

**Montreal Protocol  
on Substances that  
Deplete the Ozone Layer**

Distr.: General  
25 September 2026  
Original: English

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**Thirty-Eighth Meeting of the Parties to  
the Montreal Protocol on Substances  
that Deplete the Ozone Layer**

Kigali, 2–6 November 2026

Item 4 (a) of the provisional agenda for the preparatory segment\*

**Replenishment of the Multilateral Fund for the  
Implementation of the Montreal Protocol for the triennium  
2027–2029: supplementary report of the Technology and  
Economic Assessment Panel replenishment task force**

**Issues for discussion by and information for the attention of the  
Thirty-Eighth Meeting of the Parties to the Montreal Protocol**

**Note by the Secretariat**

**Addendum**

**I. Introduction**

1. The present addendum to the note by the Secretariat on issues for discussion by and information for the attention of the Thirty-Eighth Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer contains information that has become available since the preparation of the first addendum to that note (UNEP/OzL.Pro.38/2/Add.1), in particular regarding item 4 (a) of the provisional agenda for the preparatory segment, on the supplementary report of the Technology and Economic Assessment Panel replenishment task force.

**II. Replenishment of the Multilateral Fund for the Implementation of  
the Montreal Protocol for the triennium 2027–2029: supplementary  
report of the Technology and Economic Assessment Panel  
replenishment task force (item 4 (a) of the provisional agenda for the  
preparatory segment)**

2. As is indicated in the note by the Secretariat on issues for discussion by and information for the attention of the Thirty-Eighth Meeting of the Parties (UNEP/OzL.Pro.38/2, paras. 28–31), the replenishment task force of the Technology and Economic Assessment Panel took into consideration the suggestions of the Open-ended Working Group of the Parties to the Montreal Protocol at its forty-eighth meeting (reproduced in annex I to that note) and prepared its September 2026 supplementary report on the assessment of the funding requirement for the replenishment of the Multilateral Fund for the period 2027–2029. The full report is available on the meeting portal for the

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\* UNEP/OzL.Pro.38/1.

Thirty-Eighth Meeting of the Parties,<sup>1</sup> and the executive summary of the report, as received from the Panel and without formal editing by the Secretariat, is set out in the annex to the present addendum.

3. The supplementary report contains updates to the May 2026 report (referred to below as the “updated May report”), the details of which are discussed in chapter 2 of the report. Additional scenarios suggested by the Open-ended Working Group are set out in chapters 3, 4 and 5 of the report.

4. The updated May report includes information that became available after the preparation of the May 2026 report, including decisions taken by the Executive Committee of the Multilateral Fund at its ninety-eighth meeting, held from 22 to 26 June 2026; Article 7 consumption data and country programme data submitted, respectively, to the Ozone Secretariat and the Multilateral Fund secretariat by parties operating under paragraph 1 of Article 5 of the Montreal Protocol (Article 5 parties) as at 17 July 2026; updated information on approved hydrochlorofluorocarbon (HCFC) phase-out management plans and Kigali hydrofluorocarbon (HFC) implementation plans; and the status of ratification of the Kigali Amendment as at 10 August 2026. In addition, the updated May report incorporates ongoing operating costs for HFC-23 mitigation, low- and high-end energy-efficiency funding scenarios and applicable project management unit costs for non-low-volume-consuming countries that were not included in the May 2026 report. The distribution of funding across different levels of country consumption to address the compliance needs of Article 5 parties is inherently reflected in all modelling estimates presented by the task force to date.

5. In preparing its supplementary report, the task force continued to rely on the consolidated business plan of the Multilateral Fund for 2026–2028. It also maintained the estimates for institutional strengthening and standard activities (i.e. costs related to the Compliance Assistance Programme of the United Nations Environment Programme, other implementing agencies, the Multilateral Fund secretariat and the Fund Treasurer), while continuing to apply average agency support costs of 9.6 per cent and a 15 per cent deduction for foreign ownership in manufacturing sectors.

6. Based on the updates above, the revised range for the replenishment requirement for the triennium 2027–2029, including support costs, is estimated at \$1.230 billion–\$1.692 billion in the updated May report, compared with \$1.282 billion–\$1.755 billion in the May 2026 report. The updated ranges of the total estimated funding requirement for all three trienniums, along with the corresponding estimates in the May 2026 report, are presented in table 1.

Table 1

**Updated ranges of total funding requirements for the replenishment of the Multilateral Fund for the trienniums 2027–2029, 2030–2032 and 2033–2035**

(Millions of United States dollars)

| <i>Triennium</i>                                    | <i>May 2026 report<sup>a</sup></i> | <i>Updated May report<sup>b</sup></i> |
|-----------------------------------------------------|------------------------------------|---------------------------------------|
| <b>2027–2029</b>                                    |                                    |                                       |
| HCFC activities                                     | 451–573                            | 437–564                               |
| HFC activities                                      | 702–1 053                          | 664–999                               |
| Institutional strengthening and standard activities | 129                                | 129                                   |
| <b>Total</b>                                        | <b>1 282–1 755</b>                 | <b>1 230–1 692</b>                    |
| <b>2030–2032</b>                                    |                                    |                                       |
| HCFC activities                                     | 83–96                              | 88–102                                |
| HFC activities                                      | 877–1 085                          | 861–1 076                             |
| Institutional strengthening and standard activities | 137                                | 137                                   |
| <b>Total</b>                                        | <b>1 097–1 318</b>                 | <b>1 086–1 315</b>                    |
| <b>2033–2035</b>                                    |                                    |                                       |
| HCFC activities                                     | –                                  | –                                     |
| HFC activities                                      | 488–600                            | 454–587                               |
| Institutional strengthening and standard activities | 145                                | 145                                   |
| <b>Total</b>                                        | <b>633–745</b>                     | <b>599–732</b>                        |

*Abbreviations:* HCFC – hydrochlorofluorocarbon; HFC – hydrofluorocarbon.

