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**DESK STUDY
FOR THE EVALUATION OF ENABLING ACTIVITIES FOR HFC PHASE-DOWN**

¹ UNEP/OzL.Pro/ExCom/92/1

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ABBREVIATIONS

| | |
|--------|---|
| ASEAN | Association of Southeast Asian Nations |
| CAP | Compliance Assistance Programme |
| ECOWAS | Economic Community of West African States |
| GWP | Global-Warming Potential |
| HCFC | Hydrochlorofluorocarbon |
| HFC | Hydrofluorocarbon |
| HPMP | HCFC phase-out management plan |
| HS | Harmonized System |
| IA | Implementing agency |
| KA | Kigali Amendment |
| KIP | Kigali HFC implementation plan |
| LVC | Low-volume-consuming (countries) |
| MP | Montreal Protocol |
| MEPS | Minimum Energy Performance Standards |
| MLF | Multilateral Fund for the Implementation of the Montreal Protocol |
| NOU | National Ozone Unit |
| ODP | Ozone Depleting Potential |
| ODS | Ozone Depleting Substance |
| RAC | Refrigeration and air-conditioning |
| TOR | Terms of Reference |
| UNDP | United Nations Development Programme |
| UNEP | United Nations Environment Programme |
| UNIDO | United Nations Industrial Development Organization |
| WB | The World Bank |
| WCO | World Customs Organisation |

EXECUTIVE SUMMARY

Background and scope of study

1. After the adoption of the Kigali Amendment to the Montreal Protocol in October 2016, the Executive Committee accepted with appreciation, at its 77th meeting, the additional contributions to the Fund announced by a number of non-Article 5 Parties. The contributions were intended to provide fast-start support for the implementation of the Kigali Amendment, noting that such funding was one-time in nature and would not displace donor contributions.

2. The additional contributions were to be made available for Article 5 countries that had HFC consumption baseline years from 2020 to 2022 and that had formally indicated their intent to ratify the Kigali Amendment and take on early HFC phase-down obligations with the purpose of supporting their enabling activities (decision 77/59(d)(ii)). Furthermore, a number of countries received regular funding from the Multilateral Fund to undertake enabling activities. At the 79th meeting, the Executive Committee agreed to the guidelines for the funding of enabling activities to support the phase-down of HFCs for Article 5 countries.²

3. At its 88th meeting, the Executive Committee approved the monitoring and evaluation work programme for 2022, which included a desk study for the evaluation of enabling activities for HFC phase-down (decision 88/10), to be presented in 2023 to the Executive Committee.³ The scope and coverage of the desk study is defined by the terms of reference (TOR) approved by the Executive Committee.⁴ The present desk study focuses on issues related to the design and implementation of projects involving enabling activities, and their results in terms of effect in the recipient countries on ratification (or preparedness for) and preparation for the implementation of the Kigali Amendment. The analysis is structured around the components of enabling activities as defined in the Guide for the submission of enabling activities prepared by the Multilateral Fund Secretariat for use by the implementing agencies.

Methodology

4. The draft desk study has been prepared by an international consultant with relevant expertise on the technical matter, under the supervision of the Senior Monitoring and Evaluation Officer (SMEO). The consultant was provided with the relevant documentation from the Multilateral Fund Secretariat and followed guidance from the SMEO to determine the size and contents of the sample to be reviewed for the evaluation. Internal consultation helped frame the final sample and the criteria to select the projects to be reviewed.

5. By 31 December 2022, 88 final country reports⁵ for enabling activities had been submitted to the Secretariat. The selection of projects to be reviewed considered the following parameters: (a) regional distribution; (b) intra and inter-regional language diversity; (c) size and type of countries; (d) level of consumption baseline and funding; (e) representation of bilateral and implementing agencies; (f) modalities of implementation (single agency vs. joint implementation); (g) the proportion of total enabling-activity funding represented by the projects in the sample; and (h) status of ratification of the Kigali Amendment. This resulted in a sample of 44 final country reports with diverse profiles. A detailed description of the sample is provided in Annexes I and II.

² UNEP/OzL.Pro/ExCom/79/47 and decision 79/46

³ UNEP/OzL.Pro/ExCom/91/11/Rev.1

⁴ UNEP/OzL.Pro/ExCom/90/8/Rev.1

⁵ Enabling activities were funded in 138 countries through 158 projects under single or joint implementation.

6. In preparing the desk study, the consultant contacted implementing agencies when required for clarification on specific information. The final advanced draft was shared by the SMEO with the Secretariat and bilateral and implementing agencies, for data validation and expert review. Their comments were taken into consideration in finalizing the draft, which underwent a final internal peer review process within the Secretariat.

Summary of findings and lessons learned

7. The scope of the desk study as defined in paragraph 7 of the TOR aimed at responding to a series of evaluation questions, for which summary responses based on the findings from the desk study are presented below.

Typology of enabling activities

8. The Guide for enabling activities prepared by the Secretariat provided guidance and flexibility on components that could benefit from funding, allowing countries and agencies to propose activities in line with the decision text and their priority areas for funding. Three components were most commonly included in all projects reviewed, namely: (a) support for ratification of the Kigali Amendment; (b) capacity building and awareness of HFC alternatives; and (3) development of Article 4B licensing and reporting systems. Projects with a higher level of funding would go on to address other components based on the specific needs of the country.

Building upon the existing framework

9. The study corroborates that the experience gained with existing institutional, legislative and policy frameworks, including enforcement systems that were put in place for HCFCs, helped develop the necessary adjustments to prepare for HFC phase-down to implement the Kigali Amendment. Several countries reported establishing electronic registry and licensing systems with a direct connection to national customs that supported both the reliable allocation of HFC import quotas and the fulfilment of national and international reporting obligations under the Kigali Amendment.

Impact

10. It can be said that the enabling activities met the expectations linked to their approval and funding. All of the reviewed projects contributed to an initial assessment of the existing legal and institutional frameworks required for implementation of the Kigali Amendment. With the exception of four countries that ratified the Kigali Amendment before implementing their enabling activities, the remaining 40 countries used the enabling activities to determine mandatory steps, prepare documents, and identify stakeholders or institutions relevant to the ratification process. Most of the countries (95 per cent of the sample) conducted various preparatory steps for the inclusion of HFCs in their existing licensing and quota systems, and half of them actually put the HFC licensing systems into operation by the end of the project.

Effectiveness

11. The planned enabling activities were completed in all reviewed countries and have proven to be effective in delivering their projected output and reaching their intended goals. The efforts deployed to collect and classify data, to work with customs, and to update licensing and quota systems have been instrumental in preparing countries for the ratification and implementation of the Kigali Amendment.

Country comparison

12. The reviewed projects included four countries which had ratified the Kigali Amendment before the approval of enabling activities. The only change in design compared to countries that had yet to ratify was that the projects did not include the component for early ratification. All other basic components were similar, irrespective of the ratification status of the recipient countries. Eligibility criteria for enabling activities were flexible enough to facilitate the funding of activities that would meet the different needs of the recipient countries. Of the 44 reviewed country reports, 81 per cent had ratified the Amendment either during or after the completion of their enabling activities, which provides a good indication of the effectiveness of these activities.

Project design and results framework

13. The project design was instrumental in facilitating the definition of relevant activities for each beneficiary country. No specific results framework was defined for these projects as they were conceived to fast-track the adoption of the Kigali Amendment. The projects required flexibility to adapt to the countries' different realities and existing levels of preparedness.

Adequacy of reporting guidelines

14. The Guide for the submission of enabling activities prepared by the Secretariat included in its Annex IV a detailed outline for the preparation of the final report on enabling activities, including *inter alia*: (a) project objectives and expected outputs; (b) description of activities implemented and summary of results (with examples by components); (c) financial report; and (d) lessons learned and challenges in implementation. The Guide also referred to decision 81/32(b) on the request to submit a final report within six months of the project completion date. However, there was no systematic request to agencies and countries to prepare and submit the final report, using the proposed outline. This absence of a mechanism to monitor final project completion resulted, in a few cases, in delays (or omissions) in the submission of final reports. This hampered, to some extent, the availability of information for this evaluation and the related sampling process. The guidance provided to agencies was adequate, but the monitoring mechanism to collect the final reports could have been better defined through a request from the Secretariat to agencies, as is done for other types of Multilateral Fund project-related reporting (e.g., request for Project Completion Reports).

