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Matters related to the implementation of the Convention: financial resources and mechanisms

Report on the assessment of funding needs of Parties that are developing countries or countries with economies in transition to implement the Stockholm Convention for the period 2018–2022

Note by the Secretariat

As referred to in the note by the Secretariat on the financial mechanism (UNEP/POPS/COP.8/18), the report on the assessment of funding needs of Parties that are developing countries or countries with economies in transition to implement the provisions of the Stockholm Convention on Persistent Organic Pollutants over the period 2018–2022, prepared by a team of independent experts, is set out in the annex to the present note. The present note, including its annex, has not been formally edited.

* UNEP/POPS/COP.8/1.

Annex

Assessment of funding needs for Parties that are developing countries or countries with economies in transition to implement the Stockholm Convention for the period 2018–2022

I. Introduction

1. In decision SC-1/9, the Conference of Parties to the Stockholm Convention on Persistent Organic Pollutants adopted the guidance to the financial mechanism set out in the annex to that decision.

2. In decision SC-5/22, the Conference of Parties decided to undertake an assessment of funding needs every four years, starting at its sixth meeting, as input to the negotiations on the replenishment of the Trust Fund of the Global Environment Facility.

3. In decision SC-6/17, the Conference of Parties took note of the report by the Secretariat on the assessment of funding needs over the period 2015–2019 (UNEP/POPS/COP.6/INF/20) and requested the Secretariat to transmit that report to the Global Environment Facility for consideration during the sixth replenishment process for action as appropriate.

4. In the same decision, the Conference of Parties also requested the Secretariat to prepare terms of reference for the assessment of funding needs for Parties that are developing countries and countries with economies in transition to implement the Convention over the period 2018–2022, for consideration and possible adoption at the seventh meeting of the Conference of Parties. The terms of reference were to be based on the terms of reference set forth in the annex to decision SC-5/22 and to take into consideration the observations and recommendations made by Parties in their assessment of the methodology used and by the independent experts in their report.

5. In decision SC-7/18, the Conference of Parties adopted the terms of reference for the assessment of the funding needed by developing countries Parties and Parties with economies in transition to implement the Convention over the period 2018–2022, as set out in the annex to that decision. As specified in section A of this annex, the objectives of the work to be carried out under these terms of reference are:

(a) To enable the Conference of the Parties to provide to the principal entity entrusted with the operations of the financial mechanism referred to in Article 13 of the Convention, and to other entities should they be so entrusted, at periodical intervals, assessments of the total funding, which consists of funding for baseline and agreed incremental costs, needed by Parties eligible for assistance from the financial mechanism to facilitate their effective implementation of the Convention;

(b) To provide the principal entity and any other entities with a framework and modalities for the determination in a predictable and identifiable manner of the funding necessary and available for the implementation of the Convention by Parties eligible for assistance from the financial mechanism.

6. Decision SC-7/18 also requested the Secretariat to update, as appropriate, and to make available to all Parties, the format and the list of general guidance documents set out, respectively, in annexes II and III to decision SC-5/22. In the same decision Parties and others were invited to follow the format and general guidance documents made available by the Secretariat and to provide by 31 August 2016, the relevant information required to undertake the assessment of funding needs.

II. Methodology

7. Pursuant to decision SC-7/18, the Secretariat engaged a team of two independent experts to conduct an assessment of the funding necessary and available for the implementation of the Convention for the period 2018–2022, based on, among other things, lessons learned from the methodologies used for the previous needs assessments and available data gained from the preliminary assessments of funding needs for the periods 2006–2010, 2010–2014 and 2015–2019.[1] The two experts were Ms. Suely Machado Carvalho (Brazil) and Mr. William Kwan (United Kingdom of Great Britain and Northern Ireland).

[1] UNEP/POPS/COP.3/19; UNEP/POPS/COP.4/27 and UNEP/POPS/COP.6/20.

A. Information sources

8. The assessment of funding needs was based primarily upon information provided by Parties in national implementation plans (NIPs) submitted pursuant to Article 7 and reports submitted pursuant to Article 15 of the Convention (Article 15 reports).

9. Relevant supplementary information, where available, was drawn from Parties through the online questionnaire developed to collect additional information on the needs assessment and through communication and interviews with the secretariats of the Convention and the Global Environment Facility, the Facility's implementing agencies, the World Bank in its role as international financial institution, one Convention regional centre, a non-governmental organization, experts who had conducted previous needs assessments and several international technical experts with extensive experience and knowledge in implementing the Facility's persistent organic pollutant projects, who were invited to provide information relevant to modalities for conducting similar needs assessments in their fields of work.

