

## Funding a Strong Foundation for Continued Success

### EIA Comments to the 42<sup>nd</sup> Open-Ended Working Group (OEWG-42) TEAP Replenishment Task Force Report

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## INTRODUCTION

The Montreal Protocol has a vital role to play in addressing climate change as it becomes increasingly clear that we are currently not on the pathway to limit global temperature rise to below 1.5° Celsius. In these unprecedented times, this online meeting of the 42<sup>nd</sup> Open-Ended Working Group (OEWG-42), Parties will be considering several key issues. First and foremost, a strong replenishment of the Multilateral Fund is a crucial opportunity to maximize climate benefits of Montreal Protocol actions by encouraging leapfrogging of HFCs and laying a strong foundation for the Kigali Amendment implementation. Other important agenda items to achieve progress on this year include the interconnected discussions on the unexpected CFC-11 and HFC-23 emissions and the overdue reforms to the Montreal Protocol mechanisms and institutions.

## TEAP REPLENISHMENT TASK FORCE REPORT

### I. HCFC PHASE-OUT: FUNDING REQUIREMENTS

In the 2021-2023 triennium, the vast majority of the funding requirements to progress on the HCFC phase-out should be funded as a matter of course to continue incremental progress toward the 67.5% reduction in 2025. The discretion related to funding is limited to three main categories of funding:

#### HCFC RTF Estimated HPMPs

In order to achieve the incremental progress of 54.5% in 2023, the Replenishment Task Force (RTF) estimates that 15 parties need additional projects for a total of \$24,313,000. These projects, to the extent not initiated before 2021, should be included. However, to achieve a 67.5% reduction additional projects will be required by 32 parties for a total of \$103,036,000. EIA makes the following observations.

- **First**, unlike the 15 parties requiring additional projects, RTF does not identify the 32 parties requiring additional projects. This information should be provided.
- **Second**, as a matter of policy, the Montreal Protocol should promote early action to phase out HCFCs in full recognition that parties may also elect to phase out on schedule. The question therefore becomes whether there is a way to gauge which parties plan to seek approval for projects to achieve the 67.5% target during the next triennium, which should be encouraged. Similar to funding for enabling activities under the Kigali Amendment, one approach could be to request a letter of intent from the 32 parties and, where such intention is expressed, funding be made available.

#### HCFC Production Sector HPPMPs

China should receive the funding committed in 2020. Otherwise funding should be on the high-end of the range to make up for this shortfall.

### **Indicative Figures for Transition to Low- and Zero-GWP Alternatives**

It is unclear what value the indicative figures provided by the RTF have from a policy perspective. The RTF should instead consider a sectoral approach to leapfrogging, *i.e.* provide indicative figures for transition to low-GWP technologies (GWP 15 or below) in different sectors across all countries and regions, building on the approach to foams and chillers. It should be noted that action to leapfrog during the first two years of the 2021-2023 triennium has the added benefit of reducing the HFC component of the HFC baseline and particular attention should be afforded to high-consuming sectors, such as refrigeration and air-conditioning.

## **II. HFC PHASE-DOWN: FUNDING REQUIREMENTS**

Throughout the negotiations that led to the Kigali Amendment, non-A5 Parties promised sufficient funding to support A5 Party implementation of any agreed control measures on HFCs.

### **RTF Approach to Estimate Total HFC Phase-Down Costs Methodology**

For the first time, we are presented with figures on the HCFC component of the HFC baseline. Combined with business-as-usual (BAU) for HFC consumption during 2020-2022 for A5 Group 1 Parties and 2024-2026 for A5 Group 2 Parties, it is now possible to estimate the HFC baseline for A5 Parties: 1,747 MMTCO<sub>2</sub>e. In tandem with the indicative total cost of the HFC phase-down of \$4,120,800,000, it is also now possible to estimate cost-effectiveness: \$3.39/mt CO<sub>2</sub>e. These figures have two important implications.

- **First**, it underscores the need for an adjustment of the HFC phase-down. At the time of adoption, much was unknown about the HFC baseline in the Kigali Amendment, including both the HCFC and HFC components. In the intervening years, it is now clear that the HCFC component is too generous: the HFC baseline for A5 Group 1 Parties at the time of the first control measure (freeze) in 2024 *exceeds* BAU until at least sometime after 2026.<sup>1</sup> In other words, no controls are required from A5 Group 1 Parties until years after the first control measure was set to take place, even more egregious given the significant advances in and commercialization of low- and zero-GWP technologies since adoption of the Kigali Amendment. Moreover, a similar conclusion on the need for an adjustment could also be drawn for most non-A5 Parties by simply comparing the action required of them to that taken by the European Union (EU) under the EU F-Gas Regulation.
- **Second**, it underscores the feasibility and cost-effectiveness of additional action in the coming years to avoid irreversible tipping points and feedback loops (flatten the curve). The commonly used 100-year time horizon (GWP<sub>100</sub>) for the global warming potential (GWP) metric massively understates the climate impact of HFCs on the climate system in the near-term. The GWP of widely used HFC-134a is almost tripled to 3,700 when measured over a 20-year period compared to the 100-year period.<sup>2</sup> Using GWP<sub>20</sub> raises serious questions about the recent uptake of so-called mid-GWP HFCs, such as HFC-32, which has a GWP<sub>20</sub> of 2430, almost four times higher than its GWP<sub>100</sub> value and hundreds of times higher than its low-GWP replacement in air-conditioning, propane.<sup>3</sup> While the Kigali Amendment has committed governments to phase down HFCs, faster action to flatten the curve is both feasible and cost-effective.