Strengthening capacities

15. Capacity building has been one of the most successful aspects of the implementation of enabling activities. Through training, outreach to stakeholders, and sharing of knowledge and expertise, progress has been made in areas that are critical to ensuring a successful transition and embracing the challenges that arise from addressing HFC phase-down in the beneficiary countries. In most countries, the capacity-building components of the enabling activities targeted the refrigeration and air-conditioning (RAC) servicing sector. In addition to delivery of training programmes on the use and safe handling of alternatives with low global-warming potential (GWP), including flammable refrigerants, several countries also used their enabling activities to hold consultations on the establishment of certification schemes for RAC technicians. Several countries also sensitized consumers and the general public to the costs and benefits of low-GWP alternative technologies and equipment.

Customs preparedness

16. This objective was included in all reviewed projects involving enabling activities, as a critical factor for successful implementation of the Kigali HFC implementation plans (KIPs). This goal was achieved by building on the partnerships with national customs departments established under the HCFC phase-out, which reportedly improved the preparedness of customs and enforcement officers for enhanced monitoring and control of HFC trade under the Kigali Amendment. In some countries, border control points were strengthened through the deployment of refrigerant identification equipment to better enable licensing and quota systems to meet the new needs arising from the Kigali Amendment. A number of countries used the support for enabling activities to update and adopt new specific harmonized system (HS) codes that allow for differentiation between HFCs. This work resulted not only in more comprehensive collection of national data on HFCs and HFC blends (as a precursor for determination of accurate HFC consumption baselines), but also enhanced data comparability across countries. The enabling activities also helped address the need for continued regular training (to compensate for frequent rotation of customs officers), which is crucial for effective enforcement of the HFC licensing and quota systems and the monitoring and control of HFC trade.

Challenges and delays in implementation

17. The impact of the COVID-19 pandemic was the predominant implementation challenge reported. Before the pandemic, some countries had requested an extension for the implementation period, due to aspects such as: (a) the need for a longer period to set the proper conditions to launch the project activities; (b) insufficient time to deliver the activities as originally planned; and (c) coordination issues between the national ozone units (NOU) and implementing agencies. Several countries experienced ratification challenges linked to delays in obtaining national regulatory and administrative clearance. Challenges related to technology have been reported, concerning the availability and cost-effectiveness of HFC alternatives, as well as the difficulty in providing tools to handle flammable refrigerants for the effective training of technicians in the RAC servicing sector. In a few countries, delays in implementation were related to political and security concerns.

Mapping of relevant stakeholders

18. The study indicates that the enabling activities contributed to sensitizing key industry, government, and energy-sector stakeholders, which will be critical in ensuring the implementation of the Kigali Amendment. The outreach activities were very relevant and the information material developed by UNEP OzonAction, with fact sheets on the Kigali Amendment, was appreciated by a majority of countries supported by UNEP and a few countries supported by other implementing agencies.

19. Some countries referred to previous experience in engaging with other stakeholders through the practice of twinning workshops between the national ozone officers and energy policymakers, which facilitated discussions and linkages with energy-efficiency counterparts about Montreal Protocol objectives in support of the Kigali Amendment. This laid an excellent foundation for the stakeholder consultation meetings organized as part of the enabling-activity projects when reviewing and discussing the existing ozone and climate policy/legislation to ensure an energy-efficient RAC sector.

National Ozone Units

20. The NOUs played a central role in the implementation of enabling activities in all countries. The NOUs were particularly essential in identifying relevant stakeholders, strengthening the engagement of national actors, continuously following up with the authorities responsible for the drafting, finalization,

and approval of HFC policies and regulations, and improving the licensing systems due to the established role of the NOUs in the issuance of import permits for ozone-depleting substances (ODS). Cooperation through sharing of information among NOUs at the sub-regional level was also reported as a factor of success, particularly with regard to customs-related issues.

Energy efficiency

21. Decision 82/83(b) provided flexibility for the enabling-activity projects to address energy-efficiency issues. However, while the desk study found evidence that some projects included activities related to energy efficiency, the focus on energy efficiency in the reviewed enabling-activity projects was limited. Some countries that already had energy-efficiency policies in place used enabling activities to develop or finalize their Minimum Energy Performance Standards (MEPS). Only two projects had a distinct component on energy efficiency and a few other projects had activities on energy efficiency as a sub-component of other components. These enabling activities involved conducting studies and roundtables to review existing national energy-efficiency laws, rules, and regulations, and to assess opportunities for the identification of non-ODS, low-GWP, safe and commercially available energy-efficient alternatives, with particular emphasis on RAC sectors. There is not enough evidence to draw lessons learned on the energy-efficiency component from these few cases.

Gender

22. The reporting format prepared by the Secretariat in 2020 included a section to report on gender. However, most of the projects did not submit information on gender and did not provide gender-disaggregated data, as they were designed before the adoption of a gender mainstreaming policy by the Executive Committee at its 84th meeting. Only one project used the detailed checklist prepared by the Secretariat to report on gender mainstreaming.

Lessons learned

23. The desk study has proven the usefulness of the enabling activities in achieving their intended results, namely increasing the number of ratifications of the Kigali Amendment or the status of preparedness for ratification and implementation by the recipient countries. The study of the 44 country reports reconfirms, as already identified in previous evaluations on other Multilateral Fund issues, that there are critical factors of success, such as:

- (a) NOU involvement and coordination with implementing and bilateral agencies;
- (b) Useful, high-quality guidance documents prepared by the Secretariat;
- (c) Flexible, high-quality, tailor-made support from the implementing agencies;
- (d) Tools and expertise developed to face new challenges for HFC phase-down;
- (e) Country needs assessments that are relevant to the design and planning of projects;
- (f) Capacity-building activities, particularly on customs, licensing, and quota systems;
- (g) An institutional environment that enables updates to the regulatory framework and enhances enforcement; and
- (h) Outreach that engages relevant stakeholders (e.g., training, industry, energy sector).

24. Based on the findings and lessons learned from the desk-study, the following elements could be considered, as applicable, when designing and implementing projects for the implementation of KIPs: (a) project design to assess technical knowledge gaps at national level; (b) project to include the need for energy-related stakeholders' involvement and the identification of energy-efficient technologies for the KIP; (c) implementing and bilateral agencies to ensure the consideration of safety issues in the use of technologies based on low-GWP alternatives; (d) implementing and bilateral agencies to support the NOUs in facilitating vocational training and training of RAC technicians; (e) project reporting formats, including project completion reports (PCR), to include energy-efficiency and gender dimension.

Conclusion

25. The impact of enabling activities is positive overall, and these country-driven project activities can be considered an effective use of the total funding granted by the Fund. Most of the countries in the study ratified the Kigali Amendment either during or shortly after completion of their enabling-activity projects. Assessment of the existing legal and institutional frameworks for implementation of the Kigali Amendment, determination of the mandatory steps and documentation required for the Kigali Amendment ratification as well as identification of relevant national stakeholder institutions to be engaged in the process were very important achievements which fostered preparedness for the ratification.

26. The desk study has collected evidence of a transformative impact in the countries that have completed their enabling activities, with achievements that pave the way for the KIPs. The findings and lessons learned from this desk study provide valuable information which can be used in the future by all relevant stakeholders for the design and implementation of the KIPs.

RECOMMENDATION

27. The Executive Committee may wish:

- (a) To take note of the desk study for the evaluation of enabling activities for HFC phase-down contained in document UNEP/OzL.Pro/ExCom/92/7; and
- (b) To invite Article 5 countries, bilateral and implementing agencies and the Secretariat to consider, where appropriate, the findings and lessons learned of the desk study referred to in sub-paragraph (a) above when designing, implementing, reporting, and assessing the results of future projects to support the implementation of the Kigali Amendment, including KIPs.