B. Assessment of the methodology used for previous needs assessments

10. In accordance with the terms of reference, set out in the annex to decision SC-7/18, the assessment was to include an estimation of the baseline and agreed full incremental costs of activities described primarily in NIPs required to implement Parties' obligations under the Convention. The methodology for the assessment was required to be transparent, reliable and replicable.

11. Taking into account these guiding principles, the experts evaluated, as a first step, the data collection process and workflows of the previous assessments.

12. The experts acknowledged that the needs assessment methodology set out in document UNEP/POPS/COP.6/INF/20 – a bottom up approach that involved Parties from the outset of the data collection process – had merit, but they also felt that it required revision. This was particularly relevant since the information contained in the NIPs and Article 15 reports, among others, was based on varying action plan timeframes, covered a broad range of sectors and showed data gaps and a lack of clarity regarding the distinction between baseline costs and incremental costs.

13. The experts also acknowledged that to address these gaps, it was necessary to collect additional information by means of a questionnaire.

14. As a result of the evaluation of the methodology used for previous needs assessments, the experts identified the following issues and shortcomings:

(a) NIPs and Article 15 reports, to date, still contain large data gaps and hardly any distinction between baseline and incremental costs;[2]

(b) The cost information from project implementation contained in terminal evaluation reports of the Global Environment Facility was not taken into consideration in previous assessments;

(c) The development of the questionnaire used in the previous assessments was time-consuming and elaborate. While the questionnaire was very detailed, it was difficult to understand and to complete;[3]

(d) Some delays were experienced in receiving the questionnaires from Parties, with a generally low response rate. Also, issues have been identified regarding the harmonization and accuracy of the data received;

(e) The actual assessment of funding needs in the previous periods started at a very late stage in the process.[4]

C. Proposed changes in the methodology

15. Taking into account the outcomes of the evaluation set out in the preceding section, the team of experts concluded that, while it was still necessary to compile additional information to address data gaps, it was essential to adapt the current methodology.

[2] This is aggravated by the fact that, at the time of the preparation of this report, many countries have not yet updated their NIPs, as required following the listing of new chemicals under the Convention.

[3] The experts tested the questionnaire and found it complex and time consuming, even for experienced experts and despite of the guidance document created to instruct Parties on how to fill it in.

[4] This was also due to the fact that the COP-adopted deadlines have been set only a month before the deadline for preparing the draft report.

16. Designing a new and simpler questionnaire evidently was one option to address the above-mentioned shortcomings. This would have allowed keeping the previously adopted bottom up approach of sending the revised questionnaire to Parties and compiling their feedback. However, it was perceived that this option would not address the other identified shortcomings of the low response rates, delays experienced in the start of the actual assessment work, and the fact that important information on actual implementation costs derived from terminal evaluation reports of the Global Environment Facility was not taken into consideration.

17. The experts proposed to change the current methodology and worked to provide guidance to the Secretariat to revise the electronic questionnaire to be used for the assessment.

18. An online questionnaire was accordingly developed, based on the format set out in decision SC-5/22, to collect additional and updated information on quantities of persistent organic pollutants that needed to be addressed during the period 2018–2022.

19. As regards the changes in the methodology, step one of the revised approach involved the consolidation of inventory data from multiple sources to estimate the quantities of persistent organic pollutants to be dealt with in developing country Parties and Parties with economies in transition from 2018 to 2022. In order to compile and assess relevant data and information, Excel spreadsheets were developed to gather the inventory data extracted from NIPs, including updated NIPs, and national reports. As outlined in paragraph 26, responses to the electronic questionnaire submitted by eleven Parties were also used. For those Parties, data submitted through the questionnaire were used in place of data from the above sources, as it was considered to be the most up-to-date.

20. In step two, information from the Global Environment Facility's terminal evaluation reports[5] was used to estimate average costs for groups of chemicals. In addition, data not directly related to the destruction or disposal of persistent organic pollutants[6] from projects that included capacity-building and technical assistance activities was extracted, analysed and organized by chemical group[7] and region to establish average costs per project for technical assistance activities. An average cost per country for technical assistance activities was calculated for each separate chemical group, with the purpose of using that average cost in the calculations to estimate future funding needs. The data from terminal evaluation reports of projects that included a disposal or destruction component was also extracted and analysed to arrive at an average cost per ton for disposal or destruction activities for each chemical group. Disposal costs per ton were calculated based on reported project costs and reported tons disposed of or destroyed. The disposal cost per ton of persistent organic pollutant waste was calculated for the Facility–funded component only. Disposal costs covered through co-financing were not included in the analysis.

