EIA Briefing to the Third Half-Day Session on Strategic Approaches to Kigali Amendment Implementation

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In the context of the escalating climate crisis—as rising global temperatures continue to drive growing demand for cooling technologies that contribute to further warming—it is vital that members of the Executive Committee (ExCom) pursue the HFC phase-down with urgency and ambition, working to enhance and facilitate compliance and maximise the contribution of the Multilateral Fund (MLF) to sustainable cooling. As such, EIA welcomes this third half-day session on strategic approaches to Kigali Amendment implementation.

The two previous informal half-day sessions have already brought several key implementation challenges into focus. Access to affordable, low-GWP alternatives remains a central concern for Article 5 (A5) Parties, many of which rely on the MLF to support technology transfer and capacity development.[1] Ensuring that these technologies are not only available but also effectively adopted requires sustained investment in training, institutional strengthening and the development of regulatory standards. There has also been a strong recognition of the need to pair the HFC phase-down with improvements in energy efficiency, to focus on sectoral approaches that target end-users, and to coordinate action across government, industry and civil society to accelerate the transition to sustainable cooling solutions.

As countries continue to advance the implementation of the Kigali Amendment, EIA underscores the need for ExCom to take a comprehensive approach that addresses the growing challenge of implementation in A5 countries. With most A5 countries now managing the simultaneous phase-out of HCFCs and the HFC freeze, a carefully coordinated strategy is essential to prevent environmental backsliding, mitigate illegal trade risks and unlock sustainable cooling solutions.

To this end, EIA recommends that a comprehensive and strategic approach to the HFC phase-down under A5 countries' Kigali Implementation Plans (KIPs) should consist of three main pillars:

1) A comprehensive legislative framework addressing HFCs through the supply chain, including a robust electronic licensing and refrigerant tracking systems, early bans on the use of HFCs in new equipment and products, mandatory training and certification in climate-safe refrigerants for installers and servicing technicians, and an effective enforcement regime, including bans on disposable cylinders, backstopped by persuasive penalties;

2) A strategic approach that identifies the sectors and subsectors with the highest current and projected future demand, facilitating early bans on new equipment and products, thus avoiding a scenario in which servicing needs become unmanageable or equipment must be retired before the end of its useful life;

3) Demand-side action to reduce demand for virgin HFCs, including strong lifecycle refrigerant management (LRM) measures, end-user incentives and corporate accountability through mandatory public reporting standards and the required adoption of best practices. Since many F-gases, including HFOs, fall under the definition of per- and polyfluoroalkyl substances (PFAS), or break down in the atmosphere into substances that do, it is also important to establish early market signals for natural refrigerants wherever possible.[2]

EIA recommends that the ExCom support A5 countries in leapfrogging from HCFCs and high-GWP HFCs directly to non-fluorinated, natural refrigerant and passive cooling alternatives. Natural refrigerants such as hydrocarbons, ammonia and CO_2, as well as passive cooling techniques including shading, insulation and solar chimneys, offer an increasing array of viable alternatives across a wide range of applications.[3] These alternatives not only offer very low- or zero-GWP options—and in the case of passive cooling, often operate without any energy demands—but also avoid the feedstock and byproduct emissions, and other persistent pollution concerns associated with many fluorinated gases (F-gases).[4]

By implementing these three pillars through their KIPs, A5 countries can align with international best practices, and mirror the ambition of recent legislative developments such as the EU's 2024 F-gas Regulation, which demonstrates that a rapid transition away from F-gases is technically and economically feasible when supported by clear market signals.[5]

A sectoral framework to incentivise leapfrogging

A model which could be used to incentivise leapfrogging within KIPs has already been demonstrated by ExCom Decisions 92/37 and 92/44, which offer additional funding to countries that propose to reduce HFC consumption in advance of Montreal Protocol targets.[6] Additional funding could be offered to A5 countries proposing a transition to non-fluorinated alternatives and not-in-kind technologies, in line with the sectoral approach advanced by ExCom members during the previous informal half-day sessions.