<sup>a</sup> Including decisions taken by the Executive Committee at its ninety-seventh meeting and information received by the task force as at 8 April 2026, and assuming ratification of the Kigali Amendment by all Article 5 parties.

<sup>b</sup> Including decisions taken by the Executive Committee at its ninety-eighth meeting and information received by the task force as at 15 August 2026, and assuming ratification of the Kigali Amendment by all Article 5 parties.

<sup>1</sup> See <https://ozone.unep.org/system/files/documents/TEAP-RTF-supplementary-report-september2026.pdf>.

7. Having established the updated funding estimates for the triennium 2027–2029, the task force used those estimates as a basis for new scenarios, set out in chapter 3 of its supplementary report. The scenarios apply historical cost-effectiveness factors for HCFC phase-out management plans and Kigali HFC implementation plans, as well as party-specific cost-effectiveness factors and average funding levels over the past six years for HCFC phase-out management plans. For Kigali HFC implementation plans, the task force was unable to apply the latter approaches owing to a lack of sufficient information. Additional new scenarios for Kigali HFC implementation plans, based on different resource allocation schedules, are also presented in the report. The task force identifies the scenarios that involve significant changes to the methodology applied and notes that the resulting estimates are therefore not directly comparable with those presented in its May 2026 report.

8. For HCFCs, applying the new scenarios to the updated estimates reduces the lower end of the funding range from \$437 million in the updated May report to \$230 million under the scenario involving the largest reduction. The upper end remains unchanged at \$564 million, resulting in an overall HCFC funding range of \$230 million–\$564 million for the triennium 2027–2029.

9. For HFCs, the scenario applying historical cost-effectiveness factors reduces the lower end of the funding range from \$664 million in the updated May report to \$625 million. The upper end remains unchanged at \$999 million, and the resulting HFC funding range is therefore \$625 million–\$999 million for the triennium 2027–2029 under the scenario leading to the largest reduction.

10. When the largest reductions from the new scenarios are combined, the overall replenishment range is reduced to \$984 million–\$1.692 billion, compared with the updated May report estimate of \$1.230 billion–\$1.692 billion. An additional new scenario based on the most recently reported HFC consumption data reduces the lower end of the range to \$838 million. The task force cautions, however, that this scenario incorporates methodological changes and the resulting lower estimate should be viewed as indicative of a lower funding trend rather than as directly comparable with the updated May estimate.

11. The updated ranges of the total funding requirement for the period 2027–2029 based on the new scenarios are shown in table 2.

Table 2

**Updated ranges of total funding requirement for the replenishment of the Multilateral Fund for the period 2027–2029 based on new scenarios**

(Millions of United States dollars)

| Triennium 2027–2029                                 | May 2026 report <sup>a</sup> | Updated May report <sup>b</sup> | Supplementary report estimates                                    |                                                                           |
|-----------------------------------------------------|------------------------------|---------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------------|
|                                                     |                              |                                 | New scenario (applying highest reduction to low end) <sup>c</sup> | Additional new scenario (applying most recently reported HFC consumption) |
| HCFC activities                                     | 451–573                      | 437–564                         | 230–564                                                           | 230–564                                                                   |
| HFC activities                                      | 702–1 053                    | 664–999                         | 625–999                                                           | 479 <sup>d</sup> –999                                                     |
| Institutional strengthening and standard activities | 129                          | 129                             | 129                                                               | 129                                                                       |
| <b>Total</b>                                        | <b>1 282–1 755</b>           | <b>1 230–1 692</b>              | <b>984–1 692</b>                                                  | <b>838–1 692</b>                                                          |

*Abbreviations:* HCFC – hydrochlorofluorocarbon; HFC – hydrofluorocarbon.

<sup>a</sup> Not including project management unit costs.

<sup>b</sup> Including project management unit costs.

<sup>c</sup> Reflecting the largest reduction in the lower end of the funding range among the new scenarios.

<sup>d</sup> Low-end estimate based on a different calculation methodology than the one used to derive all other estimates in the table.

12. In response to the parties' additional suggestions, the task force also provides, in chapters 4 and 5 of its supplementary report, funding estimates for a high-end scenario for low-volume-consuming and very-low-volume-consuming countries, and a high-end scenario for potential additional funding for life-cycle refrigerant management, respectively. Those estimates are provided solely for the consideration of the parties and are not included in the total estimates in table 2.

13. In particular, for low-volume-consuming and very-low-volume-consuming countries, the task force developed a high-end resource allocation scenario for a possible increase in funding estimates for stage II Kigali HFC implementation plans and a new schedule for the distribution of funds across

the three trienniums. This schedule is more front-loaded than schedules A and B presented in the May 2026 report,<sup>2</sup> allocating 60 per cent of funding to the triennium 2027–2029 for stage II Kigali HFC implementation plans for parties without such plans and 90 per cent for parties with such plans. On that basis, the estimated funding requirement for the triennium 2027–2029 therefore amounts to \$28.55 million, compared with \$16.36 million under schedule A and \$4.78 million under schedule B in the May 2026 report.

14. Addressing the capacity of those countries to absorb increased funding, the task force notes that they have generally demonstrated the ability to do so, while recognizing that the capacity to implement funded activities varies among countries.

15. For life-cycle refrigerant management, the report proposes a modular supplementary funding window to support activities not fully covered by HCFC phase-out management plans and Kigali HFC implementation plans, with a particular focus on the transition from basic recovery arrangements to expanded recovery, collection, recycling, reclamation and preparation for destruction. An illustrative high-end estimate for those additional activities is \$52.55 million, which is presented as a reasonable level of implementation support rather than a forecast of actual expenditure.