21. In step three, the information from the first two steps was used to estimate costs by country based on reported chemical inventories and summarized by region. The inventory figures provided in NIPs are in general relatively old compared to that in Facility-funded projects, which in general have been approved and implemented relatively recently. To take this discrepancy into account the experts decided to use the Facility's database[8] to determine the amount of committed funding for implementation of the Convention, by region, and to subtract those amounts in calculating the funding required, as shown in tables 5 and 6. For example, in Central and Eastern Europe, the estimated costs based on inventory figures are USD 426,092,570. According to the database, GEF funds spent to date in CEE total USD 116,894,111. Therefore, the estimated remaining funding needs are USD 309,198,459 (the difference between estimated costs and what the Facility had already funded as of 31 May 2016).

22. While the three-step approach was relatively resource-and time-intensive, the experts strongly believed it would support the harmonizing of the information collection process and improve the accuracy of the results. In addition, the experts believed that the use of cost effectiveness figures from the Facility's completed projects responded to the Conference of the Parties' request that the methodology employed be replicable.

[5] The database as at June 2016 was made available by the Facility Secretariat.

[6] Activities that are not directly related to the destruction or disposal of persistent organic pollutants may include, among other things, the development of regulatory frameworks, capacity building, establishing inventories, monitoring and evaluation, etc.

[7] The chemical groups used were pesticides, PCBs, DDT and unintentionally produced persistent organic pollutants.

[8] As at 31 May 2016.

D. Detailed methodological information

23. The experts analysed available information regarding inventories of persistent organic pollutants, and used information from terminal evaluation reports completed as at June 2016 in order to develop a framework to determine funding necessary for elimination of persistent organic pollutants by Parties eligible for financial assistance. The three-step approach described in the preceding section was used to calculate the funding needs for the period 2018–2022.

24. The needs assessment drew primarily upon information provided by Parties in NIPs, NIP updates, and Article 15 reports, as well as terminal evaluation reports for completed projects submitted to the secretariat of the Global Environment Facility as at June 2016.

25. Firstly, in order to compile and assess relevant data and information on remaining persistent organic pollutants quantities/volumes present in developing countries, Excel spreadsheets were developed to capture persistent organic pollutants inventory data presented in NIPs, Article 15 reports as well as (where available) updated persistent organic pollutants inventories (e.g. resulting from NIP updates, and information from terminal evaluation reports of projects).

26. In addition, on 30 June 2016 the Secretariat submitted a letter to Parties inviting them to fill in and submit the above-mentioned online questionnaire. In response, the Secretariat received responses from Brazil, Costa Rica, Cuba, Egypt, Georgia, Honduras, India, Mauritius, Sierra Leone, the former Yugoslav Republic of Macedonia and Yemen. All responses have been reproduced in document UNEP/POPS/COP.8/INF/33, together with the online questionnaire.

27. For countries for which responses were received, data from the questionnaire was used to replace data obtained from NIPs, Article 15 reports and other sources, as data from the questionnaire was considered by the experts to be the most up to date data available.

28. Secondly, data from terminal evaluation reports of projects that included capacity building and technical assistance activities (activities not directly related to the destruction or disposal of persistent organic pollutants[9]) was also extracted and analysed, and organized by chemical group[10] and region. Average costs per project for technical assistance activities were derived for each region and chemical group.

29. Finally, data from terminal evaluation reports of projects that included a disposal or destruction component was also extracted. Disposal costs per ton were calculated based on reported project costs and reported tons disposed of or destroyed. The disposal costs per ton of persistent organic pollutants containing waste were calculated for the Facility's funded component only. As outlined above, disposal costs covered through co-financing were not included in the analysis.

E. Information analysis

30. As discussed above, in order to calculate future funding needs for the implementation of the Stockholm Convention, costs by chemical group were derived from data presented in project terminal evaluation reports. Costs were calculated for two different types of funding: technical assistance costs, and incremental costs for the disposal and destruction of persistent organic pollutants.