DESK STUDY FOR THE EVALUATION OF ENABLING ACTIVITIES FOR HFC PHASE-DOWN

I. Introduction

28. At the Twenty-eighth Meeting, the Parties to the Montreal Protocol adopted the Kigali Amendment.⁶ In decision XXVIII/2, the Parties recognized that the Amendment maintained the Multilateral Fund for the Implementation of the Montreal Protocol as the financial mechanism and that sufficient additional financial resources would be provided by Parties not operating under paragraph 1 of Article 5 to offset costs arising out of HFC obligations for Parties operating under paragraph 1 of Article 5 under the Amendment.

29. Furthermore, decision XXVIII/2 requested the Executive Committee of the Multilateral Fund to develop, within two years of the adoption of the Amendment, guidelines for financing the phase-down of HFC consumption and production, including cost-effectiveness thresholds, and to present those guidelines to the Meeting of the Parties for the Parties' views and inputs before their finalization by the Executive Committee. It also requested the Executive Committee to revise the rules of procedure of the Executive Committee with a view to building in more flexibility for Parties operating under paragraph 1 of Article 5 under the Amendment (further "Article 5 countries").

30. Further to the adoption of the Amendment, at its 77th meeting,⁷ the Executive Committee accepted additional contributions to the Fund intended to provide fast-start support for the implementation of the Amendment, noting that such funding was one-time in nature and would not displace donor contributions. The additional contributions were to be made available for Article 5 countries that had HFC consumption baseline years from 2020 to 2022 and that had formally indicated their intent to ratify the Kigali Amendment and take on early HFC phase-down obligations, with the purpose of supporting those countries' enabling activities.

31. Following a decision of the Executive Committee,⁸ the Multilateral Fund Secretariat developed a document describing procedures for the eligible countries to access the additional fast-start contributions for enabling activities.⁹ Furthermore, a number of countries also received regular Multilateral Fund funding to undertake enabling activities.

32. At the 78th meeting, the Executive Committee requested the Multilateral Fund Secretariat to prepare a document with information relevant to the development of the cost guidelines for the phase-down of HFCs in Article 5 countries, including a summary of the issues pending, such as eligible incremental costs,¹⁰ energy efficiency, capacity building to address safety, disposal, and the eligibility of Annex F substances subject to high-ambient-temperature (HAT) exemptions.¹¹ Furthermore, the Executive Committee requested the Secretariat to prepare draft guidelines on enabling activities for further consideration.¹²

⁶ Kigali, Rwanda, 10 – 15 October 2016

⁷ Montreal, 28 November – 2 December 2016

⁸ Decision 77/59(d)(i), (ii) and (iii)

⁹ UNEP/OzL.Pro/ExCom/78/10

¹⁰ Consumption manufacturing, production sector, refrigeration servicing sector, and other costs.

¹¹ Decision 78/3

¹² Decision 78/4(a)

33. At the 79th meeting, the Executive Committee agreed to the guidelines for the funding of enabling activities to support the phase-down of HFCs for Article 5 countries¹³ and to the contents of enabling activities as listed in document UNEP/OzL.Pro/ExCom/79/47. The purpose of the guidelines was to ensure that requests for enabling activities provided the relevant information required for their consideration and approval by the Executive Committee.

34. Specifically, funding requests for enabling activities had to comply with the following requirements:

- (a) Ratification of the Kigali Amendment by the government submitting the request, or receipt of a letter from the government concerned indicating its intent to make best efforts to ratify the Kigali Amendment as early as possible;
- (b) The inclusion of detailed descriptions, in the project proposals, of each of the enabling activities that would be undertaken, including institutional arrangements, the cost breakdown and the schedule for implementation, consistent with Executive Committee guidelines;
- (c) Project duration of no more than 18 months, starting from the time of its approval, with balances to be returned to the Multilateral Fund within 12 months of that end date; and
- (d) Statements by the country concerned and the relevant bilateral/implementing agency submitting the request that implementation of the enabling activities would not delay implementation of HCFC phase-out projects.

I.1 Desk study objective and scope

35. At its 88th meeting, the Executive Committee approved the monitoring and evaluation work programme for 2022, which included conducting a desk study for the evaluation of enabling activities for HFC phase-down.¹⁴ Subsequently, the TOR for the study were presented, revised and adopted at the 90th meeting.¹⁵

36. The present desk study reviews the achievements resulting from the implementation of enabling- activity projects and assesses to which extent expectations have been met, noting that enabling activities in many cases were implemented with limited knowledge on issues related to HFCs. The objective of the desk study is to assess how effective the enabling-activity projects have been in contributing to HFC phase-down and preparedness for the KIPs. The scope of the study covers, *inter alia*, enabling activities related to data collection for the calculation of baselines, customs and reporting mechanisms, certification programmes, training, and capacity building for handling alternatives to HFCs in all relevant sectors.

37. The analysis is structured around the components of enabling activities defined in the Guide for the submission of enabling activities prepared by the Secretariat for use by the implementing agencies.¹⁶ The findings, achievements, challenges, and lessons learned could contribute to future decision-making processes of the Executive Committee regarding the implementation of the Kigali Amendment, as well as to the design (bilateral and implementing agencies) and review (Secretariat) of project requests.

¹³ Decision 79/46

¹⁴ Decision 88/10

¹⁵ UNEP/OzL.Pro/ExCom/90/8/Rev.1

¹⁶ Guide for the submission of enabling activities (February 2020)

I.2 Methodology and limitations

38. The desk study covers the implementation of enabling activities, their impact, relevance and effectiveness, and other cross-cutting issues by addressing the evaluation questions contained in paragraph 7 of the TOR.¹⁷

39. The assessment combines quantitative and qualitative methods, and is mostly based on:

- (a) A review of relevant Executive Committee documents and policies for enabling activities;
- (b) An assessment of the entire enabling-activity-project portfolio (subject to available final reports on enabling activities);
- (c) Classification of the enabling-activity reports by status of ratification of the Kigali Amendment, and by the enabling activities components defined in the reporting guide; and
- (d) A detailed analysis of selected final reports on enabling activities using a sampling approach.

40. The study is based on a sample of 44 country reports, which represents 50 per cent of the available final reports at the 31 December 2022, cut-off date for undertaking the analysis.¹⁸ The proxy representative sample was defined on the basis of the following criteria:¹⁹

- (a) Regional representation of enabling activities;
- (b) Intra and inter-regional language diversity;
- (c) Size and type of countries;
- (d) Level of consumption baseline and funding;
- (e) Representation of multilateral and bilateral implementing agencies;
- (f) Modalities of implementation (single agency vs. joint implementation);
- (g) Overall proportion of sample funding vs. total funds allocated to enabling activities; and
- (h) Status of ratification of the Kigali Amendment.

41. The status of ratification of the Kigali Amendment was considered and due attention was paid to including countries that had ratified the Kigali Amendment before or shortly after the receipt of funding for enabling activities, and countries that had achieved ratification one year or more after the inception of their enabling-activity projects.

¹⁷ UNEP/OzL.Pro/ExCom/90/8/Rev.1

¹⁸ At the time of issuance of this document, the Secretariat has received 93 final enabling-activity reports.

¹⁹ The detailed statistical data behind the final selection of the proxy sample is provided in Annex II.

42. The proxy sample for the desk study includes 26 low-volume-consuming (LVC) and 18 non-LVC countries. The list of final reports on enabling activities from which the sample was selected is provided as Annex I to this report, with the rationale for the sample selection. As the proxy sample constitutes 32 per cent of the total portfolio of enabling activities, data collected through review and analysis of the 44 final reports is considered statistically significant.²⁰

43. The main limitation of the desk study is that it relies entirely on the availability of data from the review of final reports, with limited access to external data collection from direct and ultimate beneficiaries of the enabling activities. Furthermore, some completed projects were not followed by the submission of final reports in the format prepared by the Secretariat as found in the Annex IV of the Guide.²¹

44. Although maximum effort was given to ensure representation of all implementing and bilateral agencies in the desk study, it was not possible to include the enabling-activity projects supported by Germany and the World Bank, which each had three projects in their portfolio. The World Bank had completed the project for Malaysia in October 2020, with the main outcome being the ratification of the Kigali Amendment by the country. The absence of a final report in the proposed format for final reporting hampered the possibility of collecting the synthesis information for the desk review. No other final reports from these two agencies were available by the 31 December 2022, cut-off date for inclusion in the sample.²²

45. The desk study builds upon the information as presented in the final reports for enabling-activity projects submitted to the Multilateral Fund Secretariat. Data validation has also taken place through consultation with the bilateral and implementing agencies and the Secretariat, including requests for comments on the advanced draft prior its finalization. Beyond the methodological constraints, the desk study provides valuable insights and elements worthy of Multilateral Fund stakeholders' consideration in future KIP-related activities.