16. In their discussions under item 4 (a), the parties may wish to consider the information set out in the initial and supplementary reports of the replenishment task force.

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<sup>2</sup> Under schedule A, 60 per cent of stage II Kigali HFC implementation plan funding for parties without such plans is allocated to the triennium 2030–2032 (with no funding in the triennium 2027–2029), while 60 per cent for parties with such plans is allocated to the triennium 2027–2029. Under schedule B, 60 per cent of funding for parties with and without Kigali HFC implementation plans is allocated to the triennium 2030–2032 (with no funding for either group in the triennium 2027–2029).

## Annex\*

## 2026 Report by the Technology and Economic Assessment Panel (Volume 4)

### Supplement to the May 2026 Technology and Economic Assessment Panel replenishment task force report: assessment of the funding requirement for the replenishment of the Multilateral Fund for the period 2027–2029

#### Executive Summary

The replenishment of the Multilateral Fund (MLF) for the Implementation of the Montreal Protocol on Substances that Deplete the Ozone Layer for the 2027–2029 triennium will provide financing to Article 5 (A5) parties for the incremental costs of completing the phase-out of ozone-depleting substances (ODS) and continuing the phase-down of hydrofluorocarbons (HFCs). Annex C, group 1 (hydrochlorofluorocarbons (HCFCs)) and Annex F (hydrofluorocarbons (HFCs)) substances are the only substances under the Montreal Protocol whose consumption and production are still allowed.

- For Annex C, group 1, controlled substances (HCFCs), the compliance target for the 2027–2029 triennium for A5 parties is a 97.5% reduction from baseline by 1 January 2030.<sup>1</sup>
- Annex F controlled substances (HFCs), the compliance targets for the 2027–2029 and the subsequent two triennia for A5 parties are as follows:
  - Group 1 parties: A 10% reduction from baseline by 1 January 2029 and a 30% reduction from baseline by 1 January 2035.
  - Group 2 parties<sup>2</sup>: A freeze of production and consumption by 1 January 2028 and a 10% reduction from baseline by 1 January 2032.

The Thirty-Seventh Meeting of the Parties to the Montreal Protocol (MOP37) adopted decision XXXVII/6 which provided the terms of reference (TOR) for the work of the Technology and Economic Assessment Panel (TEAP) to prepare a report on the appropriate level of the replenishment of the MLF for the triennium 2027–2029. The parties requested the TEAP to prepare a report for submission to MOP38, and presentation to the Open-ended Working Group at its forty-eighth meeting (OWEG48), to enable parties at MOP-38 to take a decision.

The TEAP established a Decision XXXVII/6 Replenishment Task Force (RTF), with members from TEAP, its technical options committees, and outside experts. The RTF presented its “May 2026 TEAP Decision XXXVII/6 Replenishment Task Force Report”<sup>3</sup> (May 2026 Report) at OWEG48 and responded to clarifying questions from parties. Subsequently, the Working Group established a contact group to further consider the report. During the discussions, the RTF provided clarification and additional information to the contact group. The contact group then discussed several topics and agreed on a list of suggestions<sup>4</sup> for additional analysis to be addressed by the RTF in a supplementary report on MLF replenishment for the period 2027–2029.

Table ES.1 indicates the relevant chapters of this report where the suggestions are addressed.

\* The present annex has not been formally edited.

<sup>1</sup> An annual average of 2.5% is restricted to the servicing of refrigeration and air-conditioning equipment existing during 2030–2040. Decision XXX/2 referring to Annex I of the MOP30 report, adjusted this part of Article 5 (as well as 2F) to include other uses, i.e., the servicing of fire suppression and fire protection equipment existing on 1 January 2030; solvent applications in rocket engine manufacturing; and topical medical aerosol for applications for the specialised treatment of burns.

<sup>2</sup> Decision XXVIII/2, para. 2, under the Montreal Protocol refers to Article 5, group 2, parties as Bahrain, India, the Islamic Republic of Iran, Iraq, Kuwait, Oman, Pakistan, Qatar, Saudi Arabia, and the United Arab Emirates.

<sup>3</sup> <https://ozone.unep.org/system/files/documents/TEAP-DecisionXXXVII6-replenishment-TF-report-May2026-RTF-report.pdf>

<sup>4</sup> <https://ozone.unep.org/meetings/48th-meeting-open-ended-working-group-parties/contact-groups/contact-group-replenishment-report>