31. The experts analysed all terminal evaluation reports provided by the secretariat of the Global Environment Facility (as at June 2016) to derive the figures used for the calculation of funding needs. Of those forty-one (41) reports, seventeen (17) projects included project components for the disposal or destruction of persistent organic pollutants.

32. A summary of projects for which a terminal evaluation report was available is contained in the appendix to the present report. Evaluated projects have been organized by region[11], and organized by groups of chemicals. Only budget figures of the Global Environment Facility have been taken into account; co-financing figures were not considered. Overarching activities refer to country-level activities related to all persistent organic pollutants, not a specific group. The figures provided are the sum of the Global Environment Facility's budget and actual expenditures as reported in the terminal evaluation reports.

33. In the Asia-Pacific region, projects from India and China tended to skew the figures upward due to the projects' large size compared to other country projects. As such, it was decided to show the

[9] Activities include regulatory framework, capacity building, establishing inventories, monitoring and evaluation, etc. These activity descriptions are derived from the terminal evaluation reports.

[10] Chemical groups used: pesticides, PCBs, DDT, and U-POPs.

[11] Regions as defined in the final NIPs inventories spreadsheet provided by the Secretariat.

effect of data for China and India by recalculating the figures for Asia-Pacific. Table 1 shows the recalculation for the Asia-Pacific region, excluding project costs for China and India.

Table 1: Regional costs in Asia-Pacific by chemical group, excluding China and India (in United States Dollars)

Chemical group		# of Projects with TR's analysed	# of Countries covered	GEF Funding budget (x1,000)	GEF funding actual (x 1,000)	China projects (x 1,000)	India Projects (x 1,000)	Net, excl. China and India (x 1,000)	Net # of countries	Net GEF funding/ country (x 1,000)
Asia-Pacific		**12**		**67,390**	**66,915**	**52,821**	**3,075**	**11,494**		
Overarching activities		3	9	5,707	5,905	4,057	1,134	517	**7**	**74**
PCBs		4	4	22,565	22,016	18,040	275	4,250	2	**2,125**
Pesticides		2	2	15,046	15,101	14,360	686	0	0	
DDT		3	2	16,621	16,571	16,365	256	0	0	
Unintentionally produced persistent organic pollutants (U-POPs)	Dioxins	1	1	4,977	4,865	0	0	4,977	1	**4,977**
	Others	3	9	2,474	2,457	0	724	1,750	8	**219**

1. Technical assistance costs

34. Table 2 shows the average costs per country for the technical assistance activities for two scenarios, which either excludes or includes the data derived from the projects in China and India. The average cost for technical assistance activities was then rounded to provide a figure to be used for calculating the funding needs for the period 2018–2022.

Table 2: Average technical assistance costs per country by region and chemical group (in United States Dollars)

		Central and Eastern Europe	Latin America and Caribbean	Africa	Asia -Pacific	Asia-Pacific, excl. India & China	Average GEF Cost/ country	Average GEF Cost/country, ex. China & India	Rounded Cost/ country
Overarching activities		411,500	105,625	395,188	634,122	73,857	324,058	246,542	250,000
PCBs		1,475,000	954,550	2,571,850	5,641,300	2,125,000	2,553,540	1,781,600	2,000,000
Pesticides		1,780,000	900,000	3,623,333	7,522,900		3,456,558	2,101,111	2,000,000
DDT				333,000	8,310,550		4,321,775	333,000	350,000
Mixed PCBs & other persistent organic pollutants		2,297,500		902,000			1,599,750	1,599,750	1,500,000
U-POPs	Dioxins				4,977,000	4,977,000	4,977,000	4,977,000	
	Others			250,000	274,889	218,750	247,880	234,375	250,000

2. Incremental costs for the disposal or destruction of persistent organic pollutants

35. In order to determine incremental costs for the disposal or destruction of persistent organic pollutants, available data was analysed by region and chemical category. Average costs per ton for disposal or destruction were derived based on information from project terminal evaluation reports of the Global Environment Facility, which contained information on the quantity and the type of the chemical disposed of or destroyed.

36. In Africa, figures from two completed projects were excluded from the final calculations, as these projects' cost/ton results would have inflated average cost-per-ton-figures rather dramatically. One of these projects was a project in South Africa, which funded the disposal of only 17 tons of non-hazardous and non-persistent organic pollutants containing waste; therefore it was determined to be inappropriate to include this figure in the calculation. The second project was a project in Ghana, which included the disposal of methyl bromide and ozone depleting substances, along with PCBs and pesticides. The terminal evaluation report did not specify estimated disposal costs for each of the substances. It was impossible for the team of experts to isolate and exclude the costs for the chemicals that were not persistent organic pollutants. The disposal costs for the mixed waste (~$19,000/ton) would have skewed the average figures unacceptably. It was therefore decided to exclude the project's results from the calculations.