²⁰ Further details on the elements for the sample selection are provided in Annex II.

²¹ The reporting format prepared by the Secretariat assisted project evaluation by providing different sections for objectives, activities, output, challenges, and lessons learned. The common reporting format facilitated the preparation of a desk review for which information could be compared and synthesized using the final reports.

²² It can be noted, from information submitted by the World Bank during the final phase of this desk study that the project for Malaysia was key to the development of tools that the World Bank has further replicated for other Asian countries (e.g., Indonesia and Thailand).

II. Portfolio of enabling activities

II.1 Objectives and types of enabling activities

46. With the purpose of facilitating fast-start support for the ratification of the Kigali Amendment by Article 5 countries, the Executive Committee initially approved, at its 80th meeting, enabling-activity projects in 59 countries.²³ Further blanket approvals followed for enabling-activity projects in 60 countries at the 81st meeting, 11 countries at the 82nd meeting, one country at the 83rd meeting, two countries at the 84th meeting, four countries at the 85th meeting, and one country at the 88th meeting.²⁴

47. With regard to the funding source for enabling activities, the above-referenced decisions of the Executive Committee at its 80th and 81st meetings stipulated that all enabling activities requests submitted for blanket approval at the two meetings would be funded from the additional voluntary contributions provided by a group of non-Article 5 countries, and that those submitted for Article 5 group 2 countries would be funded from the regular contributions to the Multilateral Fund.

48. The timeframe for the implementation of enabling-activity projects was initially decided to be a maximum of 18 months from the project approval date. The Executive Committee later decided that, if needed, the original implementation period for enabling-activity projects could be extended by no more than 12 months (totalling 30 months from project approval) upon an official request for extension submitted to the Multilateral Fund.²⁵

49. The guidelines for the funding of enabling activities allowed the recipient countries flexibility in undertaking a range of enabling activities consisting of, but not limited to the following:

- (a) Activities to facilitate and support the early ratification of the Kigali Amendment;
- (b) Initial activities identified in paragraph 20 of decision XXVIII/2, including country-specific activities aimed at initiating supporting institutional arrangements, the review of licensing systems, data reporting on HFC consumption and production, and demonstration of non-investment activities, and excluding institutional strengthening, as addressed in decision 78/4(b);and
- (c) National strategies that include the activities in subparagraphs (a) and (b) above.

50. In addition to the above, Article 5 countries engaged in enabling activities were encouraged to undertake, within the approved funding,²⁶ the following activities:

- (a) Development and enforcement of policies and regulations to avoid market penetration of energy-inefficient RAC and heat-pump equipment;
- (b) Promotion of access to energy-efficient technologies in those sectors; and
- (c) Targeted training on certification, safety and standards, awareness raising and capacity building aimed at maintaining and enhancing energy efficiency.

²³ Decision 80/41

²⁴ Decisions 81/31(a)(ii) and (iii), 82/53, 83/40, 83/51(b), 84/57, 84/59, and 85/24(c)(i) and (ii)

²⁵ Decisions 79/46(d)(iii) and 81/32(a)

²⁶ Decision 82/83(b)

51. At the 78th meeting, the Executive Committee began discussions on the development of guidelines for the phase-down of HFCs, including the enabling activities listed in paragraph 20 of decision XXVIII/2,²⁷ which includes suggested areas for different components of enabling activities and provides the option to add other components that would not fall under these categories and would still qualify as enabling activities. The original guideline on the submission of enabling activities was updated and presented to the Inter-agency Coordination Meeting in February 2020, along with guidance to report on gender.²⁸

52. At the 81st meeting, the Executive Committee decided that a final report on the enabling activities completed should be submitted within six months of the project completion date highlighting lessons learned in line with decision 81/32(b). This information was also included in the guidelines from the Secretariat, although no specific tracking of submissions was put in place. During the desk study, it was found that some agencies were not fully aware of this reporting requirement.

II.2 Funding for enabling activities

53. In total, funding for enabling activities was approved for 138 countries, 116 from additional funding and 22 from regular funding and, as summarized below in table 1

Table 1. Summary of funding for enabling activities by source

| Funding source | Number of countries | Number of projects | Total funds approved (US \$) |
|-----------------------|---------------------|--------------------|------------------------------|
| Additional | 116 | 128 | 15,185,000 |
| Regular | 22 | 30 | 3,590,000 |
| All categories | 138 | 158 | 18,775,000 |

54. The maximum funding levels for enabling activities in individual countries were set on the basis of the HCFC baseline data, noting that no further funding for enabling activities would be provided prior to the preparation of national KIPs. The resulting maximum funding levels are displayed in table 2 below.

Table 2. Determination of funding levels for enabling activities

| HCFC baseline (ODP tonnes) | Maximum funding for enabling activities (US \$) |
|----------------------------|---|
| Below 1 | 50,000 |
| Between 1 and 6 | 95,000 |
| Above 6 and up to 100 | 150,000 |
| Above 100 | 250,000 |

55. The largest group of countries (45.6 per cent) received funding at the level of US \$150,000; it was followed by the group receiving US \$95,000 (23.2 per cent). The breakdown of distribution of enabling-activity projects according to the various funding levels is provided in table 3 below:

Table 3. Enabling-activity projects by level of funding

| Funding level (US \$) | Number of countries | Percentage |
|-----------------------|---------------------|------------|
| 50,000 | 23 | 16.7 |
| 95,000 | 32 | 23.2 |
| 150,000 | 63 | 45.6 |
| 250,000 | 20 | 14.5 |
| All levels | 138 | 100 |

²⁷ UNEP/OzL.Pro/ExCom/79/47

²⁸ MLF-IACM-2020-1-19, referred to as the Guide in the present report.

II.3 Implementing and bilateral agencies

56. Most of the projects in the enabling-activities portfolio (138 countries) are spread across three agencies, namely UNEP, UNDP, and UNIDO, which had developed a comparative advantage in the provision of implementation support to Montreal Protocol projects in Article 5 countries. Of these, 120 were implemented by a single agency, while 18 were implemented by two or more.

57. For single-agency implementation, UNEP was assigned the highest number of projects (81 countries), followed by UNIDO (24 countries), and UNDP (nine countries). The World Bank and Germany implemented enabling activities in three countries each. It follows from table 4.a that 82.6 per cent of the enabling-activity projects were implemented by UNDP, UNEP and UNIDO as single implementing agencies.

Table 4.a. Distribution of enabling-activity projects by implementing agency (single implementation)

| Implementing agency | Number of countries | Percentage |
|----------------------|---------------------|------------|
| UNDP | 9 | 6.5 |
| UNEP | 81 | 58.7 |
| UNIDO | 24 | 17.4 |
| World Bank | 3 | 2.2 |
| Germany | 3 | 2.2 |
| Joint implementation | 18 | 13 |
| All agencies | 138 | 100 |

58. For jointly implemented projects (see tables 4.b and 5 below),²⁹ UNEP was involved in 12 projects, equally distributed as either lead or cooperating implementing agency (six). UNDP was involved in 10 projects, as lead agency in all but one. UNIDO was involved in seven co-implemented projects, in three of which as the lead agency. Bilateral agencies, Canada, and Italy were involved in five and four projects as cooperating agency, respectively.

Table 4.b. Participation of agencies in jointly implemented enabling activities

| Lead* / Cooperating agency | Countries covered |
|----------------------------|-------------------|
| UNDP/Canada | 4 |
| UNDP/UNEP | 2 |
| UNDP/UNIDO | 1 |
| UNDP/UNEP/Canada | 1 |
| UNDP/UNEP/UNIDO | 1 |
| UNEP/Italy | 3 |
| UNEP/UNIDO | 2 |
| UNEP/UNDP | 1 |
| UNIDO/UNEP | 2 |
| UNIDO/Italy | 1 |
| Total Projects | 18 |

(* In bold, lead agency role)

²⁹ The project for the Philippines was initially defined for joint implementation by the World Bank and UNIDO but at the 83rd meeting the decision was made to transfer the project to be implemented only by UNIDO (decision 83/39(a)).