Table ES.1

**Suggestions/Scenarios: Potential changes to funding requirement for 2027–2029**

| <i>Item</i>                                                                      | <i>Suggestions/Scenarios</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <i>Relevant chapter</i> |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>ExCom-98 Decisions</b>                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |
| 1                                                                                | Adjust all elements of the funding requirements based on relevant decisions taken at the 98th meeting of the Executive Committee and make any additional necessary updates to accurately reflect amounts in approved HCFC Phase-out Management Plans (HPMPs) and Kigali Implementation Plans (KIPs);                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2                       |
| <b>Overall Suggestions</b>                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |
| 2                                                                                | When estimating the funding requirements for HPMPs and KIPs, apply CE factors according to three scenarios: <ol style="list-style-type: none"> <li>one based on historical cost-effectiveness (CEs);</li> <li>a second one based on CE factors for each A5 party over the past 6 years; and</li> <li>a third one based on average funding levels for each A5 party over the past 6 years</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3                       |
| 3                                                                                | <ol style="list-style-type: none"> <li>To request the Panel to present revised funding ranges with alternative scenarios that assess the impact of the following:</li> <li>A low-end scenario based on the most recently reported consumption data for HCFCs and HFCs and a high-end scenario based on established HFC baselines and HCFC remaining eligible consumption</li> <li>Realistic project implementation timelines such as modifying resources allocation schedule A for Stage II KIPs and to take into account rates of ratification for remaining non-parties to the Kigali Amendment</li> <li>HFC-23 mitigation scenarios that account for the ongoing operating costs, IOCs of approved MLF projects</li> <li>A low-end scenario for energy efficiency (EE) (decision 94/60) based on projects included in the business plan of the MLF and a high-end scenario reflecting full utilization of remaining funds in the 94/60 funding window aimed at promoting EE improvements in the context of the HFC phase down in the next triennium</li> <li>The distribution of funding across different levels of country consumption to address the needs of A5 parties to enable compliance is adequately reflected</li> </ol> | 3                       |
| <b>Low Volume Consuming (LVCs) and Very Low Volume Consuming (VLVCs) Parties</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |
| 4                                                                                | To provide a high-end scenario for a possible increase to the funding estimate in the resource allocation tables in chapter 3 for LVC and VLVC countries for Stage II of their KIPs, in consultation with the MLF secretariat, taking into account the capacity of those countries to absorb increased funding                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4                       |
| <b>Lifecycle Refrigerant Management (LRM)</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |
| 5                                                                                | Include a cost estimate for a high-end scenario for the potential funding window to be considered at the 100 <sup>th</sup> ExCom meeting for the period 2027–2029 to support the implementation of national plans developed pursuant to decision 91/66, taking into account that activities to recover, recycle and reclaim refrigerants are also financed under HPMPs and KIPs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5                       |

**Approach to Supplementary Report**

For this supplementary report (September 2026 Report), the RTF's approach was to first update its estimates using the same modelling approach as in its May 2026 Report (TEAP, 2026) with updated data and available information since that report was finalised, including the following:

- ExCom documents and decisions, including cost guidelines, up to and including ExCom-98;
- A7 consumption data as reported to the Ozone Secretariat (OS), as of 17 July 2026;
- Country Programme data submitted to the MLF Secretariat (MLFS), as of 17 July 2026;
- Information provided by the MLFS on approved HCFC Phase-out Management Plans (HPMPs) and Kigali HFC Implementation Plans (KIPs), including agreed reductions from baseline consumption, funding and tranche schedules, project preparation and verification activities, as well as updated information on HFC-23 mitigation and energy efficiency (EE) and the status of funding windows;

- Maintained the classification of low-volume consuming countries (LVCs) based on HCFC and HFC baseline consumption (as presented in Annex 5 of the RTF May 2026 Report);
- RTF continued to rely on the Consolidated Business Plan of the Multilateral Fund for 2026–2028 (BP), as the 2027–2029 Business Plan is not yet available, and would only be available once the MLFS finalises the (pre-session) 2027–2029 business plan;
- Parties' ratification status of the Kigali Amendment (KA), as of 10 August 2026 (Annex 2 of this report);
- Included applicable project management unit (PMU) costs to non-LVC parties (5 % for the largest consuming A5 party, 7% for the next top 10 A5 consuming parties, and 10% for remaining A5 parties) (not included in the RTF May 2026 Report);
- Maintained the estimates for institutional strengthening and standard activities (IS and SA) as in the RTF May 2026 Report; and
- Continued to apply average 9.6% for agency support costs and 15% discount for foreign ownership for manufacturing sectors.

With the above updates, the RTF 2026 Report is referred to as the **“Updated RTF May Report”**.

Once the above updates to funding estimates were made, then RTF addressed the suggestions from OEWG48, described in the remaining chapters of this report.

## UPDATES TO THE RTF MAY 2026 REPORT

Chapter 2 of this report provides further discussion and the updated estimates as in Table ES.2 below based on the above information and assumptions. RTF notes that these updates also incorporate the following suggestions from parties from OEWG48 as in Table ES.1:

- *Adjust all elements of the funding requirements based on relevant decisions taken at the 98th meeting of the Executive Committee and make any additional necessary updates to accurately reflect amounts in approved HPMPs and KIPs;*
- *HFC-23 mitigation scenarios that account for the ongoing operating costs, IOCs of approved MLF projects;*
- *A low-end scenario for EE (decision 94/60) based on projects included in the business plan of the MLF and a high-end scenario reflecting full utilization of remaining funds in the 94/60 funding window aimed at promoting EE improvements in the context of the HFC phase down in the next triennium; and*
- *The distribution of funding across different levels of country consumption to address the needs of A5 parties to enable compliance is adequately reflected.*

Important to note that the model developed by RTF to estimate funding needs already considers the last suggestion, therefore, no further action was taken by RTF to address this suggestion.

The updated ranges of total estimated funding requirements based on the updated information as provided in Chapter 2 for the triennium 2027–2029 are shown in Table ES.2.

Table ES.2

### Updated ranges of total funding requirement for the replenishment of the MLF 2027–2029 (US\$ million)

| 2027-2029 Triennium               | May 2026 Report Estimates <sup>5</sup> | Updated May Report Estimates <sup>6</sup> |
|-----------------------------------|----------------------------------------|-------------------------------------------|
| <b>SUBTOTAL – HCFC ACTIVITIES</b> | <b>451 – 573</b>                       | <b>437 – 564</b>                          |
| <b>SUBTOTAL – HFC ACTIVITIES</b>  | <b>702 – 1 053</b>                     | <b>664 – 999</b>                          |
| <b>SUBTOTAL – IS &amp; SA</b>     | <b>129</b>                             | <b>129</b>                                |
| <b>GRAND TOTAL (US\$ million)</b> | <b>1 282 – 1 755</b>                   | <b>1 230 – 1 692</b>                      |

<sup>5</sup> As of ExCom-97 and information received by TEAP as of 8 April 2026. For HFCs, assuming all parties ratify.

<sup>6</sup> As of ExCom-98 and information received by TEAP as of 15 August 2026. For HFCs, assuming all parties ratify.

