



**United Nations
Environment
Programme**

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/89/8/Add.1
8 June 2022

ORIGINAL: ENGLISH



EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL

Eighty-ninth Meeting

Montreal, 7-11 March 2022

Postponed to 16, 18 and 20 May 2022 (part I) and
16-18 June 2022 (part II)¹

Addendum

**ANALYSIS OF THE LEVEL AND MODALITIES OF FUNDING FOR HFC PHASE-DOWN
IN THE REFRIGERATION SERVICING SECTOR (DECISION 88/76)**

Introduction

1. This addendum, presenting adjustments to the third modality of funding proposed in document UNEP/OzL.Pro/ExCom/89/8, is issued in response to the request made by the Executive Committee at part I of its 89th meeting,² to assist in the ongoing discussion on the level and modalities of funding for HFC phase-down in the refrigeration servicing sector.

2. In line with this request, the Secretariat has further developed the third modality presented in document UNEP/OzL.Pro/ExCom/89/8, with the following adjustments:

- (a) Non-low-volume-consuming (LVC) countries have been categorized into four groups on the basis of their consumption and needs;
- (b) Different levels of funding have been proposed for each of the non-LVC country groups;
- (c) Special cases have been identified, and
- (d) The overall level of funding for the servicing sector for all Article 5 countries has been calculated based on the levels of funding proposed for each group of countries.

¹ Due to coronavirus disease (COVID-19), part I of the 89th meeting was held online while part II will be held in-person.

² Paragraphs 43 and 44 of document UNEP/OzL.Pro/ExCom/89/15.

Categorization of non-LVC countries into groups and levels of funding per group

3. The Secretariat divided non-LVC countries into four groups based on their level of HCFC consumption, whether they have HCFC consumption in the manufacturing sectors, and precedents for grouping non-LVC countries. As an initial step, the Secretariat referred to the categorization of non-LVC countries in “brackets” made by the Technology and Economic Assessment Panel’s (TEAP) Replenishment Task Force³ and applied some adjustments. Instead of grouping the countries based on their overall HCFC consumption, the Secretariat classified them based on their HCFC consumption for the baseline years in the refrigeration servicing sector. In addition, based on the level of HCFC consumption in the manufacturing sector, the Secretariat slightly adjusted the limits between the categories from the TEAP brackets, to ensure that countries with comparable levels of manufacturing would be grouped together to the extent possible.⁴ The resulting groups are presented in table 1.

Table 1. Categories of non-LVC countries proposed for allocating funding for HFC phase-down in the refrigeration servicing sector for stage I of the Kigali HFC Implementation Plans (KIPs)

HCFC consumption in servicing in metric tonnes (mt)	Number of countries	Countries
Group 1 360 to 1,800 No manufacturing or some manufacturing	35	Afghanistan, Algeria, Bahrain, Bangladesh, Benin, Burkina Faso, Cameroon, Chile, Colombia, Côte d'Ivoire, Democratic People's Republic of Korea, Democratic Republic of the Congo, Dominican Republic, Ecuador, Gabon, Ghana, Guinea, Jordan, Kenya, Lebanon, Libya, Madagascar, Mauritania, Morocco, Oman, Panama, Peru, Qatar, Senegal, Somalia, Syrian Arab Republic, Togo, Trinidad and Tobago, Tunisia, Uruguay
Group 2 1,800 to 8,000 With manufacturing	15	Argentina, Egypt, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Malaysia, Nigeria, Pakistan, Philippines, South Africa, Türkiye, Venezuela (Bolivarian Republic of), Viet Nam, Yemen
Group 3 8,000 to 25,000 With manufacturing	5	Brazil, India, Mexico, Saudi Arabia, Thailand
Group 4 Above 25,000 With manufacturing	1	China

4. With the division of non-LVC countries into these four groups, instead of applying one cost-effectiveness level for all countries, it would be possible to consider differentiated levels of funding that may be better suited to the characteristics of countries in each category.

5. For estimating the level of funding for stage I of the KIPs, the Secretariat took as a starting point the level of funding approved for the HCFC phase-out management plans (HPMPs), noting that the categories of eligible incremental costs for HFC phase-down are similar to those for activities being implemented under the HPMPs. The additional efforts required for HFC phase-down would result in an increase of this funding, while the opportunities to capitalize on the existing infrastructure and ongoing activities in the sector would result in a decrease, as follows:

- (a) A factor to increase the level of funding agreed for HPMPs has been applied to reflect the wider set of substances and blends to be recorded, reported and monitored, as well as

³ Assessment of the funding requirement for the replenishment of the Multilateral Fund for the 2021-2023 period.

