio (Honduras), Ms. Chhanda Chowdhury (India), Mr. Masaru Kitano (Japan), Mr. Mohammed Khashashneh (Jordan), Mr. Peter Dawson (New Zealand), Ms. Stella Mojekwu (Nigeria), Ms. Maria Manuela Araújo Pereira (Portugal), Ms. Kyunghee Choi (Republic of Korea), Ms. Bettina Hitzfeld (Switzerland), Mr. Jarupong

Boon-Long (Thailand), Mr. Komla Sanda (Togo), Ms. Svitlana Sukhorebra (Ukraine), Ms. Fransisca Katagira (United Republic of Tanzania), Mr. Samuel Banda (Zambia).

7. The members from Mauritius and the Syrian Arab Republic were unable to attend.
8. In addition, the meeting was attended by representatives of the following countries as observers: Australia, Brazil, Cameroon, Canada, China, Cuba, Denmark, France, India, Indonesia, Ireland, Japan, Kenya, Kuwait, Madagascar, Netherlands, Norway, Poland, Slovakia, South Africa, Spain, Sudan, Sweden, Switzerland, United States of America, Zambia. The European Union was also represented as an observer.
9. Representatives of the following United Nations bodies and specialized agencies also attended the meeting as observers: Food and Agriculture Organization of the United Nations, United Nations Development Programme, United Nations Industrial Development Organization, World Health Organization.
10. The representative of the Global Environment Facility attended the meeting as an observer.
11. Non-governmental organizations were represented as observers. The names of those organizations are included in the list of participants (UNEP/POPS/POPRC.7/INF/25).

III. Review of outcomes of the fifth meeting of the Conference of the Parties to the Stockholm Convention relevant to the Committee's work

12. Introducing the item, the representative of the Secretariat summarized the information provided in document UNEP/POPS/POPRC.7/INF/9 on the outcomes of the fifth meeting of the Conference of the Parties to the Stockholm Convention relevant to the Committee's work.
13. The Committee took note of the information.
14. The representative of the Secretariat then summarized the information provided in document UNEP/POPS/POPRC.7/18 on the work programme on brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride adopted by the Conference of the Parties in its decision SC-5/5.
15. The Committee agreed that the work programme would be further considered under item 7 (d), "Evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Convention".

IV. Operational issues

A. Rotation of the membership

16. Introducing the sub-item, the representative of the Secretariat summarized the information provided in document UNEP/POPS/POPRC.7/INF/10/Rev.1 on the experts nominated as members of the Committee. She noted that, by its decision SC-5/11 and consistent with paragraph 2 of decision SC-1/7, the Conference of the Parties had adopted a list of parties to be invited to nominate Committee members for terms of office commencing on 5 May 2012. Those parties had provided their nominations, which were subject to confirmation by the Conference of the Parties at its sixth meeting, to be held from 6 to 10 May 2013. She also noted that, during the period between the Committee's sixth and seventh meetings, Ms. Tsvetanka Dimcheva (Bulgaria) had been designated by her Government to replace Mr. Ivan Dombalov.

17. The Committee took note of the information.

B. Workplan for the intersessional period between the Committee's seventh and eighth meetings

18. Introducing the sub-item, the representative of the Secretariat drew attention to document UNEP/POPS/POPRC.7/8 on the draft workplan for the intersessional period between the Committee's seventh and eighth meetings.

19. The Committee adopted the workplan, which is set out in annex V to the present report.

V. Consideration of the draft risk management evaluation on hexabromocyclododecane

20. In considering the item, the Committee had before it a note by the Secretariat on the draft risk management evaluation on hexabromocyclododecane (UNEP/POPS/POPRC.7/5) and comments and responses relating to the last draft of the evaluation circulated during the intersessional period (UNEP/POPS/POPRC.7/INF/7).

21. Mr. Peter Dawson (New Zealand), chair of the intersessional working group established to develop the draft risk management evaluation, gave a presentation on it.

22. In the ensuing discussion, several members raised concerns regarding the management of waste containing hexabromocyclododecane, both currently and in the future. Levels of global use and waste were difficult to measure, particularly as the substance was found in both expanded polystyrene and extruded polystyrene foams, which had long service lives and many uses, including in insulation and building, road and railroad construction. The bulky nature of such foams made their disposal problematic, as they could not easily be transported far from their sites of origin. Other items containing hexabromocyclododecane, such as high-impact polystyrene and textiles, were much easier to dispose of but accounted for only a minor proportion of hexabromocyclododecane use in many regions. One member raised the possibility of using non-combustion waste management technology, which some countries had already used successfully.

23. Some members drew attention to the social and economic difficulties faced by developing countries in the elimination of hexabromocyclododecane; thus, for example, imports of motor vehicles were growing along with economies, exacerbating hexabromocyclododecane management issues, and compliance with national fire safety regulations required the use of hexabromocyclododecane as a flame retardant. With regard to the latter, one member said that alternatives were not always satisfactory and might be classified as persistent organic pollutants in the future. In addition, although alternatives were beginning to appear on the market, it was unlikely that developing countries would be able to introduce them for many years after developed countries had done so, owing to patent and pricing restrictions.

24. A number of members recommended that hexabromocyclododecane should be listed in Annex A to the Convention with specific exemptions.

25. The Committee agreed to establish a contact group, chaired by Mr. Dawson, with a mandate to improve and update the risk management evaluation on hexabromocyclododecane.

26. Following the contact group's deliberations, Mr. Dawson presented a draft decision and a revised draft risk management evaluation for consideration by the Committee. He said that the group had concluded that hexabromocyclododecane should be listed in the annexes to the Convention but had not agreed on where it should be listed or whether it should be listed with exemptions. The difficulty lay in uncertainty regarding the availability, properties and costs of alternative flame retardants, especially for use in expanded and extruded polystyrene. He proposed that more information should be collected to enable the Committee at its eighth meeting to decide what annex the substance should be listed in and to determine the need for and scope of any exemptions.

27. The Chair said that the period between the Committee's seventh and eighth meetings would provide a valuable time in which to gather additional data on chemical alternatives to hexabromocyclododecane and on their production and use, which could be included in an addendum to the risk management evaluation. By proposing its listing in the Convention without specifying an annex at the current meeting the Committee could advance considerably in its consideration of the chemical and would still have sufficient time at its eighth meeting to propose a more specific listing to the Conference of the Parties at its sixth meeting.

28. The Committee went on to consider the draft decision on hexabromocyclododecane. In response to concerns voiced by several members the Committee requested Mr. Dawson to work with other Committee members to clarify whether the risk management evaluation and related decision should refer to hexabromocyclododecane or 1, 2, 5, 6, 9, 10-hexabromocyclododecane or some other chemical identity. In addition, the Committee requested Mr. Dawson further to refine aspects of the draft decision related to the focus of the intersessional work on chemical alternatives to hexabromocyclododecane.

29. Subsequently, revised versions of the draft risk management evaluation and the draft decision were introduced.

30. The Committee adopted decision POPRC-7/1, by which, among other things, it adopted the risk management evaluation for hexabromocyclododecane and decided, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider listing hexabromocyclododecane in Annexes A, B and/or C to the Convention. It also agreed to review the additional information that would be made available to it pursuant to paragraph 3 of the decision and to consider at its eighth meeting whether to specify the annex to the Convention and possible exemptions to be considered by the Conference of the Parties in listing hexabromocyclododecane.

31. The decision is set out in annex I to the present report. The risk management evaluation can be found in document UNEP/POPS/POPRC.7/19/Add.1.

VI. Consideration of chemicals newly proposed for inclusion in Annexes A, B and/or C to the Convention

A. Chlorinated naphthalenes

32. In considering the sub-item, the Committee had before it a note by the Secretariat setting out a proposal submitted by the European Union and its member States parties to the Convention to list chlorinated naphthalenes in Annexes A, B and/or C to the Convention (UNEP/POPS/POPRC.7/2), additional information on chlorinated naphthalenes (UNEP/POPS/POPRC.7/INF/3) and the Secretariat's verification of whether the proposal contained the information specified in Annex D to the Convention (UNEP/POPS/POPRC.7/INF/8).

33. Mr. Peter Korytár (European Union) introduced the proposal.

34. The Committee agreed to establish a contact group, chaired by Ms. Svitlana Sukhorebra (Ukraine), to consider the information provided and to determine whether it fulfilled the requirements of Annex D.

35. Subsequently, Ms. Sukhorebra reported that the group had concluded that dichlorinated naphthalenes, trichlorinated naphthalenes, tetrachlorinated naphthalenes, pentachlorinated naphthalenes, hexachlorinated naphthalenes, heptachlorinated naphthalenes and octachlorinated naphthalenes met the screening criteria listed in Annex D to the Convention.

36. The Committee adopted, as orally amended, decision POPRC-7/2, on chlorinated naphthalenes. The decision is set out in annex I to the present report.

B. Hexachlorobutadiene

37. In considering the sub-item, the Committee had before it a note by the Secretariat setting out a proposal submitted by the European Union and its member States parties to the Convention to list hexachlorobutadiene in Annexes A, B and/or C to the Convention (UNEP/POPS/POPRC.7/3), additional information on hexachlorobutadiene (UNEP/POPS/POPRC.7/INF/4) and the Secretariat's verification of whether the proposal contained the information specified in Annex D to the Convention (UNEP/POPS/POPRC.7/INF/8).

38. Mr. Korytár introduced the proposal.

39. In the ensuing discussion, one member said that his country had gathered considerable data from studies on carp that demonstrated that hexachlorobutadiene was highly bioaccumulative.

40. Following the discussion the Committee agreed to establish a contact group, chaired by Ms. Flavia Roa Gutiérrez (Costa Rica), to consider the information provided and to determine whether it fulfilled the requirements of Annex D.

41. Subsequently, Ms. Roa Gutiérrez reported that the group had concluded that hexachlorobutadiene met the screening criteria listed in Annex D to the Convention.

42. The Committee adopted decision POPRC-7/3, on hexachlorobutadiene. The decision is set out in annex I to the present report.

C. Pentachlorophenol and its salts and esters

43. In considering the sub-item, the Committee had before it a note by the Secretariat setting out a proposal submitted by the European Union and its member States parties to the Convention to list pentachlorophenol and its salts and esters in Annexes A, B and/or C to the Convention (UNEP/POPS/POPRC.7/4), additional information on pentachlorophenol and its salts and esters (UNEP/POPS/POPRC.7/INF/5 and UNEP/POPS/POPRC.7/INF/5/Add.1), a decision guidance document on pentachlorophenol and its salts and esters (UNEP/POPS/POPRC.7/INF/6) and the

Secretariat's verification of whether the proposal contained the information specified in Annex D to the Convention (UNEP/POPS/POPRC.7/INF/8).

44. Mr. Korytár introduced the proposal.

45. In the ensuing discussion, one member evoked the discussions of endosulfan sulfate at the fifth meeting of the Conference of the Parties, at which it had been decided that the sulfate should not be listed in the annexes to the Convention. A similar approach could be taken with regard to pentachloroanisole, a metabolite that was not commercially produced. In addition, the difference between the issue of endosulfan and that of pentachlorophenol was that some microcontaminants of the latter substance, including dioxins and furans, were not intentionally produced, and were therefore already provided for in part III (f) of Annex C to the Convention.

46. Another member said that pentachlorophenol had not been used in his country since the late 1980s but had since then become one of the most frequently studied contaminants. Some of the information in the reports produced in his country related to the persistence of pentachlorophenol and could therefore be useful to the Committee.

47. One member said that it would be appropriate to consider pentachloroanisole and other transformation products as provided for in Annex D to the Convention. It would be useful to determine whether chemicals other than pentachlorophenol were transformed to pentachloroanisole and, if so, to establish their relative contribution to pentachloroanisole in the environment compared to that of pentachlorophenol. Mr. Korytár said that some studies indeed indicated that other contaminants transformed to pentachloroanisole and that that issue would have to be examined further.

48. An observer suggested that it would be useful to have information on the adverse effects of esters of pentachlorophenol, such as pentachlorophenyl laurate. The Chair welcomed that proposal. Mr. Korytár noted that there was some evidence that the pH level of wastewater could affect the hydrolysis of esters of pentachlorophenol. It was also possible that such esters underwent photodegradation.

49. Following the discussion, the Committee agreed to establish a contact group, chaired by Mr. Ricardo Orlando Barra Ríos (Chile), to consider the information provided and to determine whether it fulfilled the requirements of Annex D.

50. Subsequently, Mr. Barra introduced a conference room paper setting out a draft decision on pentachlorophenol and its salts and esters.

51. In the ensuing discussion, the Committee agreed that pentachlorophenol alone did not meet the criteria set out in Annex D to the Convention but that its metabolite pentachloroanisole did. There was disagreement, however, as to whether the two chemicals should be jointly considered and moved to the Annex E evaluation stage, since pentachlorophenol could not be verified as the sole source of pentachloroanisole in the environment and there was uncertainty regarding the extent of transformation from pentachlorophenol and other possible precursors to pentachloroanisole and from the latter to pentachlorophenol. A number of members proposed that, in the absence of that information, and until the extent of transformation of pentachlorophenol to pentachloroanisole was clarified, information should be collected over the coming year to enable the Committee to take a decision on the matter at its eighth meeting. Other members, however, were of the view that such information was already available and that additional information could be collected during the Annex E stage, which was the more appropriate stage for such an evaluation and for in-depth examination of the issue.

52. The Committee agreed that a small group would consider the matter further in the light of the discussions.

53. Subsequently, Mr. Barra introduced a conference room paper setting out additional information on pentachlorophenol and its salts and esters. He then introduced another conference room paper containing a draft decision on pentachlorophenol and its salts and esters. He said that, as the group had been unable to reach consensus, consideration of the chemical should be deferred to the Committee's eighth meeting to allow time for additional studies to be performed and additional data to be gathered.

54. One member urged interested parties to initiate experiments under conditions relevant to the environment and to collect monitoring data on pentachlorophenol and pentachloroanisole, in particular from pentachlorophenol-contaminated sites, as such data could provide information on what happened in the environment under actual conditions. Another said that the Committee should not overlook existing data that would also facilitate its consideration of the matter.

55. The Committee agreed to defer its consideration of pentachlorophenol and its salts and esters until its eighth meeting and to include the draft decision on the substance in annex II to the present report, enclosed in square brackets to indicate a lack of consensus on certain items. It also agreed to establish an intersessional working group, to be chaired by Mr. Barra, and, subsequently, by Ms. Estefânia Gastaldello Moreira (Brazil), with the mandate, among other things, to review studies on the fate and transport of pentachlorophenol and pentachloroanisole and to prepare material for consideration at the Committee's eighth meeting. It further agreed that it would include in annex III to the present report information on the transformation of pentachlorophenol to pentachloroanisole and a proposal by Japan to fill information gaps.

VII. Technical work in relation to chemicals listed in the annexes to the Convention with exemptions

A. Assessment of alternatives to endosulfan

56. In considering the sub-item, the Committee had before it a note by the Secretariat on the assessment of alternatives to endosulfan (UNEP/POPS/POPRC.7/9), a compilation of information related to alternatives to endosulfan (UNEP/POPS/POPRC.7/INF/11/Rev.2), a summary of information on chemical and non-chemical alternatives to endosulfan from the risk management evaluation on endosulfan and its supporting documents (UNEP/POPS/POPRC.7/INF/12) and information on alternatives to endosulfan provided by the Food and Agriculture Organization of the United Nations (FAO) (UNEP/POPS/POPRC.7/INF/24).

57. The Chair introduced a conference room paper that he had prepared on possible activities by the Committee to implement a work programme to support the development and deployment of alternatives to endosulfan. In the ensuing discussion, several members said that it was necessary to ensure that alternatives were not themselves persistent organic pollutants and that they met various social and economic criteria, including that they should not be harmful to insects such as honeybees and other pollinators. Observing that the unwanted endpoints of plant protection products would vary by country they also said that, while the Committee could assess them, countries themselves should choose which chemical alternatives to endosulfan to use based on their own social and economic needs.

58. In response to several members' call for coordination with FAO, the representative of that agency said that its data on integrated pest management could be shared with the Committee for the purposes of the assessment. Furthermore, it could conduct a global or regional study on country experiences in integrated pest management as an alternative to endosulfan if adequate funding were provided.

59. In response to a member's question, the Chair said that gaps in country data for the assessment could be filled through modelling; if that were done, however, it would be explicitly noted in the assessment report. More generally, data for the assessment could be gathered directly from countries or through monitoring programmes.

60. A number of members said that it would not be possible to review all 84 chemical alternatives to endosulfan in the time available to conduct the assessment. Several members therefore proposed focusing on the crop/pest combinations listed with exemptions in decision SC-5/3, on the listing of technical endosulfan and its related isomers, and the crops that accounted for the greatest use of endosulfan.

61. The Committee agreed to establish a group of friends of the Chair, chaired by Ms. Bettina Hitzfeld (Switzerland), to identify possible actions in relation to the assessment of alternatives to endosulfan, including the prioritization of alternatives.