The funding ranges for the Updated May Report applied the same HCFC and HFC scenarios and proposed resource allocations as in the RTF May 2026 Report.

- **The updated range for the total estimated funding requirement (including support costs) for the replenishment of the MLF in the 2027–2029 triennium is US\$ 1,230 – 1,692 million<sup>7</sup>.**

## OEWG48 CONTACT GROUP SUGGESTIONS AND RTF APPROACH

In Chapters 3, 4, and 5 of this report, the RTF addresses the suggestions from parties at OEWG48 for additional funding scenarios. Given the varied scenarios requested by parties, the RTF presents these scenarios without presuming which ones the parties may wish to use, combine, or discard. The range of funding for this triennium would then be dependent on these choices. Prior to addressing the OEWG48 **new scenarios**, RTF had consultations with the MLFS to discuss the approach and clarify information the Secretariat provided.

Following parties' guidance and discussions at OEWG48 and understanding the need to present a wider range of funding to guide parties at MOP38, the RTF applied the new CEs (and other parameters requested in the new scenarios), mostly to the low-end of the funding range, unless the suggestion specifically instructs the application to the high-end estimated funding, such as in the suggested new LVCs/VLVCs scenario.

The updates to the RTF May 2026 Report, as presented in Chapter 2, provide the basis for the new scenarios. As an example, the use of the Updated RTF May Report model as a Scenario 1 allowed RTF to compare low-end funding ranges with the new estimates from the OEWG48 suggested scenarios.

RTF named the new scenarios suggested by the OEWG48 as indicated in Table ES.3.

Table ES.3  
**OEWG48 suggestions and new scenarios**

| <i>OEWG48 Suggestions</i>                                                                                                                                                                                                                                                                                                                                                       | <i>New Scenarios</i>     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <b>Overall Suggestions</b>                                                                                                                                                                                                                                                                                                                                                      |                          |
| 1. When estimating the funding requirements for HPMPs and KIPs, apply CE factors according to three scenarios:                                                                                                                                                                                                                                                                  |                          |
| (a) one based on historical cost-effectiveness (CEs);                                                                                                                                                                                                                                                                                                                           | <b>1a: HPMP and KIPs</b> |
| (b) a second one based on CE factors for each A5 party over the past 6 years; and                                                                                                                                                                                                                                                                                               | <b>1b: HPMP and KIPs</b> |
| (c) a third one based on average funding levels for each A5 party over the past 6 years                                                                                                                                                                                                                                                                                         | <b>1c: HPMP and KIPs</b> |
| 2. To request the Panel to present revised funding ranges with alternative scenarios that assess the impact of the following:                                                                                                                                                                                                                                                   |                          |
| (a) A low-end scenario based on the most recently reported consumption data for HCFCs and HFCs and a high-end scenario based on established HFC baselines and HCFC remaining eligible consumption                                                                                                                                                                               | <b>2a: HPMP and KIPs</b> |
| (b) Realistic project implementation timelines such as modifying resources allocation schedule A for Stage II KIPs and to take into account rates of ratification for remaining non-parties to the Kigali Amendment                                                                                                                                                             | <b>2b: KIPs</b>          |
| <b>LVCs and VLVCs</b>                                                                                                                                                                                                                                                                                                                                                           |                          |
| To provide a high-end scenario for a possible increase to the funding estimate in the resource allocation tables in chapter 3 for LVC and VLVC countries for Stage II of their KIPs, in consultation with the MLF secretariat, taking into account the capacity of those countries to absorb increased funding                                                                  | <b>LVCs/VLVCs</b>        |
| <b>LRM</b>                                                                                                                                                                                                                                                                                                                                                                      |                          |
| Include a cost estimate for a high-end scenario for the potential funding window to be considered at the 100 <sup>th</sup> ExCom meeting for the period 2027–2029 to support the implementation of national plans developed pursuant to decision 91/66, taking into account that activities to recover, recycle and reclaim refrigerants are also financed under HPMPs and KIPs | <b>LRM</b>               |

<sup>7</sup> Note: figures may not sum due to rounding.

## ADDRESSING NEW OEWG48 SUGGESTED NEW SCENARIOS

### HCFC New Scenarios

The low-end funding range for all HCFC activities for the 2027–2029 triennium, with 90% resource allocation applied and using as Scenario 1 the “Updated RTF May Report”, is US\$ 437 million, which includes US\$ 408 million for HPMPs (without funding for production sector, project preparation, verification, and EE for LVCs). For the application of the new CEs in scenarios, the estimated funding for the production sector, project preparation, verification, and EE were modelled separately and included in the final funding figures. As these amounts remain constant across all scenarios, they are presented only in the final total funding estimate and do not affect the modelling conditions or the comparison of results among scenarios.

*New Scenarios for HCFCs applying CE factors based on 1a) historical CEs, 1b) CE factors for each A5 party over the past 6 years, and 1c) average funding levels for each A5 party over the past 6 years*

The results of the new estimates calculated for HCFC activities when applying OEWG48 **New Scenarios 1a, 1b, and 1c for HPMPs**, and compared to the Updated RTF May Report estimates are in Table ES.4 below. The three new scenarios are discussed in detail in Chapter 3.

Table ES.4

**Summary of estimated funding 2027–2029 for HCFC phase-out applying New Scenarios 1a, 1b, and 1c and compared to Updated RTF May Report estimates**

(US\$ million)

| <i>HCFCs Consumption and Production Sector Activities for Low-End Scenario 2027-2029 using 90% Resource Allocation Schedule</i> | <i>Updated RTF May Report Estimates 2027-2029 Triennium</i> | <i>New Scenario 1a (CE historical)</i> | <i>New Scenario 1b (CE past 6 years)</i> | <i>New Scenario 1c (CE average funding past 6 years)</i> |
|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------|------------------------------------------|----------------------------------------------------------|
| New Scenarios Reduction                                                                                                         | NA                                                          | 87.10                                  | 201.8                                    | 207.1                                                    |
| <b>Total*</b>                                                                                                                   | <b>437</b>                                                  | <b>350</b>                             | <b>235</b>                               | <b>230</b>                                               |

\*Numbers may differ slightly from figures in Chapter 3 due to rounding.