37. Table 3 summarizes the disposal project costs used to calculate the average costs per ton by chemical group and region. Rounded figure were used for the calculation of funding needs for the period 2018–2022. The figures in table 3 refer to incremental costs only.

Table 3: Average incremental costs for disposal/destruction per ton and chemical group (in United States dollars)

	Africa	Asia and Pacific	Central and Eastern Europe	Latin America / Caribbean	Average	Rounded Average Cost/Ton
PCBs	1,258	4,082	3,218		2,853	3,000
Pesticides	6,474	3,229			4,852	5,000
DDT		5,366	4,165		4,766	5,000
Mixed	7,393		1,596	7,177	5,389	n/a

38. Using the figures for technical assistance activities and incremental costs, cost calculations were performed for each country based on its inventory figures and the reported groups of chemicals to be addressed. Technical assistance activity costs were uniformly applied according to the rounded category averages (see Table 2). Incremental costs for disposal/destruction were calculated based on reported chemical quantities for pesticides, PCBs, and DDT and average disposal/destruction costs per ton (See Table 3).

39. Table 4 shows the summarized funding needs by region and by chemical group calculated using the described methodology. The figures in table 4 refer to incremental costs only.

Table 4: Summary of required funds for the period 2018–2022 by region and chemical group (in United States dollars)

Region	Country-level activities	TOTAL COSTS BY CHEMICAL GROUP				TOTAL COSTS BY REGION
		Pesticides	PCBs	DDT	U-POPs	
CEE	5,250,000	213,285,000	162,840,070	40,717,500	4,000,000	426,092,570
LAC	7,500,000	63,636,705	126,924,806	7,412,890	6,000,000	211,474,401
Africa	11,250,000	104,806,010	1,691,011,800	10,371,200	10,750,000	1,828,189,010
Asia-Pacific	9,750,000	139,946,600	2,524,273,624	31,508,150	9,000,000	2,714,478,374

TOTAL	33,750,000	521,674,315	4,505,050,300	90,009,740	29,750,000	5,180,234,355

40. In order to account for the fact that the inventory figures provided by the NIPs are older data and that projects funded by the Global Environment Facility have been approved and implemented in the meantime, the team of experts chose to use the Facility's database (as of 31 May 2016) to determine funds committed by region for the Stockholm Convention and subtract those amounts from the calculated funding required. The budgets of the Facility's projects were summed up after filtering out dropped and cancelled projects, and subtracted from the projected amounts needed for each region in order to arrive at the remaining funding needs per region. The funds committed by the Global Environment Facility for regional projects were subtracted from the total, as it was not possible to allocate them to specific regions. Table 5 presents a summary of the estimated remaining funding needs for the period 2018–2022 by region. The figures in table 5 refer to incremental costs only.

Table 5: Summary of required funds for the period 2018–2022 by region, adjusted by projects funded by the Global Environment Facility in the past (in United States dollars)

Region	TOTAL COSTS BY REGION	GEF funds to date*	Remaining funding needs
CEE	426,092,570	116,894,111	309,198,459
LAC	211,474,401	108,845,893	102,628,508
Africa	1,828,189,010	216,873,793	1,611,315,217
Asia-Pacific[12]	2,714,478,374	316,635,960	2,397,842,414
TOTAL	**5,180,234,355**	**759,249,757**	**4,420,984,598**
	Regional Projects	47,751,274	-47,751,274
** from the Global Environment Facility database*		**807,001,031**	**4,373,233,324**

41. Table 6 presents a summary of estimated net funding needs by chemical group for the period 2018–2022.[13] The figures in table 6 refer to incremental costs only. Co-funding to cover costs exceeding the agreed incremental costs would need to be raised in line with the Global Environment Facility's co-funding policy.