62. Subsequently, the representative of the Secretariat introduced a conference room paper setting out a draft decision on assessment of alternatives to endosulfan.

63. The Committee adopted decision POPRC-7/4, on assessment of alternatives to endosulfan. The decision is set out in annex I to the present report.

B. Assessment of alternatives to perfluorooctane sulfonic acid in open applications

64. In considering the sub-item, the Committee had before it a note by the Secretariat on the assessment of alternatives to perfluorooctane sulfonic acid in open applications, which contained in its annex the draft terms of reference for a technical paper on the issue (UNEP/POPS/POPRC.7/10), a

draft format for the collection of information on alternatives to the use of perfluorooctane sulfonic acid in open applications and a possible outline of a technical paper on the identification and assessment of such alternatives (UNEP/POPS/POPRC.7/INF/22).

65. Introducing the sub-item, the representative of the Secretariat recalled that by decision SC-5/5 the Conference of the Parties had requested the Committee to develop terms of reference for the technical paper at its seventh meeting and requested the Secretariat to commission a technical paper, resources permitting, based on the terms of reference developed by the Committee, for consideration by the Committee at its eighth meeting. It had also requested the Committee to develop recommendations on the basis of the technical paper for consideration by the Conference of the Parties at its sixth meeting.

66. In the ensuing discussion a few members sought clarification on specific items of the terms of reference, the workplan and the format for information collection. In response, the Chair said that open applications should be considered to be those that led to direct human or environmental exposure to perfluorooctane sulfonic acid rather than those involving use of the substance in closed systems. An observer also clarified that open applications included firefighting, agricultural applications or use of the substance in textiles, but not its use as an agent in production. The Chair suggested that information collected for the assessment should also be used for updating or revising the guidance on alternatives to perfluorooctane sulfonate and its derivatives set out in document UNEP/POPS/POPRC.6/13/Add.3.

67. The Committee agreed to establish a group of friends of the Chair, chaired by Mr. Samuel Banda (Zambia), to examine the draft terms of reference, format for collection of information on alternatives and outline of the technical paper and prepare revised drafts for the Committee to consider.

68. Subsequently, Mr. Banda introduced a conference room paper setting out a revised format for the collection of information on alternatives to the use of perfluorooctane sulfonic acid in open applications and a revised outline of the technical paper on the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid in open applications. The Committee approved the format and the revised outline for use by the Secretariat.

69. Mr. Banda then introduced a conference room paper setting out a draft decision that included terms of reference for the above-mentioned technical paper and a workplan for the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid in open applications.

70. The Committee adopted, as orally amended, decision POPRC-7/5, on assessment of alternatives to perfluorooctane sulfonic acid in open applications. The decision is set out in annex I to the present report. The revised format for the collection of information on alternatives to the use of perfluorooctane sulfonic acid in open applications and a possible outline of a technical paper on the identification and assessment of such alternatives can be found in document UNEP/POPS/POPRC.7/INF/22/Rev.1.

C. Guidance on alternatives to perfluorooctane sulfonate and its derivatives

71. In considering the sub-item, the Committee had before it a note by the Secretariat on guidance on alternatives to perfluorooctane sulfonate and its derivatives (UNEP/POPS/POPRC.7/11) and comments on that guidance (UNEP/POPS/POPRC.7/INF/13). The Chair proposed to incorporate the comments on the guidance into the document itself, saying that the Secretariat could do so but would require the Committee's guidance on such substantive issues as how to reflect the comments and whether to reflect all of them.

72. In the ensuing discussion, one member pointed out that the Committee needed to retain ownership of the guidance document and could therefore review any proposed changes at the current meeting.

73. The Committee agreed that, in consultation with Mr. Banda and any other interested members, the Secretariat would revise the guidance on alternatives to perfluorooctane sulfonate and its derivatives for the Committee's consideration at the current meeting.

74. Subsequently, Mr. Banda introduced the revised guidance. He noted, among other things, that Ecuador had reported that it was using hydramethylnon as an alternative to sulfluoramide to control leaf-cutting ants. Brazil, however, had suggested that that alternative was not effective. He had invited the representatives to engage in bilateral discussions and report the outcome to the Secretariat.

75. The Committee agreed that it would consider the possibility of revising the guidance at its eighth meeting, pending the submission of comments on the guidance and parties' and observers'

experiences in replacing perfluorooctane sulfonate and its derivatives with additional alternative products and/or processes, including information about their health and environmental effects.

76. Mr. Banda then introduced a conference room paper setting out a draft decision on the guidance.

77. The Committee adopted decision POPRC-7/6, on guidance on alternatives to perfluorooctane sulfonate and its derivatives. The decision is set out in annex I to the present report. The revised guidance and the updated compilation of comments on that guidance can be found in documents UNEP/POPS/POPRC.7/19/Add.2 and UNEP/POPS/POPRC.7/INF/13/Rev.1, respectively.

D. Evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Convention

78. In considering the sub-item, the Committee had before it a note by the Secretariat on the evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Convention (UNEP/POPS/POPRC.7/12). Introducing the sub-item, the representative of the Secretariat recalled that by decision SC-5/8 the Conference of the Parties had requested the Secretariat, with advice from relevant experts, to develop a process to enable the Conference at its sixth and every second ordinary meeting thereafter to evaluate parties' progress towards elimination of brominated diphenyl ethers and the continued need for the specific exemptions related to those chemicals. Accordingly, the Secretariat had prepared a draft process and a draft format for submission of information for consideration by the Committee.

79. In the ensuing discussion, one member requested clarification as to what was intended by the phrase "relevant experts" in the decision and whether the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal should come into play in respect of waste brominated diphenyl ethers. The Chair suggested that brominated diphenyl ethers in the recycling process would fall within the purview of the Basel Convention.

80. The Chair, noting that document UNEP/POPS/POPRC.7/18 set out a draft format to be used by parties to provide information on their experiences in implementing the recommendations relating to brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride, pointed out that the compiling of information on the two activities was connected but that such work would engender considerable difficulties, given that the two activities had different timelines.

81. In response to a request for clarification, the representative of the Secretariat noted that all parties were invited to submit information using the format set out in document UNEP/POPS/POPRC.7/12 but only those that had registered exemptions were obliged to respond.

82. One member expressed concern that, while the Conference of the Parties had taken a decision to assess progress in the implementation of the Convention, some countries might be unable to assess the extent to which articles contained brominated diphenyl ethers. In a similar vein, one member observed that some countries had not yet updated their national implementation plans and were therefore unaware of what substances were present in their territories and in what quantities. An observer suggested that the reporting process might provide a way of expediting the process of updating national implementation plans. Another observer said that the format for submission of information might include a question designed to determine whether countries had information about the existence of brominated diphenyl ethers in articles or the processes for obtaining such information, the lack of which might signal a need for capacity-building. The Chair endorsed those comments.

83. In relation to the question of exemptions for the recycling of brominated diphenyl ethers, the Chair said that, although the Committee could collect the information submitted by parties, it might wish to consider whether it was within its mandate to assess the effectiveness of recycling of brominated diphenyl ethers.

84. One member said that expertise of the Committee members was not in an area that would enable the Committee to evaluate recycling methods or approaches that parties might choose. She suggested that the expertise of parties to the Basel Convention could be involved when examining exemptions and recycling. Another member said that, while recycling was not within the Committee's expertise, parties required assistance in implementing the Convention and that any issue that contributed to that goal could be taken on board by the Committee.

85. One member suggested that it would be useful for the Committee to provide guidance to countries on how to complete the format in document UNEP/POPS/POPRC.7/12, as that would also assist them in preparing their national implementation plans to deal with the issue more effectively.

Another member agreed that the management of wastes containing persistent organic pollutants fell to the Basel Convention. Supported by another member, he said that developing countries should receive financial resources to assist them in the difficult task of identifying those substances in articles. The Chair suggested that partnerships with developed countries could be a means of assisting in that identification process.

86. The Executive Secretary said that the theme of the tenth meeting of the Conference of the Parties to the Basel Convention, to be held from 17 to 21 October 2011, was prevention, minimization and recovery of waste. The Conference of the Parties to the Stockholm Convention had, in the past, requested the Conference of the Parties to the Basel Convention to undertake work on wastes containing persistent organic pollutants, and the tenth meeting of the Conference of the Parties afforded a good opportunity to encourage cross-engagement on the issue.

87. An observer suggested that the consultants who had originally drafted the technical paper on brominated diphenyl ethers (UNEP/POPS/POPRC.6/2/Rev.1) could assess the information that would be submitted by the parties. When the questionnaires were distributed, it would be useful to include the short-term, medium-term and long-term solutions that had been in the recommendations set out in the annex to decision POPRC-6/2 to remind parties of the reasons for addressing the problem. The Chair endorsed that idea.

88. The representative of the Global Environment Facility (GEF) recalled the guidelines for updating national implementation plans for the identification of new persistent organic pollutants and wastes containing persistent organic pollutants being developed by the United Nations Institute for Training and Research and the United Nations Industrial Development Organization, saying that GEF had made provision to make grants available to all eligible countries for the updating of their national implementation plans.

89. An observer suggested that the information collected could contribute to case studies on the sound management of articles and wastes containing brominated diphenyl ethers and that such case studies would be useful to parties in implementing the Convention. The Chair endorsed that suggestion.

90. The Committee agreed to establish a group of friends of the Chair, chaired by Mr. Mohammed Khashashneh (Jordan), to review the draft format for submission of information and to examine the process of how the information would be collected and analysed. It was also requested to consider whether it was necessary to coordinate with the collection of information on parties' experiences in implementing the recommendations related to brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride referred to in document UNEP/POPS/POPRC.7/18 and, if it was deemed necessary, to consider ways of doing so.

91. Subsequently, Mr. Khashashneh introduced a conference room paper setting out a draft decision on evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention on Persistent Organic Pollutants and a work programme on brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride.

92. The Committee adopted, as orally amended, decision POPRC-7/7, on evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention on Persistent Organic Pollutants and work programme on brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride. The decision is set out in annex I to the present report.

E. Preparatory work for the assessment of alternatives to DDT

93. In considering the sub-item, the Committee had before it a note by the Secretariat on preparatory work for an assessment of alternatives to DDT (UNEP/POPS/POPRC.7/13) and background information on that assessment (UNEP/POPS/POPRC.7/INF/19). Introducing the sub-item, the representative of the Secretariat recalled that, by decision SC-5/6, the Conference of the Parties had concluded that countries that were relying on DDT for disease vector control might need to continue such use until locally appropriate and cost-effective alternatives were available for a sustainable transition away from DDT. By the same decision the Conference had decided to evaluate, at its sixth meeting, the continued need for DDT for disease vector control on the basis of scientific, technical, environmental and economic information, including that provided by the DDT expert group and the Committee; it had also requested the Committee, starting at its eighth meeting, to assess the alternatives to DDT in accordance with the general guidance on considerations related to alternatives and substitutes for listed persistent organic pollutants and candidate chemicals endorsed by the Committee at its fifth meeting.

94. In response to a request for clarification, the representative of the Secretariat said that the World Health Organization (WHO) had recommended DDT and 11 other insecticides for disease vector control. The DDT expert group examined only the continued need for DDT while WHO looked at health and environmental risks. The representative of WHO said that human health studies had been conducted by the WHO Pesticide Evaluation Programme and that all relevant information was available on the WHO website. The chemicals had not been evaluated for criteria classifying them as persistent organic pollutants pursuant to the Convention, and many of the substances were pyrethroids and other chemicals that were less persistent.

95. One member informed the Committee of problems in his country with the use of bed nets impregnated with K-othrine (deltamethrin). He said that there had been many reports that the nets were causing dermal irritation in local populations, in particular during rainy seasons and under conditions of high humidity, and called for full laboratory testing of products before they were placed on the market.

96. The representative of WHO responded that, when nets were dipped in dilute pyrethroids and dried in the open air, mild skin irritation had been observed. Currently, however, nets were impregnated at the factory, ensuring that the chemical was retained permanently in the netting. There had been no reports of dermal irritation from nets so treated. Another member said that his country had begun using mosquito nets impregnated with nanoparticles of a pyrethroid, and offered to provide further information. One member noted that alternatives to DDT should not have the characteristics of persistent organic pollutants and, referring to the background information provided, that deltamethrin exhibited all such characteristics.

97. The Chair said that the properties of the 11 chemical alternatives to DDT would have to be examined in relation to Annex D to the Convention, suggesting that a methodology should be developed for doing so. The representative of WHO offered to provide new data to replace some provided in document UNEP/POPS/POPRC.7/INF/19.

98. In response to comments by two observers, the Chair said that problems associated with mosquito resistance to DDT and, possibly, proposed alternatives, were within the mandate of the DDT expert group but not that of the Committee.

99. The Committee agreed that its task was to evaluate the alternatives to DDT to ascertain whether they possessed the characteristics of persistent organic pollutants set forth in the Convention. It therefore agreed that the group of friends of the Chair established under item agenda item 7 (a) would develop a process for evaluating the alternatives to DDT in terms of their possible persistent organic pollutant characteristics.

100. Subsequently, the representative of the Secretariat introduced a conference room paper setting out a draft decision on assessment of alternatives to DDT.

101. The Committee adopted decision POPRC-7/8, on assessment of alternatives to DDT. The decision is set out in annex I to the present report.

VIII. Other technical work

A. Intersessional work on short-chained chlorinated paraffins

102. In considering the sub-item, the Committee had before it a note by the Secretariat summarizing intersessional work on short-chained chlorinated paraffins (UNEP/POPS/POPRC.7/14) and a compilation of comments on how to interpret the information specified in Annex E to the Convention (UNEP/POPS/POPRC.7/INF/14).

103. Mr. Robert Chénier (Canada), the drafter of the intersessional working group, introduced the sub-item. He said that discussions on the draft risk profile had been under way since the Committee's third meeting and that the working group had revised the draft several times to take into account comments from parties and observers, including information relevant to the interpretation of Annex E to the Convention. Information that had emerged as a result of the Committee's intersessional work on toxic interactions and the impact of climate change on interactions of persistent organic pollutants would be reviewed during the next intersessional period. Consensus had been reached on the data considered but some sections of the draft risk profile remained in square brackets to reflect a lack of agreement.

104. The Chair said that the Committee should discuss how to proceed with the compilation of comments on Annex E and whether to move short-chained chlorinated paraffins forward. It should also consider whether concentrations in biota and emissions were expected to rise, including as a

possible result of climate change. He said that the questions of how to define “significant adverse effects” and whether global action was warranted were the most complicated to address and recalled the Committee’s agreement at its sixth meeting that it would consider the revised draft risk profile at its eighth meeting.

105. The Committee agreed that Mr. Chénier would develop a proposal on next steps for short-chained chlorinated paraffins.

106. Subsequently, Mr. Chénier introduced a conference room paper setting out a proposal on next steps for short-chained chlorinated paraffins, saying that the risk profile should include scenarios relating to interactions between short-chained and medium-chained chlorinated paraffins through exposure in remote areas. Additional information would also be sought to clarify the bioconcentration, bioaccumulation and biomagnification factors to confirm the extent to which carbon 13 compounds might meet Annex E criteria in order to allay the concerns expressed by one member about whether short-chained chlorinated paraffins should include carbon 13. That information would be submitted to the Committee for consideration at its eighth meeting.

107. In addition, according to the proposal the Committee would agree to establish an ad hoc working group to revise the relevant parts of the draft risk profile to incorporate information on toxicological interactions of chlorinated paraffins, for consideration at its eighth meeting, and to compile issues and principles to be applied in the interpretation of the Annex E criteria, also for consideration at its eighth meeting.

108. The Committee approved the proposal, which is set out in annex IV to the present report.

B. Intersessional work on toxic interactions

109. In considering the sub-item, the Committee had before it a note by the Secretariat providing a summary of intersessional work on toxic interactions (UNEP/POPS/POPRC.7/15); the results of two case studies, on toxicological interactions of chlorinated paraffins (UNEP/POPS/POPRC.7/INF/15) and ecotoxicological issues related to high-volume persistent organic pollutants in environmental matrices on a long-range scale (UNEP/POPS/POPRC.7/INF/16); and a discussion paper on toxic interactions (UNEP/POPS/POPRC.7/INF/17).

110. Introducing the sub-item, Mr. Ivan Holoubek (Czech Republic), co-chair of the intersessional working group on toxic interactions, gave a presentation on the two case studies. Mr. Marco Vighi, who had co-led the study on ecotoxicological issues related to high-volume persistent organic pollutants in environmental matrices on a long-range scale, highlighted several strengths and weaknesses of the study, including the vast quantities of reliable data available on the composition of mixtures and the use of the concentration addition model to predict the ecotoxicological effect of a complex mixture, on the one hand, and the lack of data on toxic effects, on the other.

111. In the ensuing discussion, the Committee agreed that the two studies clearly showed that it was necessary to take into account interactive effects of persistent organic pollutants when applying the precautionary approach described in the Convention. One member suggested that in addition to considering toxic interactions within a complex mixture it was important, in the case of short-chained chlorinated paraffins, to consider interactions with other persistent organic pollutants.