In summary:

- The impact of the New Scenario 1a-HPMPs (based on the application of historical CE factors) is a **reduction of US\$ 87.10 million** from the “Updated RTF May Report Scenario 1 (low-end)”.
- The impact of the New Scenario 1b-HPMPs (based on CE factors for each A5 party over the past 6 years) is a **reduction of US\$ 201.82 million** from the “Updated RTF May Report-Scenario 1 (low-end)”.
- The impact of the New Scenario 1c-HPMPs (CE based on average funding levels for each A5 party over the past 6 years) is a **reduction of US\$ 207.10 million** from the “Updated RTF May Report-Scenario 1 (low-end)”.

***Additional New Scenario 2a for HCFCs: A low-end scenario based on the most recently reported consumption data for HCFCs and a high-end scenario based on HCFC remaining eligible consumption***

For HCFCs, where the eligible remaining consumption differs from the most recently reported A7 data, the lower of the two values was used in the calculation. The funding estimates and adjustments presented in the “Updated RTF May Report” scenarios and funding ranges, already take this suggestion into consideration. Therefore, the funding estimates presented in the “Updated RTF May Report” are the same for this new scenario.

The new estimated ranges considering all new scenarios are presented in Table ES.5.

Table ES.5

**Summary of estimated funding 2027-2029 for HCFC phase-out applying the lowest funding in a New Scenario, compared to the “Updated RTF May Report” estimates (US\$ million)**

| <i>2027–2029 Triennium</i>        | <i>Updated May Report Estimates</i> | <i>Supplementary Report Estimates Applying New Scenarios</i> |
|-----------------------------------|-------------------------------------|--------------------------------------------------------------|
| <b>SUBTOTAL – HCFC ACTIVITIES</b> | <b>437 – 564</b>                    | <b>230 – 564</b>                                             |

The lowest funding estimate is from applying New Scenario 1c, a reduction of US\$ 207 million, providing the low-end of the estimated funding range for this RTF Supplementary Report, that is US\$ 230 million. The high-end funding estimated of US\$ 564 million is kept the same as in the Updated RTF May Report.

- **The estimated funding range for HCFC activities for the 2027–2029 triennium is US\$ 230–564 million (as in Table ES.5).**

## KIPs New Scenarios

The OEWG48 suggestions for New Scenarios 1 (a, b, and c) were also applied for HFCs. The estimates from the Updated May Report as a Scenario 1 (low-end) for the 2027–2029 triennium were used as the basis to compare with the estimates calculated for the CE-based New Scenarios.

### New Scenario 1a for KIPs (based on historical CEs)

RTF used the information provided by the MLFS on CEs by investment projects (across different manufacturing sectors for approved KIPs) based on 37 HFC conversion projects in 18 parties. The CE values vary widely, from 2.64 US\$/kg for polyurethane (PU) foam to 116.8 US\$/kg for mobile air conditioning (MAC). Chapter 3 details the CEs applied and the way RTF used the information provided by the MLFS. In order to estimate funding based on this new scenario, RTF applied the new sector CEs to the model for the “Updated RTF May Report Scenario 1” (low-end), using the same Resource Allocation Schedules A and B.

- **The impact of applying new Scenario 1a for KIPs using Allocation Schedule A is a reduction of US\$ 65.2 million and using Allocation Schedule B is a reduction of US\$ 38 million, as detailed in Chapter 3.**

The new funding estimates when applying **New Scenario 1a for KIPs** are summarised in Table ES.6.

Table ES.6

**Summary of the 2027–2029 estimated funding for HFC phase-down applying Historical CEs**  
(US\$ million) \*

| <i>HFCs Consumption and Production Sector Activities for Low-End Scenario 1 Allocation Schedules A and B</i> | <i>Updated May Report 2027–2029 Scenario 1 Resource Allocation A</i> | <i>New Scenario 1a (CE Historical) Allocation A</i> | <i>Updated May Report 2027–2029 Scenario 1 Resource Allocation B</i> | <i>New Scenario 1a (CE Historical) Allocation B</i> |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------|
| New Scenario 1a Reduction                                                                                    | NA                                                                   | 65.2                                                | NA                                                                   | 38                                                  |
| <b>Total HFC Activities</b>                                                                                  | <b>962</b>                                                           | <b>896</b>                                          | <b>663</b>                                                           | <b>625</b>                                          |

\*Compared with Updated RTF May Report Scenario 1, low-end. Some numbers may differ slightly due to rounding

### ***New Scenario 1b for KIPs: Based on CE factors for each A5 party over the past 6 years***

It was not feasible for RTF to address this request for lack of information on CE factors for each A5 party over the past 6 years. While CEs for 37 HFC investment projects in 18 countries in the period 2020–2025 were compiled by the MLFS and shared with RTF, the information was used to calculate the estimated funding under Scenario 1a- for KIPs (historical CE). No additional information was available or could be compiled for each party. Many of the 91 approved KIPs are for LVC countries (with only servicing sector).