Table 5. Involvement of agencies in jointly implemented projects

| Implementing or bilateral agency | Number of projects |
|----------------------------------|--------------------|
| UNDP | 10 |
| UNEP | 12 |
| UNIDO | 7 |
| Canada | 5 |
| Italy | 4 |

59. In table 6 below, it appears that more than 90 per cent of enabling-activity funding is distributed between UNDP, UNEP and UNIDO. UNEP is the agency with the largest number of enabling-activity projects and the largest funding share.

Table 6.* Distribution of enabling-activity funding by implementing agency

| Implementing agency | Grant amount (US \$) | Percentage |
|---------------------|----------------------|--------------|
| UNDP | 2,217,000 | 11.8 |
| UNEP | 10,607,000 | 56.5 |
| UNIDO | 4,481,000 | 23.9 |
| Subtotal | 17,305,000 | 92.17 |
| World Bank | 750,000 | 4 |
| Canada | 240,000 | 1.3 |
| Germany | 285,000 | 1.5 |
| Italy | 195,000 | 1 |
| All agencies | 18,775,000 | 100 |

*Source for tables 4 to 6: own elaboration based on Secretariat's database and desk study (as of 31 December 2022).

III. Overview of the results of the enabling-activity projects

60. This section analyzes the results achieved through the implementation of enabling activities. It reviews the results against the intended outcomes of enabling activities, to identify key success factors, reviewing the different components and subcomponents of enabling-activity projects when relevant. Irrespective of the level of funding, almost all reviewed enabling-activity projects had at least three essential components, namely: (a) assistance with ratification of the Kigali Amendment; (b) capacity building of relevant stakeholders; and (c) upgrade of the existing licensing and reporting systems. For those projects with a higher level of funding, additional components were included based on the specific needs and status of preparedness of the country. The following subsections analyze the effects of enabling activities on different elements intended to fast-track the adoption of the Kigali Amendment.

III.1 Preparedness for the ratification of the Kigali Amendment

61. As shown in table 7 below, four countries in the study (Rwanda, Grenada, Lao People’s Democratic Republic (the), and Micronesia (Federal States of)) ratified the Kigali Amendment before receiving the enabling-activity funding. More than half of the countries of the sample considered for this desk study (24) achieved ratification within the duration of their projects, including seven countries that reached ratification status within 12 months after getting enabling-activity funding. A further eight countries concluded the ratification process after the completion of their enabling-activity projects, while another eight countries had not reached ratification status at the time of finalization of this desk study.³⁰

Table 7. Status of ratification of the Kigali Amendment in the sample countries

| Kigali Amendment ratification | Before enabling activities | During enabling activities period | After enabling activities | Not ratified |
|--------------------------------------|-----------------------------------|--|----------------------------------|---------------------|
| # of countries | 4 | 24 | 8 | 8 |

62. All reviewed enabling-activity projects assisted in conducting an initial assessment of the existing legal and institutional frameworks required for implementation of the Kigali Amendment. In 40 countries, the enabling activities supported the determination of mandatory steps and the preparation of documents for Kigali Amendment ratification, as well as the identification of stakeholder institutions relevant to the ratification process.

63. With the exception of the projects in Rwanda, Lao People’s Democratic Republic (the) and Micronesia (Federal States of), all other reviewed enabling activities comprised a component titled “Support for ratification of the Kigali Amendment”, with all countries planning to achieve early ratification. For nearly half of the reviewed countries, the reported output included the preparation of a “ratification package” using a template developed by the Ozone Secretariat. The package typically contained technical and policy documentation such as a certified copy of the Kigali Amendment, a technical sheet, a draft decree on the instrument of ratification, and a note for presentation of the decree to the national legislative process.

64. The enabling activities in most countries in the study also led to the production of information material on the Kigali Amendment, and to the organization of stakeholder consultation meetings to build awareness and consensus across various national stakeholder groups. The meetings helped streamline and accelerate decision-making in the legislative process leading to ratification of the Kigali Amendment. Beneficiary countries also consider them to be crucial for the preparation of future plans and projects for implementation of the Amendment.

³⁰ Detailed statistics on enabling activities’ impact on ratification by geographical region are presented in Annex III.

65. The OzonAction Kigali fact sheets were highlighted by several countries as providing important support for ratification of the Kigali Amendment ratification. Several countries used enabling-activity funds to translate the fact sheets into the local language and later upload them to the official website of the relevant government agency. The fact sheets effectively summarized the changes and challenges brought about by the Amendment, while addressing stakeholders involved in ratification, as well as those involved in the implementation of the Kigali Amendment.

66. Under the ratification component, several countries also analyzed the implications of different HFC alternatives and technologies, the barriers to their introduction and effective use, and their availability.

67. Only three countries that ratified the Amendment within 12 months after the start of their enabling-activity projects had included the preparation of the “ratification package”, the work plan for enabling activities. The other four early ratifiers did not require such direct assistance and achieved the ratification status with other types of enabling-activity support. While preparation of the “ratification package” undoubtedly has a positive effect on preparedness for early ratification, political will strongly influences the length of the national legislative process ultimately leading to the deposit of the Kigali Amendment ratification instrument.

III.2 Enabling activities in relation to the existing institutional, policy and legislative frameworks

68. All 44 countries in the study conducted a review of existing institutional, policy and legislative frameworks with regards to Kigali Amendment provisions, using the uniform Country Assessment Report (CAR) format prepared by UNEP for the use of Compliance Assistance Programme (CAP) countries. The CAR typically covered all relevant aspects affecting Kigali Amendment implementation in a country, such as national institutional arrangements and partnerships, policies, the characteristics of national refrigerant markets, alternative technology penetration trends, the existing infrastructure of the RAC servicing sector, and awareness-raising activities.

69. The countries reported that the NOUs organized high-level consultative meetings to coordinate with representatives of relevant ministries and other government agencies. These activities provided essential information on a broad range of issues, including agreed HFC phase-down schedules, the relationship between HFC phase-down and HCFC phase-out, international safety standards for HFC alternatives with low GWP, the availability of funding for the reduction of HFC consumption and production, as well as information on the energy efficiency of HFC alternatives. In some countries, the enabling activities also supported the translation of the Kigali Amendment into national languages for wider distribution to relevant national stakeholders. The use of the CAR, alongside two-tier reviews by UNEP CAP staff, helped to ensure the consistency, completeness, and quality of enabling-activity reports from UNEP-assisted countries and beyond, as the CAR was also used in countries assisted by other agencies.

70. About 25 per cent of the countries (11) in the study included the preparation of a national strategy for Kigali Amendment implementation as a separate component of their enabling-activity project. This component was most frequent in Africa with five countries; the Europe and Central Asia region had it in three countries, while the Latin America and the Caribbean and the Asia and the Pacific regions had it in one country each. Another country in the Latin America and the Caribbean region included preparation of a national strategy on the Kigali Amendment under the ratification component.

71. As a matter of fact, Kigali Amendment strategy documents resulted only from five enabling-activity projects, two each in the Africa and Latin America and the Caribbean regions and one in the Asia and the Pacific region. The remaining six projects produced only sectoral studies and/or reports for the identification of possible scenarios without an integrated strategic document for Kigali Amendment

implementation. The above data shows only marginal use of enabling-activity funding for the preparation of strategic documents for Kigali Amendment implementation in the beneficiary countries. As it was not a required outcome expected from the enabling activities, countries may have awaited the funding for KIP preparation to further go into the development of the Kigali Amendment national strategy.

72. The HFC control policies developed through enabling activities targeted all substances and blends. Specific policies on introducing early disincentives or restrictions to control high-GWP HFCs were identified as being important in only two countries.

III.3 Enabling activities and engagement of national stakeholders

73. The implementation of enabling activities greatly depends on the participation of key national stakeholders in the projects. These stakeholders include relevant government agencies, representatives of the RAC manufacturing and servicing industry, non-governmental organizations, and the public.