112. Several members expressed support for concentration addition as the best means of predicting the ecotoxicological effect of a complex mixture. One suggested that the results of the studies should inform the risk profile on short-chained chlorinated paraffins being developed under agenda item 8 (a).

113. The Committee agreed to establish a group of friends of the Chair, chaired by Mr. Holoubek, to prepare guidance on the evaluation of exposure to multiple chemicals and toxicological interactions of candidate persistent organic pollutants. The Committee also agreed that elements of the study on toxicological interactions of chlorinated paraffins should be selected for inclusion in the risk profile on short-chained chlorinated paraffins.

114. Subsequently, Mr. Holoubek introduced a conference room paper setting out a draft decision and a workplan for the development of a draft approach to consideration of toxicological interactions when evaluating proposed chemicals.

115. The Committee agreed that the time frame proposed in the workplan for the distribution of the final draft approach was ambitious and, while aiming for that target, a final deadline of 15 April 2012 would be acceptable.

116. The Committee adopted decision POPRC-7/9, on toxic interactions. The decision is set out in annex I to the present report.

C. Debromination of brominated flame retardants

117. In considering the sub-item, the Committee had before it a note by the Secretariat on debromination of brominated flame retardants (UNEP/POPS/POPRC.7/16) and a discussion paper on the subject (UNEP/POPS/POPRC.7/INF/18), which had been prepared in response to a request by the Chair following the review of an initial information document at the Committee's fourth meeting (UNEP/POPS/POPRC.4/INF/12). Mr. Ian Rae, an invited expert, introduced document UNEP/POPS/POPRC.7/INF/18, providing an update on reductive debromination of polybrominated diphenyl ethers.

118. In the ensuing discussion, some members said that newly available data on the debromination of decabromodiphenyl ethers and the use of alternatives to brominated flame retardants raised concerns about transformation products. They took note of the formation of polybromodibenzodioxins and polybromodibenzofurans during the incineration of wastes containing polybrominated diphenyl ethers.

119. The Committee agreed that, while it was premature for it to take further action regarding the most highly brominated congeners present in commercial octabromodiphenyl ether, parties could use the discussion paper in analysing whether to nominate new persistent organic pollutants for listing in the annexes to the Convention. It further agreed that the discussion paper should be made available to parties and observers with an indication of its potential usefulness in taking further regulatory action on higher brominated compounds and polybromodibenzodioxins and polybromodibenzofurans. A proposal to that effect would be drafted by Mr. Sylvain Bintein (France) together with the Secretariat.

120. Subsequently, Mr. Bintein introduced a conference room paper on debromination of brominated flame retardants.

121. The Committee adopted decision POPRC-7/10, on debromination of brominated flame retardants. The decision is set out in annex I to the present report.

D. Work in collaboration and coordination with other scientific bodies

1. Work with the Basel Convention

122. In considering the sub-item, the Committee had before it a note by the Secretariat setting out information on work in collaboration and coordination with other scientific bodies (UNEP/POPS/POPRC.7/17). Introducing the sub-item, the representative of the Secretariat recalled that the conferences of the parties to the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention had adopted substantially identical decisions on enhancing cooperation and coordination among the Basel, Rotterdam and Stockholm conventions (decisions SC-5/27 and RC-5/12, respectively). The Conference of the Parties to the Basel Convention was expected to adopt a substantially identical decision at its tenth meeting. In addition, by paragraph 2 of decision SC-5/9 on measures to reduce or eliminate releases from wastes, the Conference of the Parties to the Stockholm Convention had invited the appropriate bodies of the Basel Convention to perform a number of tasks with regard to the chemicals listed in the annexes to the Stockholm Convention by decisions SC-4/10-SC-4/18 and SC-5/3. By paragraph 3 of the same decision, the Conference of the Parties to the Basel Convention had been invited to consider the involvement of experts working under the Stockholm Convention, including members and observers of the Persistent Organic Pollutants Review Committee, in the work referred to in paragraph 2 of that decision.

123. The representative of the Secretariat of the Basel Convention gave a presentation on the work of the Open-ended Working Group of that Convention and how the Committee could participate in it, noting that decisions would be taken on forthcoming work at the tenth meeting of the Conference of the Parties. He said that a small intersessional working group on technical guidelines on persistent organic pollutant wastes had already been formed and that it would welcome the participation of experts from the Committee, and he outlined the various forms that such participation take.

124. In the ensuing discussion one member, pointing out the value of working through electronic means, requested clarification of how the small intersessional working group operated. The representative of the Secretariat of the Basel Convention said that countries volunteered to serve as chair and undertake most of the work and that the process was facilitated by the Secretariat.

125. Mr. Arndt and Ms. Roa Gutiérrez indicated their willingness to participate in the work of the small intersessional working group on a provisional basis to collect experience as participants. Ms. Fatma Abou-Shok (Egypt) also expressed interest but said that she would participate by working through the Basel Convention focal point for her country.

2. Work with the Rotterdam Convention

126. In considering the sub-item, the Committee had before it a note by the Secretariat on work in collaboration and coordination with other scientific bodies (UNEP/POPS/POPRC.7/17) and the outline of a paper on possible cooperation between the Persistent Organic Pollutants Review Committee and the Chemical Review Committee of the Rotterdam Convention prepared by the chairs of the two committees (UNEP/POPS/POPRC.7/INF/21).

127. The Chair underscored the need for greater synergies between the two committees, particularly in view of the commonalities of the committees' activities and expertise. He invited the Committee to submit written feedback on the draft outline of a paper on possible cooperation between the two committees presented in document UNEP/POPS/POPRC.7/INF/21, on the basis of which a revised draft would be transmitted to the secretariats of both committees.

3. Implications of the study on climate change and persistent organic pollutants

128. In considering the sub-item, the Committee had before it a note by the Secretariat on the implications of the study on climate change and persistent organic pollutants mandated by decision SC-4/31 (UNEP/POPS/POPRC.7/7) and a discussion paper commissioned by the Secretariat to facilitate the Committee's consideration of the matter (UNEP/POPS/POPRC.7/INF/20/Rev.1).

129. In the ensuing discussion, several members welcomed the study but cautioned that any measures taken by the Committee in respect of climate change should fall strictly within its mandate. Several members said that available studies on the impact of climate change on persistent organic pollutants should be taken into account in screening candidate chemicals pursuant to Article 8 of the Convention and applying the criteria of Annex D, and that such studies might also bear on the review of the criteria set out in Annexes E and F.

130. The Chair said that it would be helpful to examine the question of remobilization in greater depth with regard to those chemicals already subject to the Convention. Any increase in such remobilization should be tracked under the monitoring programmes established for those chemicals and reported to the Conference of the Parties so that it could consider that information during its evaluation of the continued need for specific exemptions and acceptable purposes. One member questioned whether the Committee should take up the issue of remobilization, suggesting that it should be taken into account in the global monitoring plan for the effectiveness evaluation.

131. One member expressed concern that consideration of the impact of climate change with regard to the application of the four criteria set out in Annex D to the Convention was too large a task for the Committee, as it exceeded current knowledge on the subject. It might, however, be useful to collect information on existing persistent organic pollutants, since extensive monitoring data collected over many years were available, with a view to assessing the impact of climate change on those pollutants, thus building up scientific data rather than relying on assumptions.

132. The Chair, responding to a question as to whether any recommendations made by the Committee would apply specifically to persistent organic pollutants in those countries particularly affected by, or vulnerable to, climate change, said that such recommendations might relate, for example, to the adverse effects of persistent organic pollutants for which exemptions had been registered, provided that the Committee had established that future releases of those pollutants would indeed lead to such effects. He further commented that the Committee could prepare general guidance on how to consider interactions between climate change and persistent organic pollutants under the Convention but had no role in the climate change discussion per se; evaluation of the extent and impact of climate change on specific countries fell within the mandate of the Conference of the Parties to the United Nations Framework Convention on Climate Change.

133. Several members, citing examples, said that it was important to bear in mind the potentially broad range of possible effects of climate change on persistent organic pollutants and the considerable regional variation in factors influencing such effects. Another said that such regional variation necessitated consideration of climate change in the development of national implementation plans.

134. The Committee agreed to establish a contact group, co-chaired by Mr. Timo Seppälä (Finland) and Mr. Hu Jianxin (China), to consider the study on climate change and persistent organic pollutants – including the uncertainties highlighted therein – and the issues and questions set out in section 3 of document UNEP/POPS/POPRC.7/INF/20/Rev.1 in order to determine whether there was sufficient agreement concerning the implications of climate change with regard to the criteria set out in the annexes to the Convention to warrant the development of guidance outlining the issues raised. It was further agreed that the impact of climate change would also be addressed in the course of the Committee's intersessional work.

135. Subsequently, Mr. Seppälä introduced a conference room paper in which it was proposed, among other things, to establish an ad hoc working group to develop guidance on how to consider the possible impact of climate change and persistent organic pollutants on the Committee's work.

136. The Committee agreed to establish a group of friends of the Chair, co-chaired by Mr. Seppälä and Mr. Hu, to draft an outline of guidance that might also serve as terms of reference.

137. Subsequently, Mr. Seppälä introduced a conference room paper setting out a draft decision on climate change and persistent organic pollutants.

138. The Committee adopted, as orally amended, decision POPRC-7/11, on climate change and persistent organic pollutants. The decision is set out in annex I to the present report.

E. Effective participation of parties in the Committee's work

139. In considering the sub-item, the Committee had before it a note by the Secretariat summarizing activities undertaken to facilitate effective participation in the Committee's work (UNEP/POPS/POPRC.7/6).

140. Introducing the sub-item, the representative of the Secretariat said that, in the light of the success of the web-based seminars referred to in the note, the Secretariat was planning further such seminars and would welcome advice or suggestions on their content and other activities that might help members or countries to participate in the review of chemicals considered for listing in the annexes to the Convention. It was also seeking ways to enable a larger number of participants to take part in web-based seminars, but internet connectivity in some countries continued to pose problems.

141. One member, welcoming the Secretariat's work, said that web-based seminars on the issues currently under consideration would help countries to share their experiences and ideas. Their regular organization before each Committee meeting as forums for the discussion of the issues to be considered by the Committee, and the presentation of experiences and problems specific to individual regions, would also make participation in the Committee's work more effective.

142. Another member pointed out that, while such seminars were useful, it was important to bear in mind the cost of participation and other possible limitations for some countries, particularly where limited internet connectivity left the telephone as the only means of participating remotely. A third member noted that time zone differences also hampered participation.

143. One member underscored the importance of raising awareness of the Committee's work and available opportunities for participation, in addition to awareness of the emergence of new chemicals and risks and other developments. Moreover, greater participation would enable Committee members to evaluate chemicals better. It was important that the information produced by the Committee should be made widely known and that developing countries should know how to make the best possible use of it.

144. The Committee requested Ms. Norma Ethel Sbarbati-Nudelman (Argentina) to work with the Secretariat to develop a draft decision on effective participation, taking into account the Committee's deliberations.

145. Subsequently, the representative of the Secretariat introduced a conference room paper containing a draft decision on effective participation in the Committee's work. Following the Committee's discussion of the draft decision, the Committee agreed to convene a group of friends of the Chair, chaired by Ms. Sbarbati-Nudelman, to incorporate into that document comments made regarding the need to facilitate greater participation by developing countries and countries with economies in transition in the Committee's work, and to enhance those countries' ability to monitor and manage persistent organic pollutants through the building of capacity for data generation, collection, sharing and analysis.

146. Subsequently, the representative of GEF responded to a question by the Chair as to whether GEF would support parties in gathering information on chemicals that had been proposed for listing in the annexes to the Convention. He said that, while it had no mandate to support assessment or analysis of candidate chemicals, GEF had made provision to support countries in updating their national implementation plans. The grants made available to countries for that purpose under the fifth replenishment rules were limited to the nine persistent organic pollutants listed in the annexes to the Convention by the Conference of the Parties at its fourth meeting and did not include endosulfan (which had been listed at the fifth meeting of the Conference of the Parties). Countries receiving the grants could, however, also assess endosulfan in a cost-effective way, given that it would be included when the national implementation plans were reviewed. In that respect, countries were free to include an assessment or analysis of candidate chemicals within the funds provided. He noted that there were

several projects in all regions under the global monitoring plan, which was also intended to include the analysis and monitoring of persistent organic pollutants.

147. Ms. Sbarbati-Nudelman reported back to the Committee on the revised version of the draft decision, which reflected the concerns raised by members previously.

148. The Committee adopted, as orally amended, decision POPRC-7/12, on effective participation of parties in the Committee's work. The decision is set out in annex I to the present report.

IX. Other matters

149. No other matters were discussed.

X. Dates and venue of the Committee's eighth meeting

150. The Committee agreed to hold its eighth meeting in Geneva from 15 to 19 October 2012. A meeting of the intersessional working groups would be held on Sunday, 14 October 2012, in English only.

XI. Adoption of the report

151. The Committee adopted the present report on the basis of the draft report contained in documents UNEP/POPS/POPRC.7/L.1 and Add.1, as orally amended during adoption, and on the understanding that the Vice-Chair, serving as rapporteur and working in consultation with the Secretariat, would be entrusted with its finalization.

XII. Closure of the meeting

152. Following the customary exchange of courtesies, the meeting was declared closed at 1.10 p.m. on Friday, 14 October 2011.

Annex I

Decisions adopted by the Persistent Organic Pollutants Review Committee at its seventh meeting

POPRC-7/1: Hexabromocyclododecane

The Persistent Organic Pollutants Review Committee,

Having concluded in decision POPRC-5/6 that hexabromocyclododecane fulfils the criteria in Annex D to the Stockholm Convention on Persistent Organic Pollutants,

Having evaluated the risk profile for hexabromocyclododecane adopted by the Committee at its sixth meeting,¹

Having concluded that hexabromocyclododecane is likely, as a result of its long-range environmental transport, to lead to significant adverse human health and environmental effects such that global action is warranted,

Having completed the risk management evaluation for hexabromocyclododecane in accordance with paragraph 7 (a) of Article 8 of the Stockholm Convention,

1. *Adopts* the risk management evaluation for *hexabromocyclododecane*;²
2. *Decides*, in accordance with paragraph 9 of Article 8 of the Convention, to recommend to the Conference of the Parties that it consider listing hexabromocyclododecane in Annexes A, B and/or C to the Convention;
3. *Invites* the ad hoc working group on hexabromocyclododecane that prepared the risk management evaluation to collect further information on:
 - (a) Chemical alternatives to hexabromocyclododecane, especially in expanded polystyrene or extruded polystyrene foam applications, in terms of their availability, cost, efficacy, efficiency and health and environmental impact, especially with regard to their persistent organic pollutant properties;
 - (b) Production and use of hexabromocyclododecane, especially for expanded polystyrene or extruded polystyrene foam applications;
4. *Agrees* to review the additional information made available to it and to consider at its eighth meeting whether to specify the annex to the Convention and possible exemptions to be considered by the Conference of the Parties in listing hexabromocyclododecane.

POPRC-7/2: Chlorinated naphthalenes

The Persistent Organic Pollutants Review Committee,

Having examined the proposal by the European Union and its member States parties to the Stockholm Convention on Persistent Organic Pollutants to list chlorinated naphthalenes in Annexes A, B and/or C to the Convention and having applied the screening criteria specified in Annex D to the Convention,

Noting that the term “chlorinated naphthalenes” encompasses as many as 75 chlorinated naphthalenes containing from one to eight chlorine atoms that are commercially produced as mixtures of several congeners,³

1. *Decides*, in accordance with paragraph 4 (a) of Article 8 of the Convention, that it is satisfied that the screening criteria have been fulfilled for dichlorinated naphthalenes, trichlorinated naphthalenes, tetrachlorinated naphthalenes, pentachlorinated naphthalenes, hexachlorinated naphthalenes, heptachlorinated naphthalenes and octachlorinated naphthalenes, as set out in the evaluation contained in the annex to the present decision;

1 UNEP/POPS/POPRC.6/13/Add.2.

2 UNEP/POPS/POPRC.7/19/Add.1.

3 Such as Halowax, Nibren Waxes, Seekay Waxes and Cerifal Materials.

2. *Also decides*, in accordance with paragraph 6 of Article 8 of the Convention and paragraph 29 of decision SC-1/7, to establish an ad hoc working group to review the proposal further and to prepare a draft risk profile in accordance with Annex E to the Convention;

3. *Invites*, in accordance with paragraph 4 (a) of Article 8 of the Convention, parties and observers to submit to the Secretariat the information specified in Annex E before 9 January 2012.

Annex to decision POPRC-7/2

Evaluation of chlorinated naphthalenes against the criteria of Annex D

A. Background

1. The primary source of information for the preparation of the present evaluation was the proposal submitted by the European Union and its member States parties to the Convention, contained in document UNEP/POPS/POPRC.7/2. Supporting information was provided in document UNEP/POPS/POPRC.7/INF/3.

2. Additional sources of scientific information included critical reviews prepared by recognized authorities, in particular an ecological screening assessment report on chlorinated naphthalenes (Ref. 3).