### **Special Needs of LVC and VLVC Countries**

Capacity-building and training are closely related to compliance, providing the skills, knowledge and tools to individuals and governments to implement their obligations and commitments competently and with greater effectiveness.<sup>4</sup> In the report *Post-Rio+20 Review of Environmental Governance within the United Nations System* (2014), the Joint Inspection Unit (JIU) identifies the lack of “dedicated resources for capacity-building” as a major shortcoming in all multilateral environmental agreements with the exception of the Montreal Protocol, widely considered to be the most

successful.<sup>5</sup> Against this background, the Montreal Protocol should continue its strong commitment to capacity-building and training, in particular by supporting “maintain and build” and non-investment projects in support of the servicing sector. RTF estimated US \$57.5 million in this triennium would be required for these purposes in LVC and VLVC countries (Bracket E), and EIA strongly supports the inclusion of this funding stream.

#### **Kigali Ratification Assistance**

Ratification assistance should be made available to interested Parties that have not yet received it.

#### **Opportunities for Early Activities Addressing the High Growth Rate of HFCs**

EIA supports funding early activities to avoid HFC growth to the maximum extent possible both to “close the tap” and transform the marketplace to low-GWP products among end-users. EIA makes the following additional observations:

- **First**, the Montreal Protocol should advance a sectoral approach to addressing the high growth of HFCs, one that aligns leapfrogging to low- and zero-GWP alternatives in the context of the HCFC phase-out (discussed above). For example, in smaller air-conditioning systems, it is no secret that the optimal solution from a climate perspective—both in terms of direct and indirect emission reductions—is propane. While the Montreal Protocol should support efforts to avoid high-GWP HFC-410A in these units, it should not do so by simply transitioning to mid-GWP HFCs, such as HFC-32 and various HFC blends, but instead promote and fund a transition to the optimal solution. In other words, focusing exclusively on avoiding high-GWP HFCs while allowing use of mid-GWP HFCs when low- and zero-GWP alternatives are available is not “closing the tap.” It is more analogous to “turning down the tap” and is in no way responsive to the climate emergency. Addressing the high growth rate of HFCs by leapfrogging to low- and zero-GWP alternatives should be pursued as part of a concerted strategy to “close the tap.”
- **Second**, Parties should pay particular attention to hot spots for the dumping of high-GWP HFC-based equipment in A5 Parties, as is the case in Africa.<sup>6</sup> RTF found that:<sup>7</sup>

[G]rowth in high-GWP HFCs is also an inadvertent side effect of the introduction of Minimum Performance Standards (MEPS) solely focused on improving energy efficiency without wider consideration of the climate impact from the high GWP of the refrigerants and blowing agents. This is resulting in the “dumping” of high-GWP HFC technology in A5 countries.... with a much larger overall long-term cost to phase them down.

RTF states that the “most powerful activity to avoid growth is to stop manufacturing of high-GWP products in A5 Parties.<sup>8</sup> While this is a measure to be explored in manufacturing countries, consuming countries subject to dumping should couple MEPS with bans on new equipment with GWP greater than a threshold, for example GWP 15 or greater.

#### **HFC-23 By-Product Emissions**

For purposes of HFC-23 by-product destruction, Parties should defer consideration of funding for Mexico and Argentina until there is further clarity at ExCom. EIA notes that the long-term sustainable approach to HFC-23 by-product mitigation is to shut down HCFC-22 production facilities and, where HCFC-22 production continues to occur, to require facilities to internalize the costs of destruction. Indeed, as India has argued, to the extent HCFC-22 production does occur, it should be controlled “by the producers of HCFC-22 on their own cost as a negative environmental externality both in non-A5 and A5 countries.”<sup>9</sup> However, the full scope of the issues related to HFC-23 by-product emissions does not appear to be explored in the TEAP Replenishment Task Force Report, especially in light of the recent Nature article titled *Increase in Global Emissions of HFC-23 Despite Near-Total Expected*

*Reductions* that revealed unexpected HFC-23 emissions of 309 Mt CO<sub>2</sub>e.<sup>10</sup> Article 2J(6) of the Montreal Protocol requires:

Each Party manufacturing Annex C, Group I, or Annex F substances shall ensure that for the twelve-month period commencing on 1 January 2020, and in each twelve-month period thereafter, its emissions of Annex F, Group II, substances generated in each production facility that manufactures Annex C, Group I, or Annex F substances are destroyed to the extent practicable using technology approved by the Parties in the same twelve-month period.