74. All countries reported that the implementation of their enabling-activity projects was accomplished using the existing national infrastructure and institutional settings already in place for ODS phase-out. Nevertheless, training of NOU staff was included in all projects to ensure their capacities and knowledge were up to date for Kigali Amendment ratification and implementation. Several countries mentioned support from the UNEP CAP as being beneficial in enabling-activity-project implementation.

Outreach and awareness raising

75. Several countries supported by UNEP appreciated the OzonAction publication on Legislative and Policy Options to Control HFCs. The publication was reported as being useful in providing the information required to prepare amendments to existing ODS regulations. Sri Lanka used its enabling-activity project to prepare a stakeholder engagement strategy that was adopted as a guiding document for the NOU. Similarly, the usefulness of mobile and desktop applications such as “*What Gas*”,³¹ “*Good Servicing: Flammable Refrigerants Quick Guide*”,³² and “*Air-conditioner Charge Size Calculator*” were reported as being instrumental in strengthening the capacities of RAC servicing technicians. The applications were used during training workshops to obtain the essential characteristics of HFCs (ODP, GWP, safety classification) and their alternatives, as part of the implementation of enabling activities.

76. A vast majority of enabling activities included a separate component on awareness raising and capacity building for a variety of stakeholders, including NOU staff, customs officers, and RAC industry representatives. In some countries, e.g., Ethiopia, awareness meetings with key stakeholders drawn from the RAC sector, policymakers, and enforcement officers simultaneously addressed HCFC phase-out and HFC phase-down to ensure a thorough understanding of the HCFC phase-out’s effect on the implementation of the Kigali Amendment.

77. Numerous final reports concluded that enabling activities allowed for the identification of relevant government agencies, HFC importers and RAC service associations, and for the determination of their respective roles in the implementation of the Kigali Amendment. The contribution of the enabling activities to stakeholder engagement was reported to be positive as the activities made it possible to increase various stakeholders’ understanding and commitment.

³¹ <https://www.unep.org/ozonaction/resources/mobile-app-whatgas/whatgas>

³² <https://www.unep.org/ozonaction/resources/mobile-app-toolkits-manuals-and-guides/good-servicing-flammable-refrigerants-quick-guide>

78. The most frequently reported effect of the awareness-raising subcomponents was increased understanding of the Kigali Amendment and its implications on policy changes, of enhanced import controls, of HFC consumption reporting obligations, and of other necessary steps to ensure compliance with the Amendment. The common conclusion of final reports is that enabling activities have prepared the various national stakeholders, including those from the private sector, to take on new and additional responsibilities in the implementation of the HFC phase-down.

79. Some LVC countries reported that the implementation of their enabling-activity projects allowed them not only to sensitize traditional partners, such as customs and RAC service associations, on issues related to the HFC phase-down but also to attract and involve other agencies and institutions that had not yet been engaged in the implementation of the Montreal Protocol. The involvement of technical educational institutions in the Lesotho enabling-activity project led to recognizing the need to include Montreal Protocol issues in the curricula of higher education in the country.

80. Almost all countries considered outreach to relevant stakeholders and awareness raising to be one of the most critical elements in the process of preparing for ratification of the Amendment. All countries reported that the organization of consultative workshops with relevant government agencies was essential for the smooth preparation of ratification documents.

81. In addition to the reported impact of enabling activities on streamlining the legislative ratification process, several countries indicated that increased awareness on the part of a wide range of stakeholders on Kigali Amendment-related policy measures and on the importance of accurate and timely data collection has contributed to building a country-wide consensus that is considered to be a crucial foundation for the smooth preparation of future KIPs.

Building capacities through training

82. A majority of enabling activities with the capacity-building subcomponents focused on training for the RAC servicing and manufacturing sectors. Technical experts were hired to conduct surveys and prepare reports on training needs assessments that were subsequently validated through roundtable discussions with key stakeholders such as leading national vocational training institutions and refrigeration industry representatives. The reports eventually triggered necessary modifications to existing training curricula to ensure preparedness for the introduction and safe use of flammable refrigerants such as hydrocarbons (HCs). Close coordination of the NOUs with RAC professional associations was a crucial element of successful implementation of the capacity-building subcomponents.

83. The principal subject topic for training conducted under the enabling activities was safe handling of HFCs and their alternatives. Several countries reported that enabling activities enabled the RAC technicians to follow good servicing practices and increased their understanding of safety procedures in handling flammable refrigerants. Some countries, such as Sri Lanka, also reported increased capacity in refrigeration systems based on ammonia (NH₃) on the part of RAC sector trainers from leading technical institutions, while Peru used its enabling activities for capacity building on systems in industrial refrigeration based on carbon dioxide (CO₂).

84. In a few countries, enabling activities made a contribution to the establishment of certification schemes for RAC technicians. Under the capacity-building component, the Lao People's Democratic Republic initiated consultations with relevant stakeholders on the best approach for establishing the certification scheme. This work is being further advanced under parallel funding for the HCFC phase-out management plan (HPMP). Two other countries had a separate enabling-activity component devoted to revising the national labour competency standards for RAC technicians. In Bolivia (Plurinational State of) a new labour competency standard for domestic refrigeration system workers was formulated, while in

Paraguay enabling activities produced a proposal for a new standard on the use and safe handling of HCs in domestic and commercial refrigeration systems. The latter enabling-activity project also launched a dissemination campaign on the certification of RAC technicians.

85. Despite the successful completion of the capacity-building subcomponents, numerous final reports on enabling activities concluded that the high turnover of RAC technicians requires continued efforts to enhance the capacities of RAC technicians to improve servicing practices and ensure the safe use of flammable refrigerants.

86. In addition to the training of RAC technicians, several countries used the capacity-building component of their enabling-activity projects to organize training workshops for customs and enforcement officers on enhanced control of import and consumption of individual HFCs and HFC blends. In Rwanda such training was formalized through the development of the national training manual for customs officers and other enforcement officers. All reviewed projects built on the partnerships with national customs established under the HCFC phase-out. A few countries also used their enabling activities to strengthen border control points with refrigerant identification equipment as a pre-condition for making the licensing and quota systems better able to meet the new needs arising from Kigali Amendment.

87. Several countries highlighted the fact that enabling activities helped to convince RAC practitioners, refrigerant importers, and retailers to accept the need for to adopt alternative technologies through close engagement with the Nous. They further reported the first signs of increased penetration of HFC alternatives into local refrigerant markets.

88. A number of countries prioritized the strengthening of institutions and improved cooperation and coordination among relevant institutions under the capacity-building component. In addition, a few countries organized consumer awareness meetings to motivate consumers and the general public to understand the costs and benefits related to low-GWP alternative technologies and equipment.

III.4 Enabling activities and the existing enforcement and reporting systems

89. Prior to initiation of the enabling-activity projects, all countries included in the desk study had legislation and regulations on ODS control in place and a majority of the countries also had functional regulatory frameworks including licensing and quota systems for ODS import and consumption. However, the baseline enforcement systems did not include control of HFCs. Most of the enabling-activity projects in the study comprised a component for the comprehensive review and upgrade of existing licensing systems for ODS and ODS-based products, as a preliminary step to also address HFCs and HFC-based products for the implementation of the Kigali Amendment. A total of 32 reviewed countries included this component under the title “Article 4B licensing and reporting”, either as a single component or as separate components on licensing and reporting.³³ A further two countries only had a component devoted to data reporting and verification. The upgrade of these systems to a large extent built on previous frameworks that were put in place for HCFCs and were now further strengthened to face new requirements that would emerge from the implementation of the Kigali Amendment.

90. The output of this component in all 32 countries was a review of the existing licensing and quota system and a proposal for its update, either by revising the existing legislation for to include HFCs and HFC-based equipment or by drafting a new legislative instrument (such as a decree or law) on strengthening procedures for the control of ODSs including HFCs.

³³ The Kigali Amendment amends the Montreal Protocol’s licensing provisions under Article 4B by requiring each Party to establish a system for licensing the import and export of new, used, recycled, and reclaimed HFCs.