⁴ The first group includes countries with consumption between 360 and 1,800 mt (instead of 2,000 mt in the TEAP report) and the second group includes countries with consumption between 1,800 and 8,000 mt (instead of 10,000 mt in the TEAP report).

recovered, recycled and reclaimed; the larger set of applications using HFCs; and the need to provide capacity building and technical assistance to address safety issues associated with the introduction of low-global-warming-potential (GWP) alternatives, including *inter alia* the expansion of technician training and certification programmes, further strengthening of training institutes, the provision of relevant tools, and the adoption of additional standards and regulatory measures;

- (b) A factor to reflect savings has also been applied to the level of funding agreed for HPMPs to take into account the existing infrastructure and partnerships established through the HPMPs and the fact that many of the initial activities associated with HFC phase-down can build on the basis of ongoing projects. For example, training in handling low-GWP alternatives may need to cover more technicians, but in most HPMPs it is already being imparted to some degree; recovery, recycling and reclaiming infrastructure established through the HPMPs may be expanded; the technician certification schemes already established through HPMPs may be expanded and improved; and
- (c) LVC countries and group 1 of non-LVC countries would require additional efforts during stage I of the KIPs, noting that for the countries with some or no manufacturing, most of the HFC reductions to be achieved in stage I of their KIPs will need to take place in the refrigeration servicing sector, and that the funding available from the implementation of the final stages of HPMPs in these countries is smaller than in countries with a high HCFC consumption.

6. Future stages of KIPs will be implemented at a time when HCFCs will have already been phased out, and there will not be common activities to be implemented. The modalities and levels of funds would need to be revised at that time in accordance with the prevalent circumstances.

7. Based on this analysis, the Secretariat is proposing the funding levels per category as follows and as shown in table 2:

- (a) Group 1: non-LVC countries with a consumption of 360-1,800 mt, with some or no manufacturing. It is expected that a large portion of HFC reductions in stage I of these countries' KIPs may need to take place in the refrigeration servicing sector; therefore, the level of effort and activities required in the sector would be closer to that to be made by LVC countries. The levels of funding that countries in group 1 will receive for the implementation of last stages of their HPMPs are higher than those for LVC countries, but not as high as for the other groups of non-LVC countries. Based on the remaining HCFC consumption in the servicing sector, the level of HPMP funds for servicing for countries in this group could be between up to US \$187,000 and up to US \$6.9 million, with an average of US \$1.9 million per country. The level of funding proposed for stage I of the KIPs for this group is US \$4.80/kg, which is similar to the level of funding approved under their HPMPs;
- (b) Group 2: countries with a consumption of 1,800-8,000 mt that have or had HCFC consumption in the manufacturing sectors, and that are expected to also have HFC consumption in these sectors. These countries will have more opportunities than LVC countries and non-LVC countries in group 1 to achieve reductions during stage I of their KIPs with combined strategies that could include activities in the manufacturing and servicing sectors. All countries in this group (with one exception)⁵ will be submitting in the next few years the final stages of their HPMPs, which will be almost exclusively in the refrigeration servicing sector. As the levels of funding that countries in group 2 will receive

⁵ Türkiye will achieve total HCFC phase-out by 2025 with the ongoing stage.

for the implementation of the last stages of their HPMPs are substantially higher than those received by countries in group 1, countries in group 2 will have more opportunities to take advantage of the infrastructure and activities being delivered under their HPMPs. Based on the remaining HCFC consumption in the servicing sector, the level of funding still to be approved for the servicing sector under the HPMPs for the countries in this group could be between up to US \$3 million and up to US \$22 million, with an average of US \$10 million per country. The level of funding for stage I of the KIPs for this group is calculated at US \$4.80/kg for the first 1,800 mt, plus US \$4.00/kg for any additional consumption above 1,800 mt;

- (c) Group 3: countries with the consumption of 8,000-25,000 mt that also have or had HCFC consumption in the manufacturing sectors, and that are expected to have substantial HFC consumption in these sectors. These countries will have more opportunities than countries in groups 1 and 2 to achieve reductions during stage I of their KIPs with combined strategies that could include activities in the manufacturing and servicing sectors. All countries in this group will be submitting in the next few years the final stages of their HPMPs, which will be almost exclusively in the refrigeration servicing sector. As the levels of funding that countries in group 3 will receive for the implementation of the last stages of their HPMPs are substantially higher than those received by countries in group 2, countries in group 3 will have more opportunities to take advantage of the infrastructure and activities being delivered under their HPMPs. Based on the HCFC consumption in the servicing sector still to be addressed, the level of funding still to be approved for the servicing sector under the HPMPs for the countries in this group could be between up to US \$22 million and up to US \$46 million per country, with an average of US \$36 million per country. Given the large number of activities that will be implemented in the servicing sector in these countries for HCFC phase-out during the time of stage I of the KIPs, and the economies of scale that can be achieved as the funding is associated with large levels of consumption, the level of funding for stage I of the KIPs for this group is calculated at US \$4.80/kg for the first 1,800 mt, plus US \$4.00/kg for the tonnage of 1,800-8,000 mt, plus US \$3.20/kg for any additional consumption above 8,000 mt; and
- (d) Group 4: countries in this group will be considered on a case-by-case basis.