To this end, it would be useful for the TEAP Replenishment Task Force Report to include figures on HFC-23 by-product verification for the next triennium, as it did for HPMP verification.<sup>11</sup> Given the very-high-GWP of HFC-23, verification of compliance with Article 2J(6) should be a part of the funding made available already in the next triennium. In addition, EIA makes the following additional observations:

- **First**, HCFC-22 is used as an intermediate product or feedstock for certain production pathways of HFC-32 and HFC-1234yf.<sup>12</sup> HCFC-22 is also used as a feedstock for the production of tetrafluoroethylene (TFE or CAS 79-01-6), which is associated with HFC-125 and HFC-227ea.<sup>13</sup> In other words, HFC-32, HFC-1234yf, HFC-125 and HFC-227ea—components in the vast majority of HFC blends—could all potentially be implicated in the unexpected HFC-23 emissions.
- **Second**, taken in tandem with the unexpected CFC-11 emissions, the unexpected HFC-23 emissions reveal that Montreal Protocol mechanisms and institutions are outdated and need major reforms to ensure sustainable reductions.<sup>14</sup> This portends significant challenges ahead as the HCFC phase-out takes hold in A5 Parties (35% reduction in 2020 and 67.5 % reduction in 2025), creating HCFC shortages in a broad range of sectors.
- **Third**, it also speaks to the need for a review of reporting and other measures for feedstocks of ozone-depleting substances, especially HCFC-22, which heretofore have avoided scrutiny under the Montreal Protocol but which can easily be diverted from feedstock use to illegal use.
- **Fourth**, with the upcoming HFC phase-down fast-approaching with a freeze in 2024, Parties have still not yet meaningfully reviewed whether the existing monitoring, reporting, verification and enforcement (MRV+E) regime and atmospheric monitoring are fit to cope with the proliferation of HFC blends under an HFC phase-down or detect illegal behavior. The HFC phase-down poses a host of unique challenges.

### **Institutional Strengthening and Standard Activities**

Based on country interviews and the additional workload expected, in particular during the next triennium as we prepare for the freeze for A5 Parties Group 1 in 2024, EIA supports hypothetical scenario C.

## **CONCLUSION**

Many Article 5 countries have argued for greater funding to expedite the HCFC phase-out and to enable whole sectors to leapfrog the use of HFCs. During replenishment negotiations, Parties should be mindful of the need to avoid locking countries into costly short-term transitions to HFCs. Adopting a robust replenishment now will contribute to a faster and more cost-effective HFC phase-down overall. While replenishment constitutes the most “essential work” of this meeting, broader discussion of institutional reforms must not be delayed and kicked further down the road. The success of the Montreal Protocol, and our ability to prevent catastrophic climate change, depend on it.

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## References

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- <sup>2</sup> Source [https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf)
- <sup>3</sup> Source [https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf)
- <sup>4</sup> Joint Inspection Unit, *Post-Rio+20 Review of Environmental Governance within the United Nations System, JIU/REP/2014/4* (Geneva, 2014), p. 14, available at <https://www.undocs.org/en/jiu/rep/2014/4>.
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- <sup>6</sup> See Clasp, *Environmentally Harmful Dumping of Inefficient and Obsolete Air Conditioners in Africa* (June 2020), available at <https://clasp.ngo/publications/environmentally-harmful-dumping-of-inefficient-and-obsolete-air-conditioners-in-africa>.
- <sup>7</sup> TEAP Replenishment Task Force Report, p. 33.
- <sup>8</sup> TEAP Replenishment Task Force Report, p. 33.
- <sup>9</sup> See Document UNEP/OzL.Pro/ExCom/79/48/Add.1, *Addendum to Key Aspects Related to HFC-23 By-Product Control Technologies* (Decision 78/5, 16 June 2017), available at <http://www.multilateral.fund.org/79/English/1/7948a1.pdf>.
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- <sup>11</sup> TEAP Replenishment Task Force Report, p. 14.
- <sup>12</sup> European Commission, *F-Gas Regulation (Regulation (EU) No 517/2014): Technical Advice to Member States on implementing Article 7(2) - Discussion Paper* (October 2015), p. 3 (emphasis added), available at [https://ec.europa.eu/clima/sites/clima/files/f-gas/docs/151023\\_hfc23\\_byproduction\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/f-gas/docs/151023_hfc23_byproduction_en.pdf).
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- <sup>14</sup> See EIA, *Blowing It: Illegal Production and Use of Banned CFC-11 in China's Foam Blowing Industry*, available at <https://eia-international.org/report/blowing-it/> and <https://eia-global.org/reports/20180709-blowing-it-illegal-production-and-use-of-banned-cfc-11-in-chinas-foam-blowing-industry>; see also EIA, *Tip of the Iceberg: Implications of Illegal CFC Production and Use*, available at <https://eia-international.org/report/tip-of-the-iceberg-implications-illegal-cfc-production-use/> and <https://eia-global.org/reports/20181102-tip-of-the-iceberg>.