### ***New Scenario 1c for KIPs: CEs based on average funding levels for each A5 party over the past 6 years***

MLFS provided for each A5 party with approved KIP, the funding level for that KIP for the last 6 years (2020–2025). Information is presented in Chapter 3. From this information, it was not feasible to extract CEs thresholds based on the average funding for each party for the period 2020–2025. The definition of CEs thresholds used by the MLF is sector-based, and generating CEs from funding received in a 6-year period represents a new concept which requires discussion based on proper understanding of its desired output. RTF discussed with the MLFS, and the understanding was that without an ExCom approved metric to define CEs from average funding levels to be applied to all parties, the RTF could only present without further analysis the financial data compiled on the funding amounts per party in the 2020–2025 period. There are a large number of LVCs and smaller countries

with KIPs approved; funding information available for approved KIPs does not include the largest HFC consumption party nor all the G1 parties under the “top 10” cluster consumption category (that did not have a KIP approved as of ExCom-97), and none of the G2 parties who do not have an approved KIP. Therefore, RTF could not derive CEs based on funding information that is missing for a significant number of large consuming parties and therefore cannot be representative of all A5 parties.

Table ES.7 summarises the estimated funding for HFC activities comparing the **New Scenario 1a for KIPs** with the “Updated RTF May Report” and providing a low- and high-end funding range.

Table ES.7

**Summary of estimated funding 2027–2029 for HFC phase-down applying New Scenario 1a and compared to Updated RTF May Report estimates (US\$ million)**

| 2027-2029 Triennium              | Updated May Report Estimates | Supplementary Report Estimates Applying New Scenarios |
|----------------------------------|------------------------------|-------------------------------------------------------|
| <b>SUBTOTAL – HFC ACTIVITIES</b> | <b>664– 999</b>              | <b>625* – 999</b>                                     |

\* New Scenario 1a – CE historical for KIPs with Resource **Allocation B**

Funding ranges for the Updated RTF May Report as in Table ES.2 were selected by considering the low-end and high-end values according to both HFC Scenarios 1 and 2 and their respective Resource Allocations A and B. For this Supplementary Report, ranges considered only Scenario 1 (low-end) of the Updated May Report as the basis for comparison with the New Scenarios low-end ranges.

### Additional New Scenarios for KIPs

***New Scenario 2a for KIPs: A low-end scenario based on the most recently reported consumption data for HCFCs and HFCs and a high-end scenario based on established HFC baselines and HCFC remaining eligible consumption.***

To estimate funding for New **Scenario 2a**, RTF considered the most recently reported A7 HFC consumption data for all parties that had reported data. The Updated RTF May Report methodology considered the Kigali Amendment HFC established baselines. To address Scenario 2a, RTF had to introduce a considerable change in methodology. Nevertheless, for parties *with KIPs approved*, and because RTF cannot modify the funding commitments nor the agreed percentage reductions targets with the ExCom, the new methodology could not be applied. For A5 parties *without KIPs approved*, the most recently reported consumption data for HFCs was used, as requested in **New Scenario 2a**. Chapter 3 presents details on the sector distribution and data used.

- **The funding estimated for New Scenario 2a for KIPs indicated a reduction of US\$ 146 million and US\$ 117 million from the Updated RTF May 2026 report, when applying schedules A and schedule B, respectively.**

Scenario 2a is an illustrative sensitivity scenario and is not directly comparable with the main estimated funding range. It involves a considerable change in methodology, including the use of recently reported consumption for parties without KIPs, while approved KIPs are not recalculated because their funding commitments and agreed reductions have already been established.

***New Scenario 2b for KIPs: Realistic project implementation timelines such as modifying resources allocation schedule A for Stage II KIPs and to take into account rates of ratification for remaining non-parties to the Kigali Amendment.***

RTF modified the Resource Allocation Schedule A (from RTF May Report) to account for a series of proposed new percentage allocations for the 2027–2029 triennium, using a reduced pace for the introduction of Stage II KIPs, and for the ratification pace applied to the non-parties to the KA (as of 10 August 2026) in both G1 and G2 groups. The new suggested allocation for the consideration of parties is shown in Chapter 3.

- **Modifying the KIPs Stage II Resource Allocation Schedule A percentages results in a reduction of US\$ 24.9 million, when compared with the estimated funding for the “Updated RTF May Report, Scenario 1” Resource Allocation A.**

## Additional Information and Scenarios on LVCs/VLVCs and LRM

**New Scenario LVCs/VLVCs:** “to provide a high-end scenario for a possible increase to the funding estimate in the resource allocation tables in chapter 3 for LVC and VLVC countries for Stage II of their KIPs, in consultation with the MLF secretariat, taking into account the capacity of those countries to absorb increased funding”.

Chapter 4 addresses in detail the suggestions from parties at OEWG48 related to low-volume-consuming and very low-volume consuming (LVC/VLVC) countries. The calculation for the 2027–2029 triennium for a possible increase in resource allocation in comparison to resource allocation schedules A and B of the May 2026 RTF report is shown in Table ES.8.

Table ES.8

**Estimated funding for the High-end Resource Allocation New Scenario for KIPs for the 2027–2029 triennium for LVCs/VLVCs (US\$ million)**

| Status        | Total Funding | Resource Allocation<br>Schedule A<br>Updated May Report | Resource Allocation<br>Schedule B<br>Updated May Report | High-end<br>Supplementary<br>Report |
|---------------|---------------|---------------------------------------------------------|---------------------------------------------------------|-------------------------------------|
| <b>Total*</b> | <b>34.35</b>  | <b>16.36</b>                                            | <b>4.78</b>                                             | <b>28.2</b>                         |

\*The total (of 73 LVCs/VLVCs) does not consider the 10 countries that have 30% or more reduction in Stage I of the KIP.