91. About two thirds of countries with the licensing and quota component also achieved official promulgation of the revised or upgraded legislation, making their new licensing and quota systems operational. In the remaining countries the legislative process for approval of the updated licensing and quota systems was ongoing at the time of completion of their enabling-activity projects.
92. Montenegro introduced a new law that provided a basis for introducing a quota system for HFCs to be established through the adoption of by-laws after the completion of its enabling-activity project.
93. The most frequent result of this component was a report identifying a set of policy options to facilitate HFC phase-down and defining short-term measures that could be included in the future HFC phase-down strategy.
94. In a few countries in the Asia and the Pacific region, this enabling-activity component produced specific results. In the Lao People's Democratic Republic, there was the change of licensing authority from the NOU under the Ministry of Natural Resources and Environment to the Ministry of Industry and Commerce as part of the promulgated Chemical Management Law. The project supported the NOU in conducting a series of meetings with concerned government stakeholders to define clear roles and responsibilities for both the NOU and the Ministry of Industry and Commerce, which resulted in a memorandum of understanding between the two ministries. Moreover, through the consultation process, the project enabled the NOU to establish the Ministerial Decision on ODS/HFC Management, which covers reporting requirements for RAC technicians.
95. Sri Lanka used the enabling-activity project to finalize the National Cooling Policy developed as the key policy document identifying policies and regulations for HFC phase-down and the introduction of low-GWP alternative technologies.
96. Cambodia was the only country in the sample with a separate component for the establishment of an online licensing and quota system for HFCs and HFC-containing RAC equipment. The system enables the NOU to track the remaining quota before issuing the import license and generate a report to track the actual import of each controlled substance by importer.
97. In South Africa this component of the enabling activities facilitated the launch of a national discussion on the issue; in Cameroon, the enabling-activity project supported the undertaking of surveys of the RAC sector and of other sectors that had not been included in the previous survey projects on ODS alternatives, such as a survey of HFC-227ea in firefighting.
98. In addition to the revision of legislative provisions for licensing and quota systems, enabling- activity projects in a few countries supported the development of an online system for managing the annual quota application process, including the administration of pre-shipment license requests, and annual periodical and post-clearance reporting.
99. Several countries reported the establishment of online databases with a direct connection to national customs systems, allowing companies to submit annual reports on the import and use of refrigerants. In addition to serving as a reliable foundation for the allocation of import quotas, such databases supported national and international reporting obligations for the Kigali Amendment.
100. Enabling activities were reported to be useful for the establishment and/or upgrading of online licensing systems in small island countries. The upgrade of the existing online system in Grenada included a pre-approval certificate as a preliminary measure to ensure real-time collection of import data and effective management of the quota system. The Micronesia NOU arranged its own web hosting services to accommodate the online system.

101. The upgrade of the e-licensing system in Bahrain responded to the needs identified during the launching of a certification scheme aimed at improving environmental practices for the installation and maintenance of ODS-alternative-based equipment. Support for the development of a new electronic registry and licensing system in Kuwait included providing the necessary hardware and software, as well as adjusting the system for release of information between customs and the NOU. In Saudi Arabia, the new e-system incorporated the new HS codes for HFCs, while the scheme for electronic registration and issuance of the HFC permits was still under development at the time of enabling-activity project completion.

102. A desk study prepared at the request of the Executive Committee to assess enabling activities for the preparation of HPMPs recognized that regulatory measures beyond the traditional licensing and quota systems could have a positive impact on further reduction of imports of controlled substances.³⁴ The study also suggested that Article 5 countries could use the current enabling activities for HFC phase-down to establish additional regulatory measures³⁵ (e.g. recording and possibly licensing imports of HFC-based equipment, a ban on non-refillable cylinders, a ban on the intentional venting of HFC refrigerants) that would be helpful in the preparation and implementation of the KIPs. However, in the current desk study, none of the reviewed enabling-activity projects reported any results that went beyond the licensing and quota systems.

103. Enabling activities in all reviewed countries provided training to the NOUs on HFC data collection and reporting, thus reinforcing the existing infrastructure required for the preparation of the KIPs. With the exception of a one-time survey of ODS alternatives, systematic data collection and reporting on HFCs in Article 5 countries had not taken place prior to the initiation of enabling activities. In this regard, enabling activities provided essential support for capacity building on data collection and reporting in all countries in the study. While the ODS data collection and reporting systems were already in place and functional in almost all Article 5 countries, additional capacity building with regard to HFCs was considered essential by all countries in the study.

104. Although importers and user sectors are more or less similar to those for other ODSs, HFCs are imported and used as a greater assortment of pure chemicals and blends across all sectors. This represents an additional level of complexity for the collection and recording of HFC consumption data. Moreover, the determination of HFC control measures is based on a different metric than the ODP factor used for all other groups of controlled substances. Therefore, HFC control requires additional analysis and adaptation by the NOUs. In some countries, the projects assisted and enabled NOUs to identify HFC importers, which was a challenging task for NOUs as HFCs were not regulated. The identification of HFC importers is a solid foundation for the NOUs to implement the mandatory licensing system for HFCs.

105. Most of the countries in the study have the required capacity for data collection and reporting on HFCs in place. Out of the 44 countries in the study, only five countries have not yet reported HFC data. Fourteen countries started HFC data reporting on a voluntary basis before the year of actual completion of ratification, including three non-ratifiers (Haiti, Venezuela (Bolivarian Republic of) and South Sudan).³⁶ These statistics may indicate that enabling-activity projects were effective in terms of capacity-building for HFC data collection and reporting in the beneficiary countries.

106. A number of countries reported that the data collection and reporting subcomponents of enabling activities facilitated discussions with national customs authorities on updating the World Customs

³⁴ UNEP/OzL.Pro/ExCom/82/12

³⁵ For example, recording and possibly licensing imports of HFC-based equipment, a ban on non-refillable cylinders, and a ban on intentional venting of HFC refrigerants.

³⁶ <https://ozone.unep.org/countries/data>

Organization's (WCO) HS codes for a better identification of HFC imports as a basis for updated licensing regimes. This work resulted not only in the adoption of new specific HS codes for a more comprehensive collection of national data on HFC and HFC blends but may also, under specific conditions,³⁷ enable the comparability of data across countries.

107. Member countries of the Oceania Customs Organisation (OCO) reported that their enabling-activity projects facilitated a harmonized approach to the adoption of specific HS codes to differentiate individual HFCs and HFC blends and provided input into the Pacific Harmonized Commodity Description and Coding System (PACHS) that was adopted and put into effect as of 1 January 2022.

108. In Southeast Asia, the enabling activities supported the development of individual HS codes for HFCs and blends using national mechanisms. Given that the regional code under the Association of Southeast Asian Nations (ASEAN) Harmonized Tariff Nomenclature 2022 assigns individual HS codes for three blends, the project helped ASEAN member countries liaise and consult with their national customs authorities to explore national mechanisms to assign specific HS codes for the most commonly used blends in order to facilitate future data monitoring and reporting.

109. In Africa, the Gambia reported the adoption of a regional approach under the Tariff and Statistical Nomenclatures initiative of the Economic Community of West African Countries (ECOWAS), when experts from ECOWAS were brought together to propose codes. Reportedly, the proposal offered a high degree of practicality while allowing effective control of HFCs and HFC-based blends, in accordance with the obligations of the Kigali Amendment without the need to modify the taxes already applicable to these products.

110. While the subcomponents on updating the enforcement and reporting systems were included across all types of enabling-activity projects in the study, some non-LVC countries included in the sample used the higher level of financing for additional country-specific activities. China used the enabling activities not only to collect data on the production, import and export of HFCs, but also to improve the HFC-23 emission monitoring and reporting system. Cameroon used the established data-reporting mechanism to collect HFC consumption data for 2019 and 2020 on a voluntary basis. South Africa used its enabling-activity project for information sharing and to discuss an innovative grandfathering permit scheme for HFCs.

111. The availability of reliable HFC consumption data from multiple years is an essential pre-condition for establishing realistic HFC consumption baselines that will enable consideration of KIP preparatory funding requests by the Executive Committee, in line with the guidelines for the approval of such requests.³⁸

112. These findings confirm that the implementation of enabling activities has made a notable contribution towards facilitating data reporting on HFC consumption. The fact that a number of countries have already collected HFC consumption data for two to four years is a very important factor for better understanding HFC consumption trends in those countries. Moreover, about one third of the countries in this study (15) are on the list of 35 countries that submitted requests for preparatory funding for the development of HFC phase-down plans to the 85th, 86th, and 87th Executive Committee meetings.³⁹

³⁷The WCO HS code is a six-digit code that requires further subdivision (e.g., 7th, 8th ... digit) to assign individual HFCs and blends. Each country can assign additional digits for further subdivision depending on its national system. If countries in the region adopt the regional code as their national code, it facilitates comparability.