Table 6: Summary of required funds for the period 2018–2022 by chemical group, adjusted by projects funded by the Global Environment Facility in the past (in United States dollars)

Chemical group	Quantities reported	Funding needs
Pesticides	63,921 tons	521,674,315
PCBs	2,081,077 tons	4,505,050,300
DDT	13,277 tons	90,009,740
U-POPs[14]	396,565 g-TEQ/a	29,750,000
Country-level activities not allocated to any specific chemical group	n/a	33,750,000

[12] The figures for the Asia and the Pacific region are highly skewed by the figure for China (USD 1,685,215,000), which amounted to approximately 62% of the figure for the entire region. Excluding China from the Asia and Pacific total gives a figure of USD 1,029,163,374 for the remainder of the region.

[13] Regarding newly listed persistent organic pollutants, as explained in paragraph 52 of the present note neither the national implementation plans nor the Article 15 reports nor the projects implemented by the Global Environment Facility contained information adequate to allow an assessment of funding needs using the methodology employed by the experts.

[14] Based on limited terminal evaluations of projects dealing with unintentionally released persistent organic pollutants, fixed cost calculations were used for countries reporting quantities of unintentionally released persistent organic pollutants.

Subtotal[15]	**5,180,234,355**
Projects funded by the Global Environment Facility	(807,001,031)
Total	**4,373,233,324**

Abbreviations: g-TEQ/a, grams toxic equivalent per annum; U-POPs, unintentionally produced persistent organic pollutants.

42. Table 7 presents the inventory figures used to calculate the required funding needs for the period 2018–2022.

Table 7: Inventory of persistent organic pollutants used to calculate required funds

Region	Pesticides (tons)	PCBs (tons)	PCB equipment (tons)	DDT (tons)	U-POPs (g-TEQ/a)
CEE	36,657	40,600	277,352	7,374	5,279
LAC	2,727	26,107	161,415	363	149,276
Africa	6,561	537,619	41,600	884	162,179
Asia-Pacific	17,975	823,152	173,233	4,657	79,831
TOTAL	63,921	1,427,477	653,600	13,277	396,565

3. Assumptions

43. The following assumptions were made in deriving the figures for the calculations:

(a) Data for a given country or countries is representative of all countries in the respective region. Due to the limited number of terminal evaluation reports available to date (41 reports) it was necessary to assume that figures in these reports were representative of all the countries in a region, regardless of size or national circumstances;

(b) Scaling is linear, that is to say the incremental costs per ton are considered linear irrespective of the respective quantities found in the terminal evaluation reports of projects. The rather limited number of such reports with disposal and destruction costs did not provide enough information to determine whether there are economies of scale in projects dealing with larger quantities. Therefore, a single cost-per-ton-figure was applied for the entire amount reported in the inventories;

(c) The density of PCBs and pesticides ranges between 1.0 and 1.5 kg/litre. In converting reported quantities from litres to tons, it was necessary to assume an average density to arrive at an approximate figure;

(d) To estimate the amount of PCB oil in equipment, a figure of 1.25 kg of oil per piece of equipment was assumed. Transformers are assumed to contain 1.36 kg of oil per piece; capacitors contain much smaller amounts. The figure of 1.25 kg per piece of equipment is an approximate figure used to estimate the oil contained in the reported inventories of equipment;

(e) More recent inventory figures were often more accurate. In cases where multiple sets of data were reported, it was assumed that the later figures were more accurate than the earlier figures. Country reported data in response to the electronic questionnaire posted by the Secretariat on 30 June 2016 and responded by end of August 2016 was assumed to supersede all other data.

F. Challenges

1. Data derived from terminal evaluation reports of the Global Environment Facility

44. Very limited amounts of data were available to work with in regards to the disposal or destruction of persistent organic pollutants. Only seventeen out of the forty-two analysed projects included a component for disposal or destruction of persistent organic pollutants.

[15] Costs relating to persistent organic pollutants newly listed in the annexes to the Stockholm Convention are not included in this table because the methodology relies on Global Environmental Facility terminal evaluation reports, which are not available for newly listed persistent organic pollutants because no projects involving them have yet been completed and evaluated.

45. Most of the data on cost effectiveness came from projects where the disposal or destruction was only one component of a larger project. In some cases, the funding was reported in lump sums, making it difficult to isolate figures related solely to disposal or destruction costs.

46. Costs were often reported only for the project as a whole rather than split by component. In some cases, the Facility's funding component was split by component, but the co-financing was only reported as a lump sum. As a result, the report compiled here focused mainly on the Global Environment Facility data rather than the co-financing amounts.

47. In many cases, multiple chemicals were included in the disposal component with no breakdown of figures provided for disposal of different chemicals. Lump sum figures were most often used covering any and all chemicals disposed of or destroyed under the project.