**The US\$ 28.2 million estimated represents 82% of the total funding for Stages I and II. In this scenario, the resource allocation for the 2027–2029 triennium is increased by 73% over resource allocation schedule A, and by 491% over resource allocation schedule B of the updated May 2026 RTF Report.**

RTF consulted with the MLFS and also discussed, to a limited extent, due to lack of available information, the ability of LVCs/VLVCs to absorb increased funding. The RTF notes that these countries have generally been able to absorb increased levels of funding; however, this capacity varies across countries. Over time, LVCs have absorbed additional funding due to changes in funding level, concurrent implementation of several projects, changes in resource allocation allowing front loading, and to implement additional new activities and projects. Additionally, the harmonisation of activities under the HPMPs and KIPs has allowed the countries and the implementing agencies to optimise their processes and maximise delivery.

**New Scenario LRM:** “Include a cost estimate for a high-end scenario for the potential funding window to be considered at the 100<sup>th</sup> ExCom meeting for the period 2027–2029 to support the implementation of national plans developed pursuant to decision 91/66, taking into account that activities to recover, recycle and reclaim refrigerants are also financed under HPMPs and KIPs.”

RTF addresses the OEWG48 suggestion from parties related to life-cycle refrigerant management (LRM) in Chapter 5. RTF presents a modular approach to calculating the additional funding for implementing the national LRM action plans, designed to complement existing HPMPs and KIPs in supporting the phase-out and phase-down of controlled substances under the Montreal Protocol.

Most servicing-sector infrastructure, training, and institutional strengthening are expected to continue to be funded through HPMPs and KIPs. The proposed supplementary LRM funding window would address critical gaps that prevent countries from transitioning from planning and basic recovery toward scaled recovery, aggregation, recycling, reclamation, and preparation for destruction.

The modular approach considers the different activities needed for LRM, including recovery and collection, reclamation and destruction. The approach allows parties to select interventions based on their level of system development and priority gaps.

Table ES.9 provides a summary of the estimated high-end new scenario cost estimate for LRM activities for a potential funding window for 2027–2029 (more detail and information in Annex 6). It represents a reasonable level of implementation support rather than a forecast of actual expenditure. Annex 6 provides information on the RTF cost model for evaluating the additional costs associated with the different LRM activities.

Table ES.9

**Summary of high-end new scenario cost estimate for LRM activities based on RTF cost model**

| <i>Module</i> | <i>LRM Activities</i>                | <i>Additional funding required for A5 parties (US\$ million)</i> |
|---------------|--------------------------------------|------------------------------------------------------------------|
| Module 1a     | Improved recovery rates at servicing | 18.21                                                            |
| Module 1b     | Recovery at end-of-life (EOL)        |                                                                  |
| Module 2a     | Reclamation                          | 25.92                                                            |
| Module 2b     | Export                               | 7.42                                                             |
| Module 3a     | Destruction                          | 1.00                                                             |
| <b>Total</b>  |                                      | <b>52.55</b>                                                     |

**The estimated high-end new scenario for a potential funding window for 2027-2029 triennium is US\$ 52.55 million.** This is meant to be an illustrative estimate to implement long-term LRM measures identified through national inventories and action plans prepared under Decision 91/66. Sources of potential funding for these activities would be for the consideration and decision of parties.

### **SUMMARY OF UPDATED RANGES OF TOTAL FUNDING REQUIREMENT BASED ON SUGGESTED NEW SCENARIOS**

Table ES.10 summarises the updated ranges of total funding requirements for 2027–2029 and the reduction impact of the application of the new parameters in different scenarios, as suggested by parties at OEWG-48.

Table ES.10

**Updated ranges of total funding requirements for the replenishment of the MLF 2027–2029 with Application of New Suggested Scenarios (US\$ million)**

| <i>2027–2029 Triennium</i>        | <i>May 2026 Report* Estimates<sup>8</sup></i> | <i>Updated May Report Estimates<sup>9</sup></i> | <i>Supplementary Report Estimates applying highest reduction from New Scenarios to low-end**</i> | <i>Supplementary Report Estimates applying Scenario 2a (most recently reported HFC consumption)</i> |
|-----------------------------------|-----------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| <b>SUBTOTAL – HCFC ACTIVITIES</b> | <b>451 – 573</b>                              | <b>437 – 564</b>                                | <b>230 – 564</b>                                                                                 | <b>230 – 564</b>                                                                                    |
| <b>SUBTOTAL – HFC ACTIVITIES</b>  | <b>702 – 1 053</b>                            | <b>664 – 999</b>                                | <b>625 – 999</b>                                                                                 | <b>479***– 999</b>                                                                                  |
| <b>SUBTOTAL – IS &amp; SA</b>     | <b>129</b>                                    | <b>129</b>                                      | <b>129</b>                                                                                       | <b>129</b>                                                                                          |
| <b>GRAND TOTAL (US\$ million)</b> | <b>1 282 – 1 755</b>                          | <b>1 230 – 1 692</b>                            | <b>984 – 1 692</b>                                                                               | <b>838 – 1 692</b>                                                                                  |

\*RTF May 2026 Report did not include applicable costs of PMUs. Updated May 2026 Report included PMU costs.

\*\*Based on highest reduction amongst Scenarios 1a, 1b, or 1c.

\*\*\*US\$ 146 million reductions as result of application of Scenario 2a, *noting the different calculation methodology which is not directly comparable with the one used in the Updated RTF May Report.*

RTF provided scenarios for the further consideration by parties for the high-end of the range of the 2027–2029 triennium for the possible increase in the resource allocation for LVCs/VLVCs (US\$ 28.2 million, as in Table ES-8), and the potential funding window for LRM (US\$ 52.55 million as in table ES-9) to be considered at ExCom-100.

<sup>8</sup> As of ExCom-97 and information received by TEAP as of 8 April 2026. For HFCs, assuming all parties ratify. May 2026 Report did not include PMU costs. Updated May report includes PMUs.

<sup>9</sup> As of ExCom-98 and information received by TEAP as of 15 August 2026. For HFCs, assuming all parties ratify KA. PMU costs applied.