B. Evaluation

3. The proposal was evaluated in the light of the requirements of Annex D regarding the identification of the chemical (paragraph 1 (a)) and the screening criteria (paragraphs 1 (b)–(e)):

(a) Chemical identity:

- (i) Adequate information was provided in the proposal and supporting documents. The proposal relates to chlorinated naphthalenes containing from one to eight chlorine atoms;
- (ii) The chemical structures for the compounds were provided. Commercial chlorinated naphthalenes are a mixture of several congeners (mono-, di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes);

The chemical identity of the commercial mixture and the individual congeners of chlorinated naphthalenes is adequately established;

(b) Persistence:

- (i) The half-life values of monochlorinated and dichlorinated naphthalenes are below the Annex D criteria;
- (ii) Consideration has been given to the weight of evidence, including the high predicted Arctic contamination potential of di-, tri-, tetra- and pentachlorinated naphthalenes, the predicted persistence of di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes in water, the empirical evidence for persistence of tri-, tetra-, penta-, hexa-, and heptachlorinated naphthalenes in sediments and soils, the detection of tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes in air and biota in the Arctic, Antarctic and in other regions that lack significant local sources of chlorinated naphthalenes (Ref. 3);

There is sufficient evidence that di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes meet the criterion on persistence;

(c) Bioaccumulation:

- (i) The log Kow value for chlorinated naphthalenes ranged from 3.9 to 8.3. The log Kow values for mono- and dichlorinated naphthalenes are below 5. Experimental bioconcentration factors for di- tri-, tetra- and pentachlorinated naphthalenes are above 5,000 and below 5,000 for monochlorinated naphthalenes;
- (ii) and (iii) There is empirical evidence of the biomagnification of chlorinated naphthalenes throughout the Arctic marine food chain, i.e., increasing total chlorinated naphthalene concentration as trophic level increases, the high dietary uptake efficiencies of hexa-, hepta- and octachlorinated naphthalenes in

northern pike, the very slow elimination of hexachlorinated naphthalenes from the bodies of rats and humans (Ref. 3). In addition, tri-, tetra-, penta-, hexa-, hepta-, and octachlorinated naphthalenes have been detected in biota in the Arctic, Antarctic and other regions that lack significant local sources of chlorinated naphthalenes (Ref. 1; Ref. 3);

There is sufficient evidence that di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes meet the criterion on bioaccumulation;

(d) Potential for long-range environmental transport:

- (i) and (ii) Tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes have been detected in air and biota in the Arctic, Antarctic and in other regions that lack significant local sources of chlorinated naphthalenes (Ref. 1; Ref. 3; Ref. 4; Ref. 5; Ref. 6, Ref. 7, Ref. 11);
- (iii) The vapour pressure of chlorinated naphthalenes at 25° C ranges from 1.3×10^{-4} Pa (octachlorinated naphthalenes) to 2.1 Pa (monochlorinated naphthalenes). The estimated half-life in air for monochlorinated naphthalenes is 1 day and for di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes, it ranged from 3.62 to 437 days (Ref. 3).

There is sufficient evidence that di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes meet the criterion on potential for long-range environmental transport;

(e) Adverse effects:

- (i) While the exposure of humans to chlorinated naphthalenes is associated with chloracne and lethality, it cannot be ruled out that these are caused by other contaminants such as dioxins and polychlorinated biphenyls;
- (ii) Tests with mono- and dichlorinated naphthalenes resulted in L(E)C₅₀ values of 0.69-2.4 mg/L for fish and 0.37-2.82 mg/L for crustaceans. The available empirical and modeled aquatic toxicity data for chlorinated naphthalenes indicate that di-, tri-, tetra- and pentachlorinated naphthalenes may be toxic to aquatic organisms at relatively low concentrations: less than 1 mg/L for acute exposures, and less than 0.1 mg/L for chronic exposures (Ref. 3). Hexa-, hepta- and octachlorinated naphthalenes were found to cause harmful effects to mammals (particularly cattle) at relatively low doses of 2.4 mg/kg body weight per day and less (Ref. 3). Chlorinated naphthalenes have dioxin-like activity (Ref. 2; Ref. 13; Ref. 14). The toxic equivalents (TEQs) estimated for polychlorinated naphthalenes in sediments are greater than those estimated for polychlorinated biphenyls and polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (Ref. 9 and Ref. 10). The toxicity equivalency factors (TEFs) are congener specific and range from 2×10^{-8} (dichlorinated naphthalenes) to 4×10^{-3} (hexachlorinated naphthalenes) and 3×10^{-3} (heptachlorinated naphthalenes).

There is sufficient evidence that mono-, di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes meet the criterion on adverse effects.

C. Conclusion

4. The Committee concluded that polychlorinated naphthalenes (di-, tri-, tetra-, penta-, hexa-, hepta- and octachlorinated naphthalenes) met the screening criteria specified in Annex D.

References

1. Bidleman TF et al. Polychlorinated naphthalenes in polar environments — A review. *Science of the Total Environment*. 2010; 408:2919-2935.
2. Blankenship A, et al. Relative potencies of individual polychlorinated naphthalenes and Halowax mixtures to induce Ah receptor-mediated responses. *Environmental Science and Technology* 2000; 34: 3153-3158.
3. Environment Canada 2011. Ecological screening assessment report on chlorinated naphthalene prepared by Environment Canada. June 2011 http://www.ec.gc.ca/ese-ees/835522FE-AE6C-405A-A729-7BC4B7C794BF/CNs_SAR_En.pdf
4. Harner T and Bidleman TF. Octanol-air partition coefficient for describing particle/gaspartitioning of aromatic compounds in urban air. *Environmental Science and Technology* 1998; 32: 1494 -1502.

5. Helm PA. The Influence of Sources, Source Regions and Fate and Transport Processes on the Occurrence of Polychlorinated Naphthalenes and Coplanar Polychlorinated Biphenyls in Urban and Arctic Environments. Department of Chemical Engineering and Applied Chemistry. Ph.D. University of Toronto, Toronto, 2002.
6. Helm PA and Bidleman TF. Current combustion-related sources contribute to polychlorinated naphthalene and dioxin-like polychlorinated biphenyl levels and profiles in air in Toronto, Canada. *Environ. Sci. Technol.* 2003; 37: 1075-1082.
7. Helm PA et al. Seasonal and spatial variations of polychlorinated naphthalenes and planar polychlorinated biphenyls in arctic air. *Environ. Sci. Technol.* 2004; 38: 5514-5521.
8. Herbert BMJ et al. Polychlorinated naphthalenes in air and snow in the Norwegian Arctic: a local source or an Eastern Arctic phenomenon? *Science of The Total Environment* 2005; 342: 145-160.
9. Kannan K et al. Isomer-specific analysis and toxic evaluation of polychlorinated naphthalenes in soil, sediment and biota collected near the site of a former chloralkali plant. *Environ. Sci. Technol.* 1998; 32: 2507-2514.
10. Kannan K et al. Polychlorinated naphthalenes, biphenyls, dibenzo-p-dioxins, and dibenzofurans as well as polycyclic aromatic hydrocarbons and alkylphenols in sediment from the Detroit and Rouge Rivers, Michigan, USA. *Environ. Toxicol. Chem.* 2001; 20: 1878-1889.
11. Lee SC et al. Polychlorinated naphthalenes in the global atmospheric passive sampling (GAPS) study. *Environ. Sci. Technol.* 2007; 41: 2680-2687.
12. National Institute of Technology and Evaluation (NITE), Chemical Risk Information Platform (CHRIP). Bio-accumulation study of α -chloronaphthalene, supported by the Ministry of Economy, Trade and Industry (METI). <http://www.safe.nite.go.jp/english/index.html> (NITE CHRIP, accessed on 10th Oct, 2011).
13. Olivero-Verbel J et al. Discriminant analysis for activation of the aryl hydrocarbon receptor by polychlorinated naphthalenes. *J. Mol. Struct.-Theochem.* 2004; 678: 157-161.
14. Villeneuve DL et al. Relative potencies of individual polychlorinated naphthalenes to induce dioxin-like responses in fish and mammalian in vitro bioassays. *Arch Environ Contam Toxicol* 2000; 39: 273-281.

POPRC-7/3: Hexachlorobutadiene

The Persistent Organic Pollutants Review Committee,

Having examined the proposal by the European Union and its member States parties to the Stockholm Convention on Persistent Organic Pollutants to list hexachlorobutadiene (CAS No: 87-68-3) in Annexes A, B and/or C to the Convention and having applied the screening criteria specified in Annex D to the Convention,

1. *Decides*, in accordance with paragraph 4 (a) of Article 8 of the Convention, that it is satisfied that the screening criteria have been fulfilled for hexachlorobutadiene, as set out in the evaluation contained in the annex to the present decision;
2. *Also decides*, in accordance with paragraph 6 of Article 8 of the Convention and paragraph 29 of the annex to decision SC-1/7, to establish an ad hoc working group to review the proposal further and to prepare a draft risk profile in accordance with Annex E to the Convention;
3. *Invites*, in accordance with paragraph 4 (a) of Article 8 of the Convention, parties and observers to submit to the Secretariat the information specified in Annex E before 9 January 2012.

Annex to decision POPRC-7/3

Evaluation of hexachlorobutadiene against the criteria of Annex D

A. Background

1. The primary source of information for the preparation of the present evaluation was the proposal submitted by the European Union and its member States parties to the Convention contained in document UNEP/POPS/POPRC.7/3. Supporting information was provided in document UNEP/POPS/POPRC.7/INF/4.

2. Additional sources of scientific information included a national database on bioaccumulation data and peer-reviewed scientific papers.

B. Evaluation

3. The proposal was evaluated in the light of the requirements of Annex D regarding the identification of the chemical (paragraph 1 (a)) and the screening criteria (paragraphs 1 (b)–(e)):

(a) Chemical identity:

(i) Adequate information was provided in the proposal and supporting documents;

(ii) The chemical structure was provided;

The chemical identity of hexachlorobutadiene is clearly established;

(b) Persistence:

(i) Estimated half-lives in natural waters range from 4 to 52 weeks (greater than two months) and estimated half lives in soil range from 4 to 26 weeks (up to six months);

(ii) Model calculations yield the conclusion that hexachlorobutadiene does not biodegrade quickly. It has been reported in polar bears in Svalbard (Norway) and in invertebrates, fish, birds and mammals in Greenland.

There is sufficient evidence that hexachlorobutadiene meets the criterion on persistence;

(c) Bioaccumulation:

(i) Evidence from *Oncorhynchus mykiss* indicates a bioconcentration factor greater than 5,000 and the log K_{ow} is close to 5 (in the range of 4.78 to 4.9). Evidence from *Cyprinus carpio* indicates that bioconcentration factor is in the range of 6,608 to 7,555 (Ref.1);

(ii) and (iii) Hexachlorobutadiene has been detected in various Arctic biota in Greenland and in plasma and fat of polar bears in the Arctic Svalbard Islands (see (b) (ii) above).

There is sufficient evidence that hexachlorobutadiene meets the criterion on bioaccumulation;

(d) Potential for long-range environmental transport:

(i) and (ii) Hexachlorobutadiene has been detected in different Arctic biota in Greenland and in plasma and fat of polar bears in the Arctic Svalbard Islands (see (b) (ii) above);

(iii) The estimated half-life in air of hexachlorobutadiene is far greater than two days (i.e., from 60 days to 3 years). Model estimates are provided for a transport distance of almost 8,800 km;

There is sufficient evidence that hexachlorobutadiene meets the criterion relating to potential for long-range environmental transport;

(e) Adverse effects:

- (i) Not available;
- (ii) For mammals, the no observed adverse effect level (NOAEL) in a two-year oral study with rats and a 90-day oral study with mice is 0.2 mg/kg-bw/d (renal toxicity). For aquatic species, acute LC₅₀ values vary from 0.0032 mg/L to 4.5 mg/L. A no observed effect concentration (NOEC) of 6.5 µg/L was established in an early life stage (ELS) study. Genotoxicity was examined in a *Salmonella typhimurium* mutagenicity assay (Ames test) and in an *in vitro* chromosome aberration test. In this study, induced chromosome aberrations were demonstrated (Ref. 2). Swain et al. documented kidney injury specific to the proximal tubule of the kidney. Injury to the nephron was characterized at 24 h following a single dose of hexachlorobutadiene, using a range of quantitative urinary measurements, renal histopathology and gene expression (Ref. 3).

There is sufficient evidence that hexachlorobutadiene meets the criterion relating to adverse effects.

C. Conclusion

4. The Committee concluded that hexachlorobutadiene met the screening criteria specified in Annex D.

References

1. National Institute of Technology and Evaluation (NITE) (2009). Biodegradation and Bioconcentration Database of Existing Chemical Substances. http://safe.nite.go.jp/english/kizon/kizon_start_hazkizon.html (accessed on 21 August 2009).
2. Beat J. Brüscheilera et al., (2010). Mutation Research 699, 47-54. *In vitro* genotoxicity of polychlorinated butadienes (Cl4–Cl6).
3. Aubrey Swain et al., (2011). Journal of Applied Toxicology 2011 (wileyonlinelibrary.com, DOI 10.1002/jat.1624). Urinary biomarkers in hexachloro-1:3-butadiene-induced acute kidney injury in the female Hanover Wistar rat; correlation of α-glutathione S-transferase, albumin and kidney injury molecule-1 with histopathology and gene expression.

POPRC-7/4: Assessment of alternatives to endosulfan

The Persistent Organic Pollutants Review Committee,

Recalling decision SC-5/3, by which the Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants amended Annex A to the Convention to list technical endosulfan and its related isomers therein,

Recalling also decision SC-5/4, by which the Conference of the Parties decided to undertake the work programme to support the development and deployment of alternatives to endosulfan set out in the annex to that decision,

Noting that the following work has been undertaken in accordance with the work programme:

- (a) Parties and observers have submitted information on chemical and non-chemical alternatives to endosulfan for the uses identified as specific exemptions in Annex A to the Convention;
- (b) The Secretariat has gathered and compiled the submitted information, made it available on the website of the Convention and summarized it,⁴

Having reviewed the information referred to in the preceding paragraph,

Having identified potential gaps in that information,

4 UNEP/POPS/POPRC.7/INF/11/Rev.2.

1. *Decides* to establish an ad hoc working group to undertake the activities requested in paragraph 3 of the work programme set out in the annex to decision SC-5/4 and agrees to work in accordance with the workplan set out in annex I to the present decision and the terms of reference set out in annexes II and III to the present decision;
2. *Requests* the Secretariat to collect from parties and observers the information to facilitate intersessional work outlined in annexes II and III to the present decision;
3. *Requests* the Secretariat to provide guidance to strengthen the capacity of countries to implement alternatives;
4. *Invites* the Food and Agriculture Organization of the United Nations to provide and/or undertake studies, as appropriate, on integrated pest management solutions to replace existing uses of endosulfan, including success stories;
5. *Requests* the Secretariat to facilitate access to information on alternatives to endosulfan;
6. *Invites* Governments, intergovernmental organizations and non-governmental organizations to provide technical and financial resources to support the Committee in employing a consultant to carry out the activities requested in paragraph 3 of the work programme set out in the annex to decision SC-5/4.

Annex I to decision POPRC-7/4

Workplan for the assessment of alternatives to endosulfan

<i>Activity</i>	<i>Person or persons responsible</i>	<i>Timing</i>
Identify the chemical and non-chemical alternatives relevant to crop-pest complexes in part VI of Annex A to the Convention (decision SC-5/3) from the information provided in part A of annex I to document UNEP/POPS/POPRC.7/INF/11/Rev.2 and other information provided by parties and observers.	Secretariat	30 October 2011
Identify gaps in the information available on alternatives to endosulfan.	Working group members	30 November 2011
Collect additional information on alternatives to endosulfan from parties and observers and make it available to the working group.	Secretariat	31 January 2012
Develop a methodology for the assessment of persistent organic pollutant characteristics and other hazard indicators; develop a methodology for the evaluation of non-chemical alternatives.	Working group members	30 October 2011– 31 January 2012
Prepare a draft report that includes: <ol style="list-style-type: none"> 1) Review of the information on alternatives to endosulfan provided to the Committee; 2) Prioritization of chemical alternatives for the most important crop-pest complexes against the persistent organic pollutant screening criteria; 3) Assessment of the persistent organic pollutant characteristics and other hazard indicators of the chemical alternatives prioritized; 4) Evaluation of the suitability of information provided on non-chemical alternatives to endosulfan. 	Chair/drafter	1 February 2012– 28 May 2012

<i>Activity</i>	<i>Person or persons responsible</i>	<i>Timing</i>
Send the draft report to the intersessional working group members and make it available for public comments.	Secretariat	1 June 2012
Provide comments on the draft report.	Working group members	22 June 2012
Provide the revised draft report to Secretariat.	Chair/drafter	6 July 2012
Distribute the revised draft report.	Secretariat	3 September 2012
Review and finalize the report for consideration by the Conference of the Parties at its sixth meeting	Committee	Eighth meeting of the Committee: 15–19 October 2012

Annex II to decision POPRC-7/4

Terms of reference for the intersessional work related to chemical alternatives to endosulfan

1. Identify chemical alternatives relevant to the crop-pest complexes in part VI of Annex A to the Stockholm Convention (decision SC-5/3) from the information provided in part A of annex I to document UNEP/POPS/POPRC.7/INF/11/Rev.2 and other information provided by parties and observers.
2. Identify information gaps relating to alternatives to the crop-pest complexes identified pursuant to the preceding paragraph.
3. Request the Secretariat to collect information related to the gaps identified pursuant to the preceding paragraph from parties and observers.
4. Develop a methodology for the assessment of persistent organic pollutant characteristics and other hazard indicators.
5. Prioritize chemical alternatives according to the most important crop-pest complexes, including those using the highest volumes of endosulfan.
6. Prioritize the chemical alternatives relevant to the most important crop-pest complexes against the persistent organic pollutant screening criteria.
7. Assess the persistent organic pollutant characteristics and other hazard indicators of the chemical alternatives prioritized.
8. Provide a report for the consideration of the Committee at its eighth meeting.