8. The above model avoids large drops in funding that would take place among groups if the funding levels were based on a unique cost-effectiveness value per group. For example, if the level of funding for a country in group 2 with a consumption of 1,810 mt was calculated simply at US \$4.00/kg, the country would receive US \$724,000, while a country in group 1 with a lower consumption of 1,790 mt would receive a higher value of US \$859,200 at US \$4.80/kg. The levels of funding proposed for different groups of non-LVC countries are summarized in table 2.

Table 2. Levels of funding proposed for non-LVC countries

Groups/ HCFC consumption in servicing (mt)	Number of countries	Level of funding per country
Group 1 360 to 1,800	35	US \$4.80/kg. If this value is lower than that agreed for the largest group of LVC countries, the country can opt to be funded as a LVC country.*
Group 2 1,800 to 8,000	15	US \$4.80/kg for the first 1,800 mt US \$4.00/kg for every mt above 1,800
Group 3 8,000 to 25,000	5	US \$4.80/kg for the first 1,800 mt US \$4.00/kg for every mt above 1,800 mt and below 8000 mt US \$3.20/kg for every mt above 8,000 mt
Group 4 Above 25,000	1	Case-by-case

* Discussed in paragraph 11

An alternative modality: Allocation of specific funding levels per group of non-LVC countries

9. During the contact group discussion at part I of the 89th meeting, members enquired whether it would be possible, after categorizing non-LVC countries, to allocate a funding level to each group, in an approach similar to that used with LVC countries. Accordingly, the Secretariat calculated funding levels for each of the proposed groups, as shown in table 3.

Table 3. Allocation of a unique funding level per group of non-LVC countries

Groups / HCFC consumption in servicing (mt)	Number of countries	Level of funding per country
Group 1: 360 to 1,800	35	365,114
Group 2: 1,800 to 8,000	15	1,636,013
Group 3: 8,000 to 25,000	5	4,961,466
Group 4: Above 25,000	1	Case-by-case

10. The level of funding for each group in table 3 was calculated as the average funding for all countries in the group using the proposed cost-effectiveness level (US \$4.80/kg for group 1, US \$4.80/4.00/kg for group 2, and US \$4.80/4.00/3.20/kg for group 3). A disadvantage of using this option would be that, given the large size of the groups, proposing one level of funding per group would not be equitable across countries in the group. In particular, Article 5 countries in the same group would receive the same amount of funding irrespective of the fact that countries with a higher baseline would have to phase out a higher level of consumption. For example, estimating funding based on the cost-effectiveness level in table 2, the country with the lowest consumption in group 2 would receive US \$907,300, and one with the largest consumption would receive US \$2,686,076. A much larger number of groups of non-LVC countries would be required to ensure that the level of funding is better adjusted to the level of consumption (similar to the smaller groups for LVC countries). For this reason, the Secretariat considers that using the combined cost-effectiveness thresholds proposed in the previous section (table 2) would provide funding levels that are appropriate to the existing level of consumption and the level of activities required in each country.

Special cases

Special situation of non-LVC countries with consumption levels close to 360 mt

11. In applying the values proposed above to each group of non-LVC countries, the Secretariat noted that for the first 14 countries⁶ in group 1, with HCFC consumption levels very close to those of LVC countries (360 mt to 1,800 mt), applying US \$4.80/kg would represent lower funding levels than the US \$270,000 proposed for the largest LVC countries. Those countries could decide whether they would like to be funded as LVC or non-LVC countries. An example of this situation is Panama. HCFC consumption in the servicing sector in Panama is 404.3 mt, which places it in group 1 of non-LVC countries. Accordingly, using HCFC consumption as a proxy, the level of funding that Panama would receive at US \$4.80/kg would be US \$194,074, which is lower than the US \$270,000 received by the largest LVC countries. In this case, Panama could opt to receive US \$270,000. However, it is noted that HFC consumption in the servicing sector in Panama in 2021 was 821.26 mt. Once the HFC baselines are known, if the average HFC consumption in the servicing sector for the baseline years in Panama was found to be at around the 2021 consumption level (821.26 mt), Panama would receive around US \$394,000 at US \$4.80/kg, which is above US \$270,000. The 14 countries with consumption above, but close to 360 mt could opt to be funded as LVC countries (i.e., at US \$270,000), and by the time the HFC baselines are known, if applicable, they could request a funding adjustment in line with their consumption.