As an example, in low volume consuming countries (LVCs), the extremely high-GWP R-404A accounts for 34.4 per cent of consumption.[7] R-404A is primarily used in commercial and industrial refrigeration, in places such as supermarkets, warehouses and food storage facilities. These are applications for which multiple low-GWP, natural refrigerant alternatives are available.[8] A transition to such alternatives, guaranteed under a country's KIP by corresponding import and placing on the market bans in new equipment, and supported by training and capacity building to ensure safe handling, installation and servicing by technicians, would provide a clear pathway that avoids locking-in additional servicing demand and bypasses any need for a future transitions in the same sector.

For existing equipment in supermarket systems, there is also the possibility to retrofit R-404A or R-507A systems with alternative HFCs with a much lower GWP. Demand-side action in larger supermarket estates should include an R-404A management plan, whereby the older systems reaching end of life are replaced with CO_2 or other natural refrigerant technologies, and the R-404A recovered from the systems being retired can be reclaimed and reused to service the remaining fleet.

EIA recognises that Parties are granted flexibility in how they pursue the HFC phase-down under the Kigali Amendment, and that a principle of "technology neutrality" has traditionally guided the decisions of the Executive Committee. It is important to stress, however, that incentivising a particular course of action does not impinge on any Party's flexibility to choose a different approach, nor does technology neutrality mean that the fundamental precautionary principle—a cornerstone of the Montreal Protocol—should be ignored. Indeed, a truly technology neutral approach should consider both the widespread concerns around irreversible PFAS pollution, and the significant barriers that A5s face in accessing patented next-generation fluorinated chemicals, which have been consistently beset by price, availability and supply-chain issues.[9]

To ensure such an approach will require the Executive Committee to adopt certain changes to its practices to meet the needs of A5 Parties, which have significantly increased with the adoption of the Kigali Amendment. EIA notes that in 2013, at the start of the HCFC freeze, A5 countries reported consumption of 434,867 tonnes of just eight individual HCFCs, with more than 96 per cent of the consumption being HCFC-22 and HCFC-141b.[10] In contrast, in 2022, as Group 1 A5 Parties prepared for the 2024 HFC freeze, A5 countries reported consumption of 644,832 tonnes of 58 individual HFC and HFC blends, with GWPs varying from 124-14,800, in addition to ongoing HCFC consumption.[11]

These blends are used in multiple applications posing considerable challenges for national monitoring, reporting and verification (MRV). This, together with the fact that the HFC phase-down is being undertaken in conjunction with the final cuts in HCFC consumption, sets the scene for significant implementation challenges and illegal trade.

Revisiting the Indicative List of Categories of Incremental Costs

Noting the above, it is clear that A5 Parties will require additional funding over and above the levels previously received, and for additional activities. To this end, the ExCom should consider updating the Indicative List of Categories of Incremental Costs which was agreed at the Second Meeting of the Parties and has not been changed since.[12] For example, the ExCom should ensure that funding guidelines are suitable to enable financial support for the following activities:

- technology upgrades to enhance energy efficiency;
- regional testing centres;
- innovative district cooling and heating;
- production of non-fluorinated, natural refrigerants (without it being tied to the conversion of existing HFC production facilities, so that natural refrigerant production can be set up if required in countries which do not currently have fluorochemical production).

In conclusion, EIA urges the Executive Committee to seize this pivotal moment to drive an ambitious and forward-looking approach to the HFC phase-down under the Kigali Amendment. By supporting A5 countries in leapfrogging to natural refrigerants and sustainable cooling, and by aligning financial incentives with best-practice strategies, the ExCom can deliver on both climate and sustainable development goals. This strategic direction not only upholds the principles of the Montreal Protocol but also ensures that the global transition to climate-friendly cooling is equitable, effective and enduring.

References

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[11] Multilateral Fund Secretariat. Country programme data and prospects for compliance. 2025. UNEP/OzL.Pro/ExCom/96/5

[12] Ozone Secretariat. Annex IV - Appendix I: Indicative list of categories of incremental costs. Accessible at: https://ozone.unep.org/meetings/second-meeting-parties-montreal-protocol/decisions/annex-iv-appendix-i-indicative-list

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