Annex III to decision POPRC-7/4

Terms of reference for the intersessional work related to non-chemical alternatives to endosulfan

1. Identify the non-chemical alternatives relevant to crop-pest complexes in part VI of Annex A to the Stockholm Convention (decision SC-5/3) from the information provided in part B of Annex I to document UNEP/POPS/POPRC.7/INF/11/Rev.2 and other information provided by parties and observers.
2. Identify information gaps relating to alternatives to the crop-pest complexes identified pursuant to paragraph 1 above.
3. Request the Secretariat to collect information related to the gaps identified pursuant to the preceding paragraph from parties and observers.
4. Prioritize non-chemical alternatives according to the most important crop-pest complexes, including those using the highest volumes of endosulfan.
5. Evaluate the suitability of information provided on non-chemical alternatives for endosulfan.

6. Provide a report for the consideration of the Committee at its eighth meeting.

POPRC-7/5: Assessment of alternatives to perfluorooctane sulfonic acid in open applications

The Persistent Organic Pollutants Review Committee,

Taking note of decision SC-5/5, by which the Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants established a work programme for the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid in open applications,

1. *Requests* the Secretariat, subject to the availability of resources, to commission a technical paper on the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid in open applications based on the terms of reference set out in annex I to the present decision and the outline⁵ revised during its seventh meeting;
2. *Decides* to establish an ad hoc working group to undertake the activities requested in paragraphs 5 and 7 of decision SC-5/5 and agrees to work in accordance with the workplan set out in annex II to the present decision;
3. *Requests* the Secretariat to collect from parties and observers the information outlined in decision SC-5/5 using a revised version of the questionnaire,⁶ and to make it available for the working group;
4. *Invites* parties and observers in a position to do so to provide financial support for the implementation of the activities requested in decision SC-5/5.

Annex I to decision POPRC-7/5

Terms of reference for a technical paper on the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid in open applications

Introduction

1. At its fourth meeting, the Conference of the Parties amended Annex B to the Stockholm Convention on Persistent Organic Pollutants to list therein perfluorooctane sulfonic acid (PFOS), its salts, and perfluorooctane sulfonyl fluoride (PFOSF),⁷ and decided to undertake a work programme to provide guidance to parties on how best to restrict and eliminate the newly listed persistent organic pollutants.⁸
2. At its fifth meeting, the Conference of the Parties considered and endorsed the recommendations of the Persistent Organic Pollutants Review Committee developed pursuant to the work programme for newly listed persistent organic pollutants, including on risk reduction for PFOS, its salts and PFOSF.⁹
3. To eliminate the production and use of PFOS, its salts and PFOSF as swiftly as possible so as to avoid negative effects on human health and the environment, the Conference of the Parties requested the development of a technical paper on the identification and assessment of alternatives to the use of PFOS in open applications, also requesting the Persistent Organic Pollutants Review Committee to prepare recommendations on the basis of that paper.¹⁰

I. Content of the technical paper

4. The technical paper is intended to identify and assess alternatives to the use of PFOS in open applications and to support the Persistent Organic Pollutants Review Committee in developing recommendations on the matter to be considered by the Committee at its eighth meeting, to be held from 15 to 19 October 2012.

5 UNEP/POPS/POPRC.7/INF/22, annex II.

6 Ibid., annex I.

7 Decision SC-4/17.

8 Decision SC-4/19.

9 UNEP/POPS/COP.5/15.

10 Decision SC-5/5.

5. The technical paper should include consideration of the following aspects of the substitution of PFOS, taking into account the general guidance on considerations related to alternatives and substitutes for listed persistent organic pollutants and candidate chemicals:¹¹
- (a) Chemical identity and physicochemical property;
 - (b) Technical feasibility;
 - (c) Health and environmental effects;
 - (d) Cost-effectiveness;
 - (e) Efficacy;
 - (f) Availability;
 - (g) Accessibility;
 - (h) Social and economic considerations.
6. The technical paper should be based on information provided by parties and observers in response to a request by the Secretariat and any other relevant information.

II. Requirements for the consultant

7. Under the Secretariat's guidance, the consultant should develop a technical paper on the identification and assessment of alternatives to the use of PFOS in open applications, in accordance with the workplan set out in annex II to decision POPRC-7/5.
8. In producing the technical paper on the basis of the outline suggested by the Persistent Organic Pollutants Review Committee, the consultant should gather, compile and summarize all available information on alternatives to the use of PFOS in open applications, including the information submitted by parties and observers in response to a request by the Secretariat.
9. The consultant should take due account of the general guidance on considerations related to alternatives and substitutes for listed persistent organic pollutants and candidate chemicals (UNEP/POPS/POPRC.5/10/Add.1) and the comments provided by the Committee when developing and revising the technical paper.
10. The consultant should have the following qualifications:
- (a) Extensive experience and expertise in the assessment and management of chemicals at the national and international levels;
 - (b) Knowledge, including the source of any information, of the use of PFOS in open applications and alternatives to PFOS;
 - (c) Good writing and communication skills in English.
11. The technical paper should be developed in accordance with the workplan set out in annex II to decision POPRC-7/5.

11 UNEP/POPS/POPRC.5/10/Add.1.

Annex II to decision POPRC-7/5

Workplan for the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid in open applications

Scheduled date	Interval from previous activity (weeks)	Activity
14 October 2011	-	The Committee establishes an ad hoc working group.
21 October 2011	<1	The Secretariat sends an invitation to parties and observers to submit information on alternatives to the use of PFOS in open applications. The Secretariat commissions a technical paper based on the terms of reference adopted by the Committee at its seventh meeting by 25 November 2011.
9 January 2012	11	Parties and observers submit the information to the Secretariat. The Secretariat compiles the information, makes it available on the Convention website and forwards it to the consultant.
2 March 2012	7	The consultant completes the first draft of the technical paper. The Secretariat invites the working group to provide comments on the first draft of the technical paper by 16 March 2012.
16 March 2012	2	The working group members provide comments on the first draft of the technical paper.
5 April 2012	3	The consultant reviews the comments on the technical paper and completes the second draft and a compilation of responses to the comments. The Secretariat invites the working group, parties and observers to provide comments on the second draft of the technical paper by 22 June 2012.
8 June 2012	9	On the basis of the second draft of the technical paper, the chair and drafter of the working group prepare a draft recommendation on the identification and assessment of alternatives to the use of PFOS in open applications. The Secretariat invites the working group to provide comments on the draft recommendation by 22 June 2012.
22 June 2012	2	The working group members provide comments on the draft recommendation and final comments on the second draft of the technical paper.
6 July 2012	2	The working group chair and the drafter review the comments and complete the draft recommendation and a compilation of responses to the comments. The consultant reviews the final comments on the technical paper and completes the final draft and a compilation of responses to the comments.
9 July 2012	<1	The Secretariat sends the draft recommendation and the draft technical paper to the Division of Conference Services for editing and translation, where applicable.
27 August 2012	7	The Division of Conference Services returns the documents to the Secretariat in final form.
3 September 2012	<1	The Secretariat distributes the documents.
15–19 October 2012	6	Eighth meeting of the Committee. The Committee finalizes its recommendations on the basis of the technical paper for consideration by the Conference of the Parties at its sixth meeting.

POPRC-7/6: Guidance on alternatives to perfluorooctane sulfonate and its derivatives

The Persistent Organic Pollutants Review Committee,

Having considered the comments on the guidance on alternatives to perfluorooctane sulfonate and its derivatives received from parties and observers in accordance with decision POPRC-6/5¹² and having revised the guidance based on those comments,

1. *Requests* the Secretariat to disseminate the revised guidance document widely, including by posting it on the website of the Stockholm Convention on Persistent Organic Pollutants;

2. *Invites* parties and observers to submit the following information to the Secretariat by 31 July 2012 for consideration at the Committee's eighth meeting:

(a) Comments on the revised guidance document, including additional information on the health and environmental effects of possible alternatives mentioned therein;

(b) Experience in replacing perfluorooctane sulfonate and its derivatives with additional alternative products and/or processes, including information about their health and environmental effects;

3. *Decides* to consider both the information provided pursuant to paragraph 2 of the present decision and the possibility of revising the guidance document at the Committee's eighth meeting.

POPRC-7/7: Evaluation of brominated diphenyl ethers¹³ pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention on Persistent Organic Pollutants and work programme on brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride

The Persistent Organic Pollutants Review Committee,

Recalling decision SC-5/5, by which the Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants invited parties to submit information on their experiences in implementing the recommendations set out in the annex to decision POPRC-6/2 and requested the Secretariat to compile the information received for consideration by the Conference of the Parties at its sixth meeting and to transmit it to the appropriate bodies of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal,

Recalling also decision SC-5/8, by which the Conference of the Parties requested the Secretariat to develop a process to enable the Conference of the Parties at its sixth and every second ordinary meeting thereafter to evaluate parties' progress in achieving the ultimate objective of eliminating brominated diphenyl ethers and to review the continued need for the specific exemption for those chemicals in accordance with paragraph 2 of parts IV and V of Annex A to the Convention,

Recalling further that in accordance with Article 15 of the Convention each party is to report to the Conference of the Parties every four years, commencing in 2006, on the measures that it has taken to implement the provisions of the Convention and on the effectiveness of such measures in meeting the objectives of the Convention,

Recognizing that there is a need to alleviate the parties' burden in collecting and providing information on chemicals and to improve the efficiency of the reporting process,

Recognizing also that parties from developing countries and countries with economies in transition have expressed a need for technical and financial assistance in addressing brominated diphenyl ethers and may consequently require time to collect information,

Noting that parties are in the process of reviewing and updating their national implementation plans with information regarding brominated diphenyl ethers and that such information could be useful for the evaluation and review specified in paragraph 2 of parts IV and V of Annex A to the Convention,

¹² UNEP/POPS/POPRC.7/INF/13.

¹³ The term "Brominated diphenyl ethers" refers to hexabromodiphenyl ether, heptabromodiphenyl ether, tetrabromodiphenyl ether and pentabromodiphenyl ether listed in Annex A to the Stockholm Convention.

Noting also that the information requested in paragraph 3 of decision SC-5/5 with regard to the brominated diphenyl ethers listed in Annex A to the Convention could be used for the purpose of paragraph 2 of parts IV and V of that annex,

Having considered the draft process prepared by the Secretariat in response to decision SC-5/8¹⁴ and the draft format prepared in response to decision SC-5/5,¹⁵

Mindful that the Persistent Organic Pollutants Review Committee and appropriate bodies of the Basel Convention might have a role in any future process adopted by the Conference of the Parties at its sixth meeting;

1. *Requests* the Secretariat to use the format and explanatory note set out in the annex to the present decision to collect from parties information on brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Convention and on their experience in implementing the Committee's recommendations,¹⁶

2. *Also requests* the Secretariat to compile the information obtained pursuant to the preceding paragraph for consideration by the Conference of the Parties at its sixth meeting;

3. *Further requests* the Secretariat to extract information on brominated diphenyl ethers and perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride in articles from the risk management evaluations¹⁷ and the technical paper on brominated diphenyl ether developed in accordance with decision SC-4/19,¹⁸ to attach the information to the questionnaire and to assist the parties further in completing the questionnaire, including through the provision of other relevant information where available,

4. *Decides* to revise the draft process set out in the annex to the note by the Secretariat on evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention on Persistent Organic Pollutants¹⁹ at its eighth meeting, including possibly by incorporating the format for collecting information for the purpose of paragraph 2 of parts IV and V of Annex A to the Convention in the format for reporting under Article 15 of the Convention.

Annex to decision POPRC-7/7

Format for the evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention on Persistent Organic Pollutants and work programme on brominated diphenyl ethers and on perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride

Explanatory note

The purpose of this questionnaire is to gather information on the progress made by parties to the Stockholm Convention on Persistent Organic Pollutants towards the elimination of brominated diphenyl ethers listed in Annex A to the Convention and in risk reduction in respect of perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSE). The issues addressed in the questionnaire also relate to the environmentally sound management of wastes and its completion will therefore require the cooperation and input of relevant bodies, including national authorities dealing with the Basel Convention.

In accordance with paragraph 2 of parts IV and V of Annex A to the Convention, the Conference of the Parties, at its sixth ordinary meeting and at every second ordinary meeting thereafter, is to evaluate the progress that parties have made towards achieving their ultimate objective of elimination of brominated diphenyl ethers contained in articles and review the continued need for the specific exemptions related to these chemicals. The same paragraphs also provide that these specific exemptions are in any case to expire at the latest in 2030.

14 UNEP/POPS/POPRC.7/12.

15 UNEP/POPS/POPRC.7/18.

16 Decision POPRC-6/2, annex.

17 UNEP/POPS/POPRC.4/15/Add.1, UNEP/POPS/POPRC.3/20/Add.5, UNEP/POPS/POPRC.4/15/Add.6, UNEP/POPS/POPRC.3/20/Add.1.

18 UNEP/POPS/POPRC.6/2/Rev.1.

19 UNEP/POPS/POPRC.7/12.

By its decision SC-5/8, the Conference of the Parties requested the Secretariat, taking into account decisions SC-4/19 and SC-5/5, and with advice from relevant experts, to develop a process to enable the Conference of the Parties at its sixth and every second ordinary meeting thereafter to conduct the evaluation referred to above.

By decision SC-5/5, the Conference of the Parties, among other things, encouraged parties and other stakeholders to implement the recommendations developed by the Persistent Organic Pollutants Review Committee on the elimination of brominated diphenyl ethers from the waste stream and on risk reduction for PFOS, its salts and PFOSE.²⁰ Those recommendations are reproduced in an attachment to the present note.

Parties were further invited to submit information on their experiences in implementing the recommendations, where applicable, or other actions that had the same objectives. The Secretariat was requested to prepare a compilation of the information submitted for consideration by the Conference of the Parties at its sixth meeting and to transmit it to the appropriate bodies of the Basel Convention.

The amendment of the annexes to the Convention by the addition of new chemicals triggered a need for parties to review and update their national implementation plans to address obligations related to the new chemicals. In completing the attached questionnaire, parties may encounter issues that they find important to address in updating their national implementation plans. Parties that have already updated their plans may already have gathered the information required to complete the questionnaire. Funding for undertaking the review and updating of national implementation plans is available for eligible parties from the Global Environment Facility (GEF).²¹ A number of guidance documents are being developed to assist parties in the review and updating of their plans. These include guidance documents to address brominated diphenyl ethers, PFOS and its salts and PFOSE specifically.

As part of the process to enable the Conference of the Parties to review the progress that parties have made towards achieving their ultimate objective of elimination of brominated diphenyl ethers contained in articles and the continued need for specific exemptions for brominated diphenyl ethers, parties are invited to provide the relevant information using the following questionnaire. Parties are also invited to provide information on their experience in implementing the recommendations relating to brominated diphenyl ethers, PFOS and its salts and PFOSE.

Questionnaire

Country information

Country	
Name of principal reporting official	
Agency name and address	
Tel/Fax	
E-mail	
Signature of official Date:

1. Please indicate whether your country is registered for a specific exemption related to hexabromodiphenyl ether and heptabromodiphenyl ether and/or tetrabromodiphenyl ether and pentabromodiphenyl ether in accordance with part IV and/or part V of Annex A to the Stockholm Convention.

- (a) Specific exemption for hexabromodiphenyl ether and heptabromodiphenyl ether
 Yes No
- (b) Specific exemption for tetrabromodiphenyl ether and pentabromodiphenyl ether
 Yes No

20 Decision POPRC-6/2, annex.

21 Guidance for gaining access to GEF funding is available on the GEF website: www.thegef.org/gef/sites/thegef.org/files/documents/C.39.Inf_5%20Guidelines%20for%20NIP.Final_.pdf.

If you answered yes to 1 (a) and/or 1 (b), please provide information on your country's review of the continued need for a specific exemption for hexabromodiphenyl ether and heptabromodiphenyl ether and/or tetrabromodiphenyl ether and pentabromodiphenyl ether.