⁶ Afghanistan, Benin, Burkina Faso, Ecuador, Gabon, Guinea, Madagascar, Mauritania, Oman, Panama, Peru, Somalia, Togo, Uruguay.

Article 5 countries that have already phased out HCFCs or that have already approved HPMPs for total HCFC phase-out before or by 1 January 2025

12. In undertaking the additional work requested to categorize Article 5 countries, the Secretariat identified nine countries that have approved HPMPs to achieve total phase-out of HCFCs before or by 1 January 2025. These countries include eight LVC countries (Bhutan, Kyrgyzstan, Maldives, Montenegro, Namibia, Papua New Guinea, Saint Vincent and the Grenadines, Seychelles) and one non-LVC country (Türkiye).

13. Currently, these countries belong to different groups of LVC and non-LVC countries (e.g., Türkiye belongs to group 2 of non-LVC countries). Noting that one of the factors taken into consideration to estimate the level of funding for stage I of KIPs in the refrigeration servicing sector is the opportunity to take advantage of the existing infrastructure and ongoing activities within the HPMPs, and that these countries may have already established some infrastructure but will not have opportunities to take advantage of ongoing activities in the servicing sector under their HPMPs as they will be finished or about to finish by the time their KIPs start implementation, the Secretariat considers that a higher level of funding would be appropriate and would need to be determined on a case-by-case basis.

Calculation of the overall level of funding for the servicing sector for all countries

14. Based on the adjustment made to the third modality, the Secretariat has calculated the overall funding for the refrigeration servicing sector to address stage I of the KIPs in Article 5 countries.

15. The funding estimates in table 4 below are indicative only, as HFC consumption in the baseline years is still unknown. The following assumptions were made:

- (a) The funds were calculated based on HCFC consumption in the refrigeration servicing sector during the HCFC baseline years. These values will change once HFC consumption in the HFC baseline years is known;
- (b) The level of funding calculated for non-LVC countries was based on the assumption that countries reduce their HFC consumption in the servicing sector by 10 per cent. As the sectors where HFC reductions will take place in stage I of the KIPs are still unknown, these values could vary;
- (c) For the purpose of this calculation, table 4 does not classify the nine Article 5 countries referred to in paragraphs 12 and 13 of the present document in a separate category to be considered on a case-by case basis. Instead, these countries are included in the existing groups based on their levels of HCFC consumption; and
- (d) The value for group 4 (to be considered on a case-by-case basis) has not been included in the total.

Table 4. Overall level of funding allocated for the servicing sector for all Article 5 countries

HCFC baseline for the servicing sector (mt)	Number of countries	Funding basis (decision 74/50) (US \$ or US \$/kg)	Funding per country (US \$ or US \$/kg)	Total funding (US \$)
Below 15	21	58,750	88,125	1,850,625
15 to 40	17	75,000	112,500	1,912,500
40 to 80	13	80,000	120,000	1,560,000
80 to 120	11	90,000	135,000	1,485,000
120 to 160	9	95,000	142,500	1,282,500

HCFC baseline for the servicing sector (mt)	Number of countries	Funding basis (decision 74/50) (US \$ or US \$/kg)	Funding per country (US \$ or US \$/kg)	Total funding (US \$)
160 to 200	3	100,000	150,000	450,000
200 to 320	12	160,000	240,000	2,880,000
320 to 360	2	180,000	270,000	540,000
360 to 1,800	35	4.80	4.80	12,778,979
1,800 to 8,000	15	4.80	4.80/4.00	24,540,193
8,000 to 25,000	5	4.80	4.80/4.00/3.20	24,807,330
Above 25,000	1	4.80	case-by-case	to be determined
Total	144			*74,087,127

* This number does not include funding levels for countries with consumption above 25,000 mt, to be determined on a case-by-case basis. For example, if funding for this group were agreed at US \$3.20/kg, the additional value to be added to the total funding in table 4 would be US \$68,883,438; if funding for this group were agreed at US \$2.00/kg, the additional value to be added to the total funding in table 4 would be US \$43,052,148.