2. Inventory data

48. Inventory dates ranged from the early 2000's to figures submitted in October 2016 in response to the electronic questionnaire sent to Parties for the current assessment. Given that some of the inventory data was more than a decade old led to questions about the accuracy of the figures in relation to current inventory levels. Several countries did not report data, or indicated that their inventories only accounted for a fraction of the persistent organic pollutants in the country. Attempts to obtain more recent information through the questionnaire resulted in only eleven additional submissions by Parties. The team realized that data used may not be comparable because not all Parties used best practice methodologies. The lack of accurate inventories is a shortcoming that needs to be addressed in future assessments.

49. It was difficult to determine accurate figures for PCB quantities. In some cases, the reported quantities were suspiciously high and the team of experts suspected that some figures might have been reported in kg rather than in tons. On the other hand, many countries reported zero tons of PCBs, or had no data reported. Only one country reported ongoing accumulations of PCB waste related to shipbreaking activities, although other countries are also engaged in this industry. It is suspected that reported amounts of PCBs may be significantly underreported.

50. Another issue related to PCBs was the fact that although some NIPs contained information on quantities of equipment only or, in addition, the tonnage of contaminated oils, the notes indicated that not all of the equipment contained PCBs. An attempt was made to account for this tonnage through calculations based on assumptions of the average amount of oil contained, but it should be considered as a rough estimate and not as an accurate figure.

51. It is not clear whether the inventory data reported takes into account previous Global Environment Facility projects, or whether those amounts should be subtracted from the totals. Therefore, no adjustments have been made to the inventory figures based on the Article 15 data or the terminal reports. To account for this factor, the Facility's funds allocated to persistent organic pollutants projects have been subtracted at the regional level from the calculated total funds required in order to capture funds already spent or allocated.

52. Neither national implementation plans nor Article 15 reports contained all the information that was necessary for an assessment of funding needs for newly listed persistent organic pollutants at the current time. In addition it must be stated that the methodology employed does not currently allow for the adequate quantification of funding needs for newly-listed persistent organic pollutants because no terminal evaluation reports have yet been completed in respect of projects pertaining to newly-listed persistent organic pollutants. The experts tried to estimate funding needs using cost figures per ton of newly-listed persistent organic pollutants found in the documentation for a limited number of ongoing projects and new projects yet to be endorsed by the Facility secretariat. This lack of data hindered the calculations and the experts concluded that they could not at the current time produce a meaningful estimate of funding needs for newly-listed persistent organic pollutants.

G. Recommendations for the assessment of funding needs for the period 2022–2026

53. The various information sources used for the assessment, including NIPs, updated NIPs, national reports and questionnaires submitted by Parties, showed information gaps and data inaccuracies. It proved to be very challenging to the experts to identify the source of data and to match tabulated data to the correct years in the various reports. The experts suggest that data collection forms for quantities of chemicals in countries be revised so that the Convention and Facility secretariats can have one database per country. In addition, when submitting new and updated information Parties should take into consideration the Facility's funded activities in a way that shows the impact of those activities vis-a-vis the work remaining to be done. The experts suggest the establishment of an agreed baseline

of funding needs per country, as a starting point, from which funding from the Facility can be deducted as projects are implemented and persistent organic pollutants are disposed of or destroyed.

54. While additional costs for newly listed persistent organic pollutants could be expected to demand significant financial resources in addition to those required to addressing the initial 12 persistent organic pollutants listed in the Convention, the lack of data for the current assessment is an issue that will resolve itself in future assessments once projects are implemented and terminal evaluation reports are issued.

55. In view of the above, it is critical that Parties continue to update their national implementation plans. Moreover, the use of harmonized quantitative data in inventories would greatly facilitate the assessment of needs over a specified period and would also allow the identification of trends. The development of an electronic questionnaire by the Secretariat with input from the experts was an attempt to facilitate the collection of such data and should be continued. It would be more efficient and effective, however, to move any inventory and cost-related data from the NIPs to an electronic format, as that would enormously facilitate future needs assessments.

56. Regarding time-bound controlled persistent organic pollutants, especially PCBs, it is known through project implementation and indicative data submitted by Parties that, in some cases, only 20 per cent of PCB inventory or less is reported as known. This is the case in Latin America and as a result the experts concluded that the region's funding needs had been underestimated.