If you answered no to 1 (a) and/or 1 (b), please briefly describe the reasons.

Not needed

Not assessed

Assessed but lack of technical capacity

Assessed but lack of financial capacity

Others _____

PART I

Evaluation of brominated diphenyl ethers pursuant to paragraph 2 of parts IV and V of Annex A to the Stockholm Convention on Persistent Organic Pollutants, including experience in implementing the recommendations in the annex to decision POPRC-6/2

2. Please indicate whether your country has taken any actions or control measures to eliminate hexabromodiphenyl ether and heptabromodiphenyl ether and/or tetrabromodiphenyl ether and pentabromodiphenyl ether contained in articles.

- (a) Hexabromodiphenyl ether and heptabromodiphenyl ether
 Yes No In progress
- (b) Tetrabromodiphenyl ether and pentabromodiphenyl ether
 Yes No In progress

Please elaborate on your answers in the box provided below.

- (a) Hexabromodiphenyl ether and heptabromodiphenyl ether

- (b) Tetrabromodiphenyl ether and pentabromodiphenyl ether

3. Please indicate if your country has taken measures to implement the recommendations on the elimination of brominated diphenyl ethers from the waste stream in the annex to decision POPRC-6/2, or any other actions.

- Yes No In progress

If you answered yes or in progress, please describe your progress in implementing the recommendations or other actions. If no, please briefly describe the reasons.

4. Please indicate whether your country has established or begun to establish national control schemes and/or national implementation plans in relation to bromodiphenyl ethers.

- (a) Hexabromodiphenyl ether and heptabromodiphenyl ether
 Yes No In progress
- (b) Tetrabromodiphenyl ether and pentabromodiphenyl ether
 Yes No In progress

Please elaborate on your answer in the box provided below.

- (a) Hexabromodiphenyl ether and heptabromodiphenyl ether

- (b) Tetrabromodiphenyl ether and pentabromodiphenyl ether

5. Please indicate if your country has put in place screening and separation techniques for wastes containing brominated diphenyl ethers.

Yes No In progress

If you answered yes or in progress, please provide information about the techniques.

If no, please briefly describe the reasons.

6. Please indicate if your country has implemented measures to ensure that recycling and final disposal of articles containing brominated diphenyl ethers are carried out in an environmentally sound manner.

- (a) Hexabromodiphenyl ether and heptabromodiphenyl ether

Yes No In progress

- (b) Tetrabromodiphenyl ether and pentabromodiphenyl ether

Yes No In progress

Please elaborate on your answer in the box provided below.

7. Please provide information on any practical issues and/or experiences in implementing any of the recommendations in the annex to decision POPRC-6/2 or any other actions. If possible, please indicate according to the timeframes (short-term, medium-term, or long-term) discussed in the recommendations.

8. Please indicate whether your country has taken any measures to prevent the export of articles from recycling pursuant to Part IV and/or Part V, 1b of Annex A.

Yes No In progress

Please elaborate on your answer in the box provided below.

PART II

Work programme on perfluorooctane sulfonic acid, its salts and perfluorooctane sulfonyl fluoride

9. Please specify if your country has implemented risk reduction measures for PFOS, its salts and PFOSF taking into account the recommendations in the annex to decision POPRC-6/2.

Yes No In progress

10. If yes or in progress, please describe your progress in implementing the recommendations in the annex to decision POPRC-6/2 or any other actions in the following areas:

(a) Production and industrial uses

(b) Uses including uses in open applications²²

(c) Existing stocks

(d) PFOS, its salts and PFOSF in consumer products deposited in municipal landfills

(e) Contaminated sites

(f) Please provide information on any practical issues and/or experiences in implementing any of the recommendations. If possible, please indicate according to the timeframes (short-term, medium-term, or long-term) discussed in the recommendations in the annex to decision POPRC-6/2.

Attachments

1. Decision POPRC-6/2, on work programmes on new persistent organic pollutants, and its annex containing recommendations on the elimination of brominated diphenyl ethers from the waste stream and on risk reduction for perfluorooctane sulfonic acid (PFOS) and its salts and perfluorooctane sulfonyl fluoride (PFOSF)

[To be inserted by the Secretariat.]

2. Information on brominated diphenyl ethers and perfluorooctane sulfonic acid (PFOS) and its salts and perfluorooctane sulfonyl fluoride (PFOSF) from the risk management evaluation and a technical paper on brominated diphenyl ethers

[To be inserted by the Secretariat.]

22 Aviation hydraulic fluids, insecticides for control of red imported fire ants and termites, chemically driven oil production, carpets, textiles and upholstery, leather and apparel, electric and electronic parts for some colour printers and colour copy machines, paper and packaging, fire fighting foams, insect baits for control of leaf-cutting ants from *Atta spp.* and *Acromyrmex spp.*, coating and coating additives, rubber and plastics, metal plating (hard metal plating), metal plating (decorative plating) and others.

POPRC-7/8: Assessment of alternatives to DDT

The Persistent Organic Pollutants Review Committee,

Recalling decision SC-5/6, by which the Conference of the Parties to the Stockholm Convention on Persistent Organic Pollutants requested the Committee, beginning at its eighth meeting, to assess the alternatives to DDT in accordance with the general guidance on considerations related to alternatives and substitutes for listed persistent organic pollutants and candidate chemicals²³ on the basis of factual information provided by parties and observers,

Having reviewed the background information on the assessment of alternatives to DDT,²⁴

Having identified additional information necessary to assess the alternatives to DDT,

Recognizing that the DDT expert group established under the Stockholm Convention assesses the information on the production and use of DDT and its alternatives to facilitate evaluation of the continued need for DDT for disease vector control by the Conference of the Parties in consultation with the World Health Organization,

1. *Decides* to establish an ad hoc working group to undertake the activities requested in paragraph 9 of the annex to decision SC-5/6 to assess the chemical alternatives recommended by the World Health Organization for disease vector control and agrees to work in accordance with the workplan set out in annex I to the present decision;
2. *Requests* the Secretariat to facilitate access to information on alternatives to DDT;
3. *Invites* Governments and intergovernmental and non-governmental organizations to provide technical and financial resources to support the Committee in employing a consultant to carry out the activities requested in paragraph 9 of the annex to decision SC-5/6.

Annex I to decision POPRC-7/8**Workplan for the assessment of alternatives to DDT**

<i>Activity</i>	<i>Person or persons responsible</i>	<i>Timing</i>
Develop a methodology for the assessment of persistent organic pollutant characteristics.	Working group members	30 October 2011–31 January 2012
Assess the persistent organic pollutant characteristics of the chemical alternatives identified in document UNEP/POPS/POPRC.7/INF/19 and prepare a draft report.	Chair/drafter	1 February 2012–28 May 2012
Send the draft report to the intersessional working group members	Secretariat	1 June 2012
Provide comments on the draft report.	Working group members	22 June 2012
Provide the revised draft report to Secretariat.	Chair/drafter	6 July 2012
Distribute the revised draft report	Secretariat	3 September 2012
Review and finalize the report for consideration by the Conference of the Parties at its sixth meeting	Committee	Eighth meeting of the Committee: 15–19 October 2012

Annex II to decision POPRC-7/8**Terms of reference for the intersessional work**

1. Develop a methodology for the assessment of persistent organic pollutant characteristics of chemical alternatives to DDT.
2. Assess the persistent organic pollutant characteristics of the chemical alternatives identified in document UNEP/POPS/POPRC.7/INF/19.

²³ UNEP/POPS/POPRC.5/10/Add.1.

²⁴ UNEP/POPS/POPRC.7/INF/19.

3. Provide a report for the consideration of the Committee at its eighth meeting.

POPRC-7/9: Toxic interactions

The Persistent Organic Pollutants Review Committee,

Having reviewed the information provided on intersessional work on toxic interactions²⁵ and work in collaboration and coordination with other scientific bodies,²⁶

1. *Decides* to establish an ad hoc working group to develop a draft approach to consideration of toxicological interactions when evaluating chemicals proposed for listing in the annexes to the Stockholm Convention on Persistent Organic Pollutants, and agrees to work in accordance with the workplan set out in the annex to the present decision;
2. *Also decides* to continue to provide technical input through the Secretariat to the framework to assess the risks of combined exposures to multiple chemicals prepared by the International Programme on Chemical Safety of the World Health Organization.

Annex to decision POPRC-7/9

Workplan for the development of a draft approach to consideration of toxicological interactions when evaluating proposed chemicals

<i>Activity</i>	<i>Person or persons responsible</i>	<i>Timing</i>
Develop a draft approach to consideration of toxicological interactions when evaluating proposed chemicals.	Chair/drafter (Mr. Ivan Holoubek)	15 November 2011
Provide comments on the draft approach.	Working group members	15 January 2012
Revise the draft approach.	Chair/drafter (Mr. Ivan Holoubek)	30 January 2012
Distribute the revised draft approach.	Secretariat	15 February 2012
Review and finalize the approach for consideration by the Conference of the Parties at its sixth meeting	Committee	Eighth meeting of the Committee: 15–19 October 2012

POPRC-7/10: Debromination of brominated flame retardants

The Persistent Organic Pollutants Review Committee,

Having reviewed the information provided on reductive debromination of polybrominated diphenyl ethers,²⁷

Taking note of the increasing number of studies related to the potential of highly brominated congeners, including octabromodiphenyl ether, nonabromodiphenyl ether and decabromodiphenyl ether, to be reductively debrominated in the environment and thus contribute to the formation of those brominated diphenyl ethers listed in Annex A to the Stockholm Convention on Persistent Organic Pollutants by decisions SC-4/14 and SC-4/18,

Taking note also of the formation of polybromodibenzodioxins and polybromodibenzofurans during the incineration of wastes containing polybrominated diphenyl ethers,

Noting that the information currently available is insufficient for the Committee to consider the implications of debromination for control measures governing the brominated diphenyl ethers listed in Annex A to the Convention by decisions SC-4/14 and SC-4/18,

25 UNEP/POPS/POPRC.7/INF/15.

26 UNEP/POPS/POPRC.7/INF/17.

27 UNEP/POPS/POPRC.7/INF/18.

Mindful that the above-mentioned information may be useful for parties in considering national, regional or international regulatory action on highly brominated diphenyl ethers or on polybromodibenzodioxins and polybromodibenzofurans,

1. *Decides* that it should reconsider, if necessary, the implications of debromination of brominated flame retardants when additional relevant information becomes available;
2. *Requests* the Secretariat to make the above-mentioned information available to the Conference of the Parties at its sixth meeting to ensure that it reaches as broad an audience as possible.

POPRC-7/11: Climate change and persistent organic pollutants

The Persistent Organic Pollutants Review Committee

1. *Takes note* of the paper on the implications of the study on climate change and persistent organic pollutants,²⁸
2. *Concludes* that a better understanding of the interlinkages between persistent organic pollutants and climate change is relevant for its work;
3. *Decides* to establish an ad hoc working group to develop, subject to the availability of funds, guidance on how to consider the possible impact of climate change on its work and agrees to work in accordance with the workplan set out in the annex to the present decision;
4. *Agrees* that the ad hoc working group should focus its work on the study entitled “Climate Change and POPs: Predicting the Impacts”²⁹ and other relevant literature;
5. *Invites* Governments and intergovernmental and non-governmental organizations to provide technical and financial resources to support the Committee in the employment of a consultant to prepare the draft guidance referred to in paragraph 3 of the present decision.

Annex to decision POPRC-7/11

Workplan for developing guidance on the possible impact of climate change on the work of the Persistent Organic Pollutants Review Committee

<i>Scheduled date</i>	<i>Interval from previous activity (weeks)</i>	<i>Activity</i>
14 October 2011	-	The Committee establishes an ad hoc working group.
1 December 2011	6	The drafter develops an annotated outline of the report and sends it to the ad hoc working group for comments.
15 December 2011	2	The working group members provide comments on the outline to the drafter.
2 March 2012	7	The working group chair and the drafter complete the first draft. <ul style="list-style-type: none"> • Drafter prepares the first draft and sends it to the chair: 27 Feb. • Chair sends the first draft to the working group: 2 March.
2 April 2012	4	The working group members provide comments on the first draft to the chair and the drafter.
15 May 2012	4	The working group chair and the drafter complete the second draft. <ul style="list-style-type: none"> • Drafter prepares the second draft and sends it to the chair: 10 May. Chair sends the second draft to the working group: 15 May.
15 June 2012	4	Parties and observers submit their comments on the second draft to the chair/drafter.

28 UNEP/POPS/POPRC.7/INF/20/Rev.1.

29 <http://chm.pops.int/tabid/1580/language/en-US/Default.aspx>.

<i>Scheduled date</i>	<i>Interval from previous activity (weeks)</i>	<i>Activity</i>
28 August 2012	4	The working group chair and the drafter review the final comments and complete the final draft <ul style="list-style-type: none"> • Drafter prepares the final draft and sends it to the chair: 21 August. • Chair sends the final draft to the Secretariat: 28 August.
3 September 2012	<1	The Secretariat distributes the final draft.
15–19 October 2012	<6	Eighth meeting of the Committee.

POPRC-7/12: Effective participation in the Committee's work

The Persistent Organic Pollutants Review Committee,

Taking note of the activities undertaken to date to assist developing-country parties and parties with economies in transition to participate effectively in the work of the Persistent Organic Pollutants Review Committee,

Recognizing the need for all parties to gather information, including monitoring data, on candidate persistent organic pollutants, paying due attention to parties' differing capabilities and conditions,

Recognizing also the need to promote awareness of stakeholders, young people and the general public in relation to the work carried out under the Stockholm Convention on Persistent Organic Pollutants to protect human health and the environment, including work on assessing the risks posed by persistent organic pollutants and their alternatives,

1. *Invites* the Conference of the Parties:

(a) To take note of the lack of scientific and technical data on candidate persistent organic pollutants under the conditions experienced by developing-country parties and parties with economies in transition;

(b) To take appropriate action to enhance the capacity of those countries to identify and gain access to data on candidate persistent organic pollutants by strengthening laboratory capacity, potentially through regional collaboration, for example with regional centres, and through other networks, such as the Chemical Information Exchange Network;

2. *Invites* the Secretariat to continue its efforts to facilitate effective participation in the Committee's work, subject to the availability of resources, including through the organization of web-based seminars with the technical input of the Committee members at the regional level in the official United Nations language of each region and the organization of regional meetings to bring together stakeholders, including Governments, non-governmental organizations, Committee members and other experts, with the following objectives:

(a) To enhance stakeholders' understanding of the Committee's work and to provide guidance on how to contribute to it;

(b) To provide guidance on information sources available in the regions and to discuss challenges faced by countries in collecting information;

(c) To raise awareness of issues posed by alternatives to newly listed persistent organic pollutants, including endosulfan, perfluorooctane sulfonic acid and brominated diphenyl ethers, in terms of such aspects as cost-effectiveness, efficacy and health and environmental effects;

(d) To raise awareness of issues posed by perfluorooctane sulfonic acid and its salts, perfluorooctane sulfonyl fluoride and the brominated diphenyl ethers listed in Annex A to the Stockholm Convention, including methods for identifying articles and products containing those substances and disposal options for and alternatives to them;

(e) To enhance the coordinated implementation of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International

Trade and the Stockholm Convention at the national level by exploring the opportunities and benefits of possible synergies;

3. *Also invites* the Secretariat to stress the critical importance of information on exposure under specific country circumstances in the letter sent to the parties requesting information pertaining to Annexes E and F;

4. *Invites* the regional centres and the parties, with the technical contribution of the Committee members, to develop strategies for collecting and providing information on candidate persistent organic pollutants, in addition to the newly listed persistent organic pollutants, as part of national implementation plans, and taking into account the methodologies laid out in the handbook for effective participation in the work of the Committee;³⁰

5. *Invites* parties and observers in a position to do so to contribute to the Committee's work and to provide financial support for the implementation of activities in support of effective participation by parties in that work.

30 UNEP/POPS/COP.4/INF/9.

Annex II

Pentachlorophenol and its salts and esters

1. The following text was prepared by the drafting group on pentachlorophenol and its salts and esters during the Committee's seventh meeting under agenda item 6 (c).
2. As the Committee did not take any decision on pentachlorophenol and its salts and esters at its seventh meeting, it agreed to annex the draft decision set out below to the present report for possible consideration at its eighth meeting.

Draft decision POPRC-[/]: [Pentachlorophenol and its salts and esters

Submission by the drafting group on pentachlorophenol and its salts and esters

The Persistent Organic Pollutants Review Committee,

Having examined the proposal by the European Union and its member States parties to the Stockholm Convention on Persistent Organic Pollutants to list pentachlorophenol and its salts and esters in Annexes A, B and/or C to the Convention and having applied the screening criteria specified in Annex D to the Convention,

1. *Decides*, in accordance with paragraph 4 (a) of Article 8 of the Convention, that it is satisfied that the screening criteria have been fulfilled for pentachlorophenol and its salts and esters, as set out in the evaluation contained in the annex to the present decision;
2. *Also decides*, in accordance with paragraph 6 of Article 8 of the Convention and paragraph 29 of decision SC-1/7 of the Conference of the Parties to the Convention, to establish an ad hoc working group to review the proposal further and to prepare a draft risk profile in accordance with Annex E to the Convention;
3. *Invites*, in accordance with paragraph 4 (a) of Article 8 of the Convention, parties and observers to submit to the Secretariat the information specified in Annex E before 9 January 2012.

Annex to decision POPRC-[/]

Evaluation of pentachlorophenol and its salts and esters against the criteria of Annex D

A. Background

1. The primary source of information for the preparation of the present evaluation was the proposal and supporting documents submitted by the European Union and its member States parties to the Convention contained in documents UNEP/POPS/POPRC.7/4, UNEP/POPS/POPRC.7/INF/5, UNEP/POPS/POPRC.7/INF/5/Add.1 and UNEP/POPS/POPRC.7/INF/6.
2. The information provided also included data on pentachloroanisole (C₇H₃Cl₅O, CAS No. 1825-21-4), which is a transformation product and a precursor of pentachlorophenol.
3. Additional sources of scientific information included peer-reviewed scientific papers.

B. Evaluation

4. The proposal was evaluated in the light of the requirements of Annex D regarding the identification of the chemical (paragraph 1 (a)) and the screening criteria (paragraphs 1 (b)–(e)):

(a) Chemical identity:

- (i) Adequate information was provided in the proposal and supporting documents covering pentachlorophenol, one of its salts and one of its esters;
- (ii) The chemical structures were provided;

The chemical identity of pentachlorophenol, pentachlorophenol sodium salt and pentachlorophenyl laurate are clearly established. The proposal includes pentachlorophenol and its salts and esters;

(b) Persistence:

- (i) Under normal environmental conditions microflora will adapt and biodegrade pentachlorophenol in water with half-life less than four weeks, in sediment less than 20 weeks and in soil less than 10 weeks. Few data exist on degradation or persistence of pentachloroanisole. Studies indicate that the disappearance of pentachloroanisole from media such as soil and water is mainly driven by dissipation resulting from advective transport, governed by volatilization to air. The esters and the salts of pentachlorophenol are easily degraded or dissociated in the environment into pentachlorophenol;
- (ii) Models predict pentachloroanisole to be persistent. Pentachloroanisole has been detected in remote areas far from point sources, both in biotic and abiotic matrices (e.g., in snow in the Canadian Arctic, in animals in Greenland, at six Arctic atmospheric monitoring stations, in remote lakes and, as shown by air monitoring campaigns, in various locations in the northern and southern hemispheres);

While there is evidence that pentachlorophenol does not meet the criteria on persistence, there is also evidence that its transformation product (pentachloroanisole) does meet that criterion;

(c) Bioaccumulation:

- (i) Reported bio-concentration factors in aquatic species for pentachlorophenol vary between 1 and 1,100 on a whole-body-weight basis, which is below the criterion for the bio-concentration factor of 5,000. The highest values have been observed for fish. A bioconcentration factor of 4,900 was obtained in an early life-stage test experiment aiming at mimicking the environmental exposure of fish. The reported log Kow values vary between 1.3 and 5.86. The large variation in log Kow stems from the dissociation of pentachlorophenol depending on pH. Reported bioconcentration factors in fish for pentachloroanisole vary between 11,000 and 24,000, which is above the criterion of 5,000; log Kow was measured at 5.45, which is above the criterion of 5;
- (ii) A biomagnification study on polar bears and ringed seals reports a biomagnification factor above 1, indicating bioaccumulation of pentachlorophenol (Ref. 1). The source of pentachlorophenol could not be clearly established; it could be metabolites from hexachlorobenzene and/or pentachlorophenol emissions that accumulated through the food chain. To date, however, there has not been any evidence that marine mammals are capable of metabolizing hexachlorobenzene. Elevated concentrations of pentachlorophenol are detected in humans throughout the Arctic, but data remain limited geographically and exposure routes and time trends are not elucidated. (Ref. 2). In humans, pentachlorophenol is eliminated via urine both as unmetabolized pentachlorophenol and as glucuronide conjugate (Ref. 3);
- (iii) Pentachloroanisole was detected in adipose tissue and blood of polar bears and ringed seals in the Arctic. Pentachloroanisole was detected in adipose tissues of animals in Greenland;

There is sufficient evidence that pentachloroanisole, the transformation product of pentachlorophenol, meets the criterion on bioaccumulation;

(d) Potential for long-range environmental transport:

- (i) Pentachlorophenol was detected in polar bears and ringed seals. Pentachloroanisole was detected in biotic matrices in Greenland;
- (ii) Pentachloroanisole was detected in abiotic matrices far from point sources of pentachlorophenol, including at six Arctic atmosphere monitoring stations, in snow in the Canadian Arctic and, as shown by air monitoring campaigns, in various locations in the northern and southern hemispheres;
- (iii) An atmospheric half-life of 19 d was calculated for pentachlorophenol and of 9.8 d for pentachloroanisole. Modelling work has shown that pentachlorophenol can be transported over 1,500–3,000 km and pentachloroanisole over 2,110 km;

There is evidence that pentachlorophenol and pentachloroanisole meet the criterion on potential for long-range environmental transport;

(e) Adverse effects:

- (i) There is a wealth of reported information on adverse effects of pentachlorophenol in mammals. The data show developmental, immunotoxic and neurotoxic effects and that human survivors of toxic exposures may suffer permanent visual and central nervous system damage. The data on pentachloroanisole indicate some toxicity to reproduction and possible mutagenic and carcinogenic effects, but current knowledge is insufficient to make a conclusive statement on those two endpoints. When considering the toxicity of pentachloroanisole, there is a need to take into account the fact that the main metabolite of pentachloroanisole in biota is pentachlorophenol, which is shown to be highly toxic;
- (ii) There is a wealth of information on the ecotoxicity of pentachlorophenol. Pentachlorophenol is highly toxic to aquatic organisms. Reported acute LC50 values for fish vary between 20 µg/L and 600 µg/L. The lowest chronic no observed effect concentrations (NOECs) observed in the freshwater fish test varied between 2 µg/L and below 15 µg/L. Pentachloroanisole is highly toxic to aquatic organisms. A reported LC50 value for fish is 27 µg/L. When considering eco-toxicity of pentachloroanisole, there is a need to take into account the fact that the main metabolite of pentachloroanisole in biota is pentachlorophenol, which is shown to be highly toxic;

There is sufficient evidence that pentachlorophenol and pentachloroanisole meet the criterion on adverse effects.

C. Conclusion

5. [While the pentachlorophenol molecule does not meet all the screening criteria specified in Annex D, the Committee concluded, taking into account its transformation product pentachloroanisole, that pentachlorophenol and its salts and esters meet the screening criteria specified in Annex D.]
6. [There remains uncertainty on the transition from pentachlorophenol to pentachloroanisole in the environment.]

References

1. Robert J. Letcher et al., (2009). Environment International 2009, 1118-1124. Bioaccumulation and biotransformation of brominated and chlorinated contaminants and their metabolites in ringed seals (*Pusa hispida*) and polar bears (*Ursus maritimus*) from East Greenland.
2. AMAP Assessment 2009: Human health in the Arctic, AMAP, Oslo 2009.
3. WHO (1987) Pentachlorophenol. Geneva, World Health Organization, International Programme on Chemical Safety (Environmental Health Criteria 71).]

Annex III

Information on transformation of pentachlorophenol to pentachloroanisole and proposal by Japan to fill information gaps

1. The following information was submitted by the group of friends of the Chair on pentachlorophenol and its salts and esters during the Committee's seventh meeting. The information was extracted from the original publications used to develop section 3 of document UNEP/POPS/POPRC.7/INF/5/Add.1.

I. Summary of available information on transformation of pentachlorophenol to pentachloroanisole in different environmental and experimental conditions

	Conversion of PCP to PCA (%)	Temp. (°C)	pH	Organic carbon content (%)	Species	Incubation period	Source	Remark
Aerobic condition								
1	51.5%		7.5	2.3		24 d	Murthy <i>et al.</i> , 1979	
2	14%	22 to 10	4	38	<i>Phanerochaete chrysosporium</i>	46 d	Lamar <i>et al.</i> , 1990a	
3	9%	22 to 10	4	38	<i>Phanerochaete sordida</i>	46 d	Lamar <i>et al.</i> , 1990a	
4	80% (estimated from figure 8 of the article)				<i>Mycobacterium</i>	48 h	Hagglblom <i>et al.</i> , 1988	Sludge with the presence of degradation inhibitor that favoured the methylation of PCP
5	50% (estimated from figure 8 of the article)				<i>Rhodococcus</i>	48 h	Hagglblom <i>et al.</i> , 1988	Sludge with the presence of degradation inhibitor that favoured the methylation of PCP
6	Only trace amounts (< 0.1 %)		5.8	1.8	<i>Trametes versicolor</i>	42 d	Tuomela <i>et al.</i> , 1999	
7	Levels of PCP and PCA are approximately the same (see below)	During summer in Chile				5 months	Mardones <i>et al.</i> , 2009	Field study
8	PCA was the major biotransformation product				<i>Lentinula edodes</i>	10 weeks	Okeke <i>et al.</i> , 1997	Sterilized and non-sterilized soils
9	64%	30	6.4	3.55	<i>Phanerochaete chrysosporium</i>	21 d	Lamar <i>et al.</i> , 1990b	
10	71%	30	6.4	3.55	<i>Phanerochaete sordida</i>	21 d	Lamar <i>et al.</i> , 1990b	
11	68%	30	7.7 (decreased to 3.1)		<i>Phanerochaete chrysosporium</i>	28 d	Walter <i>et al.</i> , 2004	Liquid culture experiment
12	Traces of	30	7.7		<i>Trametes</i>	28 d	Walter <i>et</i>	Liquid

	Conversion of PCP to PCA (%)	Temp. (°C)	pH	Organic carbon content (%)	Species	Incubation period	Source	Remark
	PCA		(decreased to 3.1)		<i>versicolor</i>		<i>al.</i> , 2004	culture experiment
13	Up to 82%	37	4.3		<i>Phanerochaete chrysosporium</i>	12 d	Badkoubi <i>et al.</i> , 1996	Liquid culture experiment
Anaerobic condition								
14	5.3%		7.5	2.3		24	Murthy <i>et al.</i> , 1979	

2. Most of the above studies have been conducted under experimental conditions using specific pentachlorophenol preferential bacteria or fungi under conditions that do not necessarily represent environmental conditions.

3. Two studies reflect the conversion process of pentachlorophenol to pentachloroanisole in the field:

(a) Murthy *et al.* 1979 (1,14):

- (i) Aerobic and anaerobic conversion of pentachlorophenol to pentachloroanisole was examined using silty clay loam;
- (ii) Under aerobic conditions, 50 per cent of pentachlorophenol was converted to pentachloroanisole;
- (iii) Under anaerobic conditions, 5 per cent of pentachlorophenol was converted to pentachloroanisole;
- (iv) Conversion of pentachloroanisole was greater in aerobic than in anaerobic soils;
- (v) It should be noted that some interconversion of pentachloroanisole and pentachlorophenol occurred in both aerobic and anaerobic soil.

(b) Mardones *et al.* 2009 (7):

- (i) Conversion of pentachlorophenol to pentachloroanisole was examined using pentachlorophenol contaminated sawdust and soil in the field;
- (ii) Pentachlorophenol was added to soil samples at the mg/kg level. After five months, concentrations of pentachlorophenol and pentachloroanisole were 10 and 5 µg/kg, respectively.
- (iii) It is important to note, however, that no monitoring of the volatilization of pentachloroanisole, known to be a volatile metabolite to pentachlorophenol, was performed.

II. Information gaps identified by Japan and proposal for experiments and monitoring to fill them

4. Interested parties are invited:

(a) To initiate experiments under conditions relevant to the environment;

(b) To collect monitoring data on pentachlorophenol and pentachloroanisole, in particular from pentachlorophenol-contaminated sites, as such data could provide information on what happens in the environment under actual conditions.

5. Such experiments and compilation of monitoring data should be initiated without delay so that they can be taken into account by the Committee at its eighth meeting.

Annex IV

Proposal on next steps for short-chained chlorinated paraffins

1. The concluding statement of the draft risk profile for short-chained chlorinated paraffins³¹ features two options for the final conclusion:

(a) Based on the available evidence, it is concluded that short-chained chlorinated paraffins are likely, as a result of their long-range environmental transport, to lead to significant adverse environmental and human health effects such that global action is warranted; or

(b) Based on available information, there is inadequate evidence to support the conclusion that short-chained chlorinated paraffins are likely, as a result of their long-range environmental transport, to lead to significant adverse environmental and human health effects such that global action is warranted.

2. At its sixth meeting, the Committee discussed the draft risk profile and the proposed conclusions, but was unable to take a decision because of uncertainties in applying the criteria specified in Annex E to the Stockholm Convention on Persistent Organic Pollutants. It therefore established an intersessional working group, as described in annex III to the report of the meeting.³²

3. Having discussed the application of the criteria specified in Annex E to the Convention to short-chained chlorinated paraffins and considered the outcome of the case study on toxicological interactions of chlorinated paraffins,³³ the Committee agreed to establish an ad hoc working group to undertake the following activities in accordance with a workplan to be agreed upon by the working group members:

(a) To revise the relevant parts of the draft risk profile to incorporate information on toxicological interactions of chlorinated paraffins for consideration by the Committee at its eighth meeting;

(b) To compile issues and principles to be applied in the interpretation of the Annex E criteria for consideration by the Committee at its eighth meeting.

31 UNEP/POPS/POPRC.6/11/Rev.1.

32 UNEP/POPS/POPRC.6/13.

33 UNEP/POPS/POPRC/7/INF/15.

Annex V

Workplan for the preparation of a draft risk profile during the period between the seventh and eighth meetings of the Persistent Organic Pollutant Review Committee

<i>Scheduled date</i>	<i>Interval from previous activity (weeks)</i>	<i>Activity (for each chemical under review)</i>
14 October 2011	-	The Committee establishes an ad hoc working group.
21 October 2011	1	The Secretariat requests parties and observers to provide information specified in Annex E.
9 January 2012	11	Parties and observers submit Annex E information to the Secretariat. <ul style="list-style-type: none"> • Secretariat sends a reminder to parties and observers regarding the request for information: 12 December.
2 March 2012	7	The working group chair and the drafter complete the first draft. <ul style="list-style-type: none"> • Drafter prepares the first draft and sends it to the chair: 27 Feb. • Chair sends the first draft to the working group: 2 March.
16 March 2012	2	The working group members provide comments on the first draft to the chair and the drafter.
2 April 2012	2	The working group chair and the drafter finish their review of initial comments from the working group and complete the second draft and a compilation of responses to the comments.
5 April 2012	<1	The Secretariat distributes the second draft to parties and observers for comments.
25 May 2012	7	Parties and observers submit their comments to the Secretariat.
8 June 2012	2	The working group chair and the drafter review the party and observer comments and complete the revised (third) draft and a compilation of responses to the comments. <ul style="list-style-type: none"> • Drafter prepares the third draft and sends it to the chair: 5 June. • Chair sends the third draft to the working group: 8 June.
22 June 2012	2	The working group members provide final comments on the third draft to the chair and the drafter.
6 July 2012	2	The working group chair and the drafter review the final comments and complete the final draft and a compilation of responses to the comments. <ul style="list-style-type: none"> • Drafter prepares the final draft and sends it to the chair: 3 July. • Chair sends the final draft to the Secretariat: 6 July.
9 July 2012	<1	The Secretariat sends the final draft to the Division of Conference Services for editing and translation.
27 August 2012	7	The Division of Conference Services completes editing and translation.
3 September 2012	<1	The Secretariat distributes the final draft risk profiles in the six official languages of the United Nations.
15–19 October 2012	6	Eighth meeting of the Committee.