57. As of now, the databases available in the two secretariats do not provide the required information in a user-friendly format and information is often out of date or inaccurate. The secretariats could work together to harmonize data collection processes. Such harmonization is critical to the assessment of the required funds and to the reduction of major uncertainties in reported data.

58. To increase the availability of quantitative data on the quantity of persistent organic pollutants and the cost of their environmentally sound management, the experts recommend that such data contained in the NIPs be moved to an electronic format. Given that the needs assessment takes into account data contained in both NIPs and national reports, it would also be advisable to harmonize the information contained in these two information sources.

59. The experts noticed that data coming from technical staff in charge of project implementation, such as project coordinators filling out Global Environment Facility project implementation reports or contributing to terminal evaluation reports, seemed more trustworthy when compared with data submitted by non-technical staff in NIPs, NIP updates and Article 15 reports. The use of the revised data collection form, as specified in the preceding paragraphs, is meant to reduce data discrepancies and at the same time instruct project teams to fill out forms with information reflecting the actual situation of a given country, taking into consideration the experience from project implementation. The database would also need to be updated when a new project for a specific chemical group was submitted for funding. The Facility and the Convention secretariats' common database would then have the same information, which could be promptly used in future needs assessments.

Appendix

Global Environment Facility funding for completed persistent organic pollutants projects by region and chemical group

Region	Chemical Group	# of Projects with TR's analysed	# of countries	GEF funding budget (USD)	GEF funding actual (USD)	Comments	Average Cost/project (based on GEF budget) (USD)	Average cost/country (based on GEF budget) (USD)
A. Central and Eastern Europe (Total: 18 Parties; 19 NIPs submitted)		8		11,516,500	11,234,994			
	Overarching activities	1	1	411,500	410,857		411,500	411,500
	PCBs	3	2	2,950,000	2,711,146		983,333	1,475,000
	Pesticides	2	2	3,560,000	3,747,991		1,780,000	1,780,000
	Mixed PCBs and other persistent organic pollutants	2	2	4,595,000	4,365,000		2,297,500	2,297,500
B. Latin America and the Caribbean (Total: 27 Parties, 11 NIPs)		3		2,699,550	2,689,215			
	Overarching activities	1	8	845,000	834,665	SOP[1]s for sampling and analysis; equipment and training for laboratories; inter-calibration studies; baseline inventories; awareness raising	845,000	105,625
	PCBs	1	1	954,550	954,550	There is no reporting of the actual Global Environment Facility funds spent, therefore the budgeted amount was considered in the actual column.	954,550	954,550
	Pesticides	1	1	900,000	900,000	Report shows budget and disbursed as the exact same amount.	900,000	900,000
C. Africa (Total: 48 Parties, 29 NIPs)		9		36,107,700	30,173,959			
	Overarching activities	3	16	6,323,000	6,244,032		2,107,667	395,188
	PCBs	2	2	5,143,700	4,570,927		2,571,850	2,571,850

[1] Standard operation procedures

Region	Chemical Group		# of Projects with TR's analysed	# of countries	GEF funding budget (USD)	GEF funding actual (USD)	Comments	Average Cost/project (based on GEF budget) (USD)	Average cost/country (based on GEF budget) (USD)
	Pesticides		1	6	21,740,000	16,470,000		21,740,000	3,623,333
	DDT		1	3	999,000	987,000		999,000	333,000
	Mixed PCBs and other persistent organic pollutants		1	1	902,000	902,000		902,000	902,000
	Unintentionally produced persistent organic pollutants (U-POPs)		1	4	1,000,000	1,000,000		1,000,000	250,000
D. Asia and the Pacific (Total: 44 Parties, 19 NIPs)			12		67,390,200	66,914,603	Number of projects does not total because some projects were split over multiple categories		
	Overarching activities		3	9	5,707,100	5,904,526		1,902,367	634,122
	PCBs		4	4	22,565,200	22,016,485		5,641,300	5,641,300
	Pesticides		2	2	15,045,800	15,100,800		7,522,900	7,522,900
	DDT		3	2	16,621,100	16,571,100		5,540,367	8,310,550
	U-POPs	Dioxins	1	1	4,977,000	4,864,585	One project in Vietnam	4,977,000	4,977,000
		Others	3	9	2,474,000	2,457,107		824,667	274,889
E. Western Europe and Others (20 Parties, 19 NIPs)			0				No projects		
Global Projects			9		16,024,455	17,487,665		1,780,495	