Annex VI

Composition of intersessional working groups (2011–2012)

Working group on hexabromocyclododecane

Committee members

Ms. Tsvetanka Dimcheva (Bulgaria)	Mr. Reiner Arndt (Germany)
Mr. Robert Chénier (Canada)	Mr. Mohammed Oqlah Hussein Khashashneh (Jordan)
Mr. Jianxin Hu (China)	Mr. Peter Dawson (New Zealand)* (chair)
Mr. Ivan Holoubek (Czech Republic)	Ms. Bettina Hitzfeld (Switzerland)
Mr. Timo Seppälä (Finland)* (drafter)	Ms. Svitlana Sukhorebra (Ukraine)
Mr. Sylvain Bintein (France)	

Observers

Mr. Greg Plummer (Australia)	Ms. Maria Delvin (Sweden)
Ms. Stacy Kauk (Canada)	Mr. Chris Blunck (United States of America)
Ms. Rikke Donchil Holmberg (Denmark)	Ms. Sara Gudiel Avila Rodríguez (United Nations Development Programme)
Mr. Agus Haryono (Indonesia)	Ms. Pamela Miller (Alaska Community Action on Toxics)
Mr. Darren Byrne (Ireland)	Mr. Philippe Marechal (CEFIC - Plasticseurope)
Ms. Asako Fukushima (Japan)	Mr. Joseph DiGangi (International POPs Elimination Network)
Ms. Chie Hamaguchi (Japan)	Ms. Mariann Lloyd-Smith (International POPs Elimination Network)
Mr. Naoki Hashizume (Japan)	Ms. Eva Krüemmel (Inuit Circumpolar Council)
Mr. Tomohiro Imahashi (Japan)	Ms. Smadar Admon (HBCD Industry Working Group)
Mr. Noriyasu Nagai (Japan)	Ms. Christine Lukas (HBCD Industry Working Group)
Ms. Keiko Segawa (Japan)	
Mr. Cees Luttkhuizen (Netherlands)	
Ms. Liselott Säll (Norway)	
Ms. Christina Charlotte Tølfesen (Norway)	
Ms. Ana Isabel Sánchez Blanco (Spain)	

Working group on chlorinated naphthalenes

Committee members

Ms. Norma Ethel Sbarbati-Nudelman (Argentina)	Mr. Sylvain Bintein (France)* (drafter)
Mr. Robert Chénier (Canada)	Mr. Reiner Arndt (Germany)
Mr. Ricardo Orlando Barra Ríos (Chile)	Mr. Masaru Kitano (Japan)
Mr. Jianxin Hu (China)	Ms. Kyunghye Choi (Republic of Korea)
Ms. Floria Roa- Gutiérrez (Costa Rica)	Ms. Bettina Hitzfeld (Switzerland)
Mr. Ivan Holoubek (Czech Republic)	Ms. Svitlana Sukhorebra (Ukraine)* (chair)
Mr. Timo Seppälä (Finland)	

Observers

Ms. Rikke Donchil Holmberg (Denmark)	Ms. Keiko Segawa (Japan)
Mr. Peter Korytár (European Union)	Mr. Martien Janssen (Netherlands)
Ms. Lucie Ribeiro (European Union)	Mr. Chris Blunck (United States of America)
Ms. Sandrine Andres (France)	Ms. Pamela Miller (Alaska Community Action on Toxics)
Mr. Agus Haryono (Indonesia)	Mr. Joseph DiGangi (International POPs Elimination Network)
Ms. Asako Fukushima (Japan)	Ms. Mariann Lloyd-Smith (International POPs Elimination Network)
Ms. Chie Hamaguchi (Japan)	Ms. Eva Krüemmel (Inuit Circumpolar Council)
Mr. Naoki Hashizume (Japan)	
Mr. Tomohiro Imahashi (Japan)	
Mr. Noriyasu Nagai (Japan)	

Working group on hexachlorobutadiene**Committee members**

Mr. Robert Chénier (Canada)
 Ms. Floria Roa-Gutierrez (Costa Rica)*
 (chair)
 Mr. Ivan Holoubek (Czech Republic)
 Mr. Timo Seppälä (Finland)
 Mr. Sylvain Bintein (France)* (drafter)
 Mr. Reiner Arndt (Germany)

Mr. Masaru Kitano (Japan)
 Mr. Mohammed Oqlah Hussein Khashashneh (Jordan)
 Ms. Kyunghee Choi (Republic of Korea)
 Ms. Bettina Hitzfeld (Switzerland)
 Ms. Svitlana Sukhorebra (Ukraine)

Observers

Ms. Rikke Donchil Holmberg (Denmark)
 Mr. Peter Korytár (European Union)
 Ms. Lucie Ribeiro (European Union)
 Ms. Sandrine Andres (France)
 Mr. Agus Haryono (Indonesia)
 Ms. Asako Fukushima (Japan)
 Ms. Chie Hamaguchi (Japan)
 Mr. Naoki Hashizume (Japan)
 Mr. Tomohiro Imahashi (Japan)
 Mr. Noriyasu Nagai (Japan)
 Ms. Keiko Segawa (Japan)
 Mr. Martien Janssen (Netherlands)

Mr. Chris Blunck (United States of America)
 Ms. Pamela Miller (Alaska Community Action on
 Toxics)
 Mr. Joseph DiGangi (International POPs Elimination
 Network)
 Ms. Mariann Lloyd-Smith (International POPs
 Elimination Network)
 Ms. Eva Kruemmel (Inuit Circumpolar Council)
 Mr. Allan Jones (World Chlorine Council)
 Mr. Dolf van Wijk (World Chlorine Council)

Working group on pentachlorophenol and its salts and esters**Committee members**

Ms. Norma Ethel Sbarbati-Nudelman
 (Argentina)
 Mr. Robert Chénier (Canada)
 Mr. Ricardo Orlando Barra Ríos (Chile)*
 (chair until May 2012)
 Mr. Jianxin Hu (China)
 Mr. José Álvaro Rodríguez (Colombia)
 Mr. Ivan Holoubek (Czech Republic)

Mr. Timo Seppälä (Finland)
 Mr. Sylvain Bintein (France)* (drafter)
 Mr. Reiner Arndt (Germany)
 Mr. Masaru Kitano (Japan)
 Mr. Peter Dawson (New Zealand)
 Ms. Manuela Pereira (Portugal)
 Ms. Bettina Hitzfeld (Switzerland)
 Mr. Samuel F. Banda (Zambia)

Observers

Mr. Gary Fan (Australia)
 Ms. Estefania Moreira (Brazil)* (chair
 from May 2012)
 Ms. Rikke Donchil Holmberg (Denmark)
 Mr. Peter Korytár (European Union)
 Ms. Lucie Ribeiro (European Union)
 Ms. Sandrine Andres (France)
 Mr. Agus Haryono (Indonesia)
 Ms. Asako Fukushima (Japan)
 Ms. Chie Hamaguchi (Japan)
 Mr. Naoki Hashizume (Japan)
 Mr. Tomohiro Imahashi (Japan)
 Mr. Noriyasu Nagai (Japan)
 Ms. Keiko Segawa (Japan)
 Ms. Haritiana Rakotoarisetra
 (Madagascar)

Mr. Martien Janssen (Netherlands)
 Ms. Ana Isabel Sánchez Blanco (Spain)
 Mr. Azhari Omer Abdelbagi (Sudan)
 Ms. Maria Delvin (Sweden)
 Mr. Chris Blunck (United States of America)
 Ms. Pamela Miller (Alaska Community Action on
 Toxics)
 Ms. Sandra Keller (Croplife International)
 Mr. Mark Trewitt (Croplife International)
 Ms. Smadar Admon (HBCD industry working group)
 Mr. Joseph DiGangi (International POPs Elimination
 Network)
 Ms. Mariann Lloyd-Smith (International POPs
 Elimination Network)
 Ms. Eva Kruemmel (Inuit Circumpolar Council)
 Mr. Mark Boelens (Wood Preservation Canada)

Working group on alternatives to endosulfan and DDT

Committee members

Ms. Norma Ethel Sbarbati-Nudelman (Argentina)	Mr. Reiner Arndt (Germany)
Mr. Choviran Ken (Cambodia)	Mr. Pablo Ricardo Rodriguez Rubio (Honduras)
Mr. Abderaman Mahamat Abderaman (Chad)	Ms. Chhanda Chowdhury (India)
Mr. José Álvaro Rodríguez (Colombia)	Mr. Peter Dawson (New Zealand)
Ms. Floria Roa-Gutierrez (Costa Rica)	Ms. Bettina Hitzfeld (Switzerland)* (chair until May 2012)
Ms. Fatma Mohamed Ibrahim Abou-Shok (Egypt)	Mr. Jarupong Boon-Long (Thailand)
Mr. Sylvain Bintein (France)	Mr. Komla Sanda (Togo)
	Ms. Francisca Katagira (United Republic of Tanzania)

Observers

Mr. Gary Fan (Australia)	Mr. Azhari Omer Abdelbagi (Sudan)
Ms. Estefania Moreira (Brazil)	Mr. Chris Blunck (United States of America)
Mr. Joswa Aoudou (Cameroon)	Ms. Kelly Rain Dodge (United States of America)
Mr. Mario Abó Balanza (Cuba)	Mr. Maxwell Nkoya (Zambia)
Ms. Sandrine Andres (France)	Ms. Sara Gudiel Avila Rodríguez (United Nations Development Programme)
Mr. Rupinder Singh Dhaliwal (India)	Ms. Pamela Miller (Alaska Community Action on Toxics)
Mr. R. M. Shukla (India)	Ms. Sandra Keller (Croplife International)
Ms. Asako Fukushima (Japan)	Mr. Mark Trehitt (Croplife International)
Ms. Chie Hamaguchi (Japan)	Mr. Joseph DiGangi (International POPs Elimination Network)
Mr. Naoki Hashizume (Japan)	Ms. Mariann Lloyd-Smith (International POPs Elimination Network)
Mr. Tomohiro Imahashi (Japan)	Ms. Eva Kruemmel (Inuit Circumpolar Council)
Mr. Noriyasu Nagai (Japan)	Ms. Meriel Watts (Pesticide Action Network Asia and the Pacific)
Ms. Keiko Segawa (Japan)	Ms. Carolyn Vickers (World Health Organization)
Ms. Gladys Njeri Maina (Kenya)	
Ms. Haritiana Rakotoarisetra (Madagascar)	
Mr. Martien Janssen (Netherlands)* (chair from May 2012)	
Ms. Ana Isabel Sánchez Blanco (Spain)	

Working group on alternatives to perfluorooctane sulfonic acid in open applications

Committee members

Ms. Norma Ethel Sbarbati-Nudelman (Argentina)	Mr. Reiner Arndt (Germany)
Mr. Choviran Ken (Cambodia)	Mr. Peter Dawson (New Zealand)
Mr. Jianxin Hu (China)	Ms. Kyunghee Choi (Republic of Korea)
Mr. Sylvain Bintein (France)	Mr. Samuel F. Banda (Zambia)* (chair)

Observers

Mr. Greg Plummer (Australia)	Mr. Chris Blunck (United States of America)
Mr. Júlio Sérgio de Britto (Brazil)	Mr. Maxwell Nkoya (Zambia)
Ms. Stacy Kauk (Canada)	Ms. Pamela Miller (Alaska Community Action on Toxics)
Mr. Yawei Wang (China)	Ms. Sandra Keller (Croplife International)
Ms. Sandrine Andres (France)	Mr. Mark Trehitt (Croplife International)
Ms. Asako Fukushima (Japan)	Mr. Joseph DiGangi (International POPs Elimination Network)
Ms. Chie Hamaguchi (Japan)	Ms. Mariann Lloyd-Smith (International POPs Elimination Network)
Mr. Naoki Hashizume (Japan)	Ms. Eva Kruemmel (Inuit Circumpolar Council)
Mr. Tomohiro Imahashi (Japan)	Mr. Edson Dias da Silva (Leaf-Cutting Ant Baits Industries Association)
Mr. Noriyasu Nagai (Japan)	Mr. Ian Rae (invited expert)
Ms. Keiko Segawa (Japan)	
Ms. Lulwa Ali (Kuwait)	
Ms. Liselott Säll (Norway)	
Ms. Ana Isabel Sánchez Blanco (Spain)	
Ms. Maria Delvin (Sweden)	

Working group on short-chained chlorinated paraffins**Committee members**

Ms. Tsvetanka Dimcheva (Bulgaria)
 Mr. Robert Chénier (Canada)*
 (chair/drafter)
 Mr. Jianxin Hu (China)
 Mr. Ivan Holoubek (Czech Republic)

Ms. Fatma Mohamed Ibrahim Abou-Shok (Egypt)
 Mr. Sylvain Bintein (France)
 Mr. Reiner Arndt (Germany)
 Mr. Masaru Kitano (Japan)

Observers

Mr. Yawei Wang (China)
 Ms. Lucie Ribeiro (European Union)
 Mr. Agus Haryono (Indonesia)
 Ms. Asako Fukushima (Japan)
 Ms. Chie Hamaguchi (Japan)
 Mr. Naoki Hashizume (Japan)
 Mr. Tomohiro Imahashi (Japan)
 Mr. Noriyasu Nagai (Japan)
 Ms. Keiko Segawa (Japan)
 Mr. Martien Janssen (Netherlands)
 Ms. Christina Charlotte Tolfen (Norway)

Ms. Ana Isabel Sánchez Blanco (Spain)
 Ms. Maria Delvin (Sweden)
 Mr. Chris Blunck (United States of America)
 Ms. Pamela Miller (Alaska Community Action on
 Toxics)
 Mr. Joseph DiGangi (International POPs Elimination
 Network)
 Ms. Mariann Lloyd-Smith (International POPs
 Elimination Network)
 Ms. Eva Kruemmel (Inuit Circumpolar Council)
 Mr. Dolf van Wijk (World Chlorine Council)

Working group on toxic interactions**Committee members**

Mr. Robert Chénier (Canada)
 Mr. José Álvaro Rodríguez (Colombia)
 Mr. Ivan Holoubek (Czech Republic)*
 (chair/drafter)
 Mr. Sylvain Bintein (France)

Mr. Reiner Arndt (Germany)
 Mr. Mohammed Oqlah Hussein Khashashneh (Jordan)
 Ms. Stella Uchenna Mojekwu (Nigeria)
 Ms. Bettina Hitzfeld (Switzerland)
 Ms. Francisca Katagira (United Republic of Tanzania)

Observers

Mr. Gary Fan (Australia)
 Ms. Rikke Donchil Holmberg (Denmark)
 Ms. Lucie Ribeiro (European Union)
 Ms. Sandrine Andres (France)
 Ms. Asako Fukushima (Japan)
 Ms. Chie Hamaguchi (Japan)
 Mr. Naoki Hashizume (Japan)
 Mr. Tomohiro Imahashi (Japan)
 Mr. Noriyasu Nagai (Japan)
 Ms. Keiko Segawa (Japan)
 Ms. Christina Charlotte Tolfen (Norway)
 Ms. Maria Delvin (Sweden)
 Mr. Chris Blunck
 (United States of America)
 Ms. Pamela Miller (Alaska Community
 Action on Toxics)
 Mr. Philippe Marechal (CEFIC –
 Plasticseurope)
 Ms. Sandra Keller (Croplife International)
 Mr. Mark Trehitt (Croplife International)
 Mr. Joseph DiGangi (International POPs
 Elimination Network)
 Ms. Mariann Lloyd-Smith (International
 POPs Elimination Network)

Ms. Eva Kruemmel (Inuit Circumpolar Council)
 Mr. Marco Vighi (Milano University)
 Mr. Dolf van Wijk (World Chlorine Council)
 Mr. Ian Rae (invited expert)
 Ms. Smadar Admon (HBCD Industry Working Group)
 Ms. Christine Lukas (HBCD Industry Working Group)

Working group on climate change and persistent organic pollutants**Committee members**

Ms. Norma Ethel Sbarbati-Nudelman (Argentina)	Mr. Timo Seppälä (Finland)* (co-chair)
Mr. Robert Chénier (Canada)	Mr. Sylvain Bintein (France)
Mr. Hu Jianxin (China)* (co-chair)	Mr. Reiner Arndt (Germany)
Mr. Ricardo Orlando Barra Ríos (Chile)	Mr. Mohammed Oqlah Hussein Khashashneh (Jordan)
Mr. José Álvaro Rodríguez (Colombia)	Ms. Stella Uchenna Mojekwu (Nigeria)
Ms. Floria Roa-Gutierrez (Costa Rica)	Ms. Kyunghee Choi (Republic of Korea)
Mr. Ivan Holoubek (Czech Republic)	Ms. Bettina Hitzfeld (Switzerland)
	Mr. Jarupong Boon-Long (Thailand)
	Mr. Samuel F. Banda (Zambia)

Observers

Ms. Stacy Kauk (Canada)	Ms. Pamela Miller (Alaska Community Action on Toxics)
Mr. Agus Haryono (Indonesia)	Ms. Sandra Keller (Croplife International)
Ms. Asako Fukushima (Japan)	Mr. Mark Trewhitt (Croplife International)
Ms. Chie Hamaguchi (Japan)	Mr. Joseph DiGangi (International POPs Elimination Network)
Mr. Tomohiro Imahashi (Japan)	Ms. Mariann Lloyd-Smith (International POPs Elimination Network)
Mr. Naoki Hashizume (Japan)	Ms. Eva Kruemmel (Inuit Circumpolar Council)
Mr. Noriyasu Nagai (Japan)	Mr. Allan Jones (World Chlorine Council)
Ms. Keiko Segawa (Japan)	Mr. Dolf van Wijk (World Chlorine Council)
Ms. Lulwa Ali (Kuwait)	Mr. Ian Rae (invited expert)
Ms. Liselott Säll (Norway)* (drafter)	Ms. Smadar Admon (HBCD Industry Working Group)
Ms. Maria Delvin (Sweden)	Ms. Christine Lukas (HBCD Industry Working Group)
Mr. Chris Blunck (United States of America)	
Ms. Kelly Rain Dodge (United States of America)	
Mr. Maxwell Nkoya (Zambia)	