³⁸ Decision 87/50, paragraphs 185-187 of document UNEP/OzL.Pro/ExCom/87/58

³⁹ UNEP/OzL.Pro/ExCom/87/13

These facts point to a direct linkage between enabling activities and the design of future projects on HFC phase-down.

III. 5 Enabling activities and energy efficiency

113. Article 5 countries engaged in enabling activities were given the flexibility to use the approved funding for (a) the development and enforcement of policies and regulations to avoid market penetration of energy-inefficient equipment; (b) the promotion of access to energy-efficient technologies; and (c) awareness raising and capacity building to maintain and enhance energy efficiency.

114. Two countries (Viet Nam and the Philippines) included in their enabling-activity projects a separate subcomponent on the identification of non-ODS, low-GWP, safe and commercially available energy-efficient alternatives. The results included studies and roundtables to review existing energy efficiency laws, rules, and regulations, as well as an assessment of the availability of new technologies and opportunities for tapping into energy-efficient solutions, with a particular emphasis on RAC sectors.

115. In Montenegro, Cameroon and Dominican Republic, energy efficiency was included within the subcomponents on the preparation of national strategies for HFC phase-down through the organization of seminars devoted to energy-efficient alternative technologies. Argentina developed a study on the availability of low-GWP alternative cooling technologies with higher energy efficiency for local markets. However, the high cost of the alternative did not facilitate its adoption.

116. Ghana and Lesotho had an energy-efficiency policy in place before starting their respective projects. Both countries used the enabling-activity funding as a springboard to initiate work on MEPS and labelling for RAC equipment in order to encourage the import of energy-efficient appliances based on low-GWP refrigerants. The NOUs of both countries approached this task in close cooperation with national energy authorities. Nigeria reported advanced implementation of the Kigali Cooling Efficiency Programme on energy efficiency in the cooling sector through collaboration with the national standards organization on the enforcement of MEPS for RAC equipment.

117. The possibility of addressing energy efficiency in the context of enabling activities was adopted *a posteriori*, after the launch of the initial enabling-activity projects, through decision 82/83. The flexibility of using already approved funding to address energy-efficiency issues has not been fully utilized. That being said, addressing energy efficiency was neither a requirement nor an expected outcome of the enabling-activity projects. It was at the discretion of the country to possibly include it as a component or subcomponent of its enabling activities. Only a few countries within the reviewed sample showed aspects of institutional coordination between the NOUs (usually placed within the Ministries of Environment) and other entities responsible for climate change and energy issues.

III. 6 Enabling activities and gender mainstreaming

118. The Guide for Submission of Enabling Activities (MLF/IACM.2020/1/19) suggests that funding requests for enabling activities should give due consideration to the Multilateral Fund's operational policy on gender mainstreaming during the preparation and implementation of the enabling activities. Annexes II and III of the same document provide a checklist and potential indicators for use during enabling-activity implementation.

119. It should be emphasized that the Multilateral Fund gender policy was approved at the 84th Executive Committee meeting through a decision that requested that the operational policy on gender mainstreaming be applied throughout the project cycle, beginning with projects proposed for consideration at the

85th meeting.⁴⁰ Out of all 138 recipient countries, the above requirement only applies to five enabling-activity projects that were approved at or after the 85th meeting.⁴¹ Of these, only the final report on enabling activities for Belize was available for the desk study, but the said report does not contain any reference to consideration of the Multilateral Fund's gender policy during the preparation and implementation of the project.

120. The final report from China recalls that the enabling activities started before the approval of the Multilateral Fund's gender policy and indicates that although the enabling-activity project team attended a webinar on the Multilateral Fund's gender policy convened by UNDP in May 2021, it was not possible to implement all the different aspects of the gender policy for the project.

121. The final enabling-activity report for Mexico is the only one in the sample that contains a detailed assessment of the gender dimension, following the gender checklist provided by the Multilateral Fund Secretariat's guide. More than half of the items on the checklist were reportedly considered in the preparation and implementation of the activities. Given the fact that the funding for Mexico was approved at the 80th meeting and the final report was submitted shortly after the approval of the Multilateral Fund Gender Policy, consideration of the gender aspects was done on a voluntary basis.

122. Only 21 of the reviewed reports contain a reference to some aspects of gender mainstreaming, with differing levels of detail. While there was no reference in any project in the Europe and Central Asia and West Asia regions, about 60 per cent of the projects in Asia and the Pacific contained such a reference, though only in terms of promoting gender participation, where possible, without giving any concrete details.

123. In addition to the above-mentioned assessment in Mexico, three other projects in the Latin America and the Caribbean region shared results of gender-disaggregated statistics from training events in the RAC sector. In Africa, seven out of the 16 final reports (43.7 per cent) contain statistics on female participants in training and/or stakeholder consultations, and a further four reports make a general reference to the promotion of gender mainstreaming without further details. None of the studied final reports indicate the intention to conduct gender analysis in future HFC phase-down projects.

III. 7 Other thematic components

124. Several countries included specific components related to the development of good practices for and the safe handling of flammable refrigerants. The Philippines and Viet Nam used the enabling-activity funding to review and update standards and regulatory documents on flammable/toxic low- and zero-GWP alternatives. Cameroon produced and disseminated awareness-raising material containing guidance on good handling and safety practices for flammable refrigerants.

125. The topic of flammable refrigerants was frequently addressed in countries in the Latin America and the Caribbean region. In addition to reviewing norms and standards and related capacity building, the specific technical-assistance component in Bolivia (Plurinational State of) produced a conceptual technical feasibility study for a manufacturing plant for R-290 and R-600. The project in the Dominican Republic comprised a component on capacity building for the installation and servicing of mobile air-conditioning (MAC) that also included preparing specifications for a set of tools and equipment for MAC servicing.

126. Bolivia (Plurinational State of) and Paraguay included a specific component involving the revision of national labour competency standards for RAC sector professionals and the development of new occupational standards in relation to flammable refrigerants for servicing domestic and small-capacity

⁴⁰ Document 84/73 and decision 84/92(d)(i)

⁴¹ Enabling activities for Belize, Burundi, Guinea, and Moldova at the 85th meeting, and for India at the 86th meeting.

commercial refrigeration systems. In this regard, both countries also addressed specific issues related to the certification of technicians.

127. Specific additional thematic components were included with the additional non-Multilateral Fund funding from Canada in Jamaica and Peru.⁴² Both countries implemented a separate component for updating the HFC consumption survey, including a general inventory of available alternatives and a specific analysis of RAC systems in the tourist sector. Another specific component in Jamaica produced a diagnostic study on district cooling with an analysis of the market and the identification of possible locations and potential customers. Peru had a separate component for a feasibility study of CO₂ technology as an alternative to HFCs, including an assessment of the conversion requirements for existing installations.

⁴² Canada provided additional non-Multilateral Fund funding to the following countries: Bangladesh, Belize, Chile, Colombia, Cuba, El Salvador, and Panama.

IV. Project design and reporting

128. This section contains a summary of analysis related to effect of the enabling-activity project design and reporting, including support of the implementing agencies, duration of the enabling activities projects and the inclusion of gender dimension.

IV.1 Design and implementation of enabling activities

129. As already mentioned in section II.3 above, most of the enabling-activity portfolio is spread across the three multilateral implementing agencies, namely UNEP, UNIDO and UNDP, that have developed sufficient expertise supporting Article 5 countries to meet their obligations under the Montreal Protocol. The contribution of other agencies in the overall portfolio is only marginal.

130. Most of the reviewed enabling activities were designed to be implemented by a single agency. Over the years, UNEP has developed a specific niche in the area of support of non-investment technical assistance projects, and therefore has the biggest share of the overall portfolio of enabling activities. This is reflected in the prevalence of UNEP-supported projects in the sample, as shown in table 2 in Annex III.

131. The study did not find significant differences related to project design by implementing agency or geographical region. The main differences between projects were observed in relation to the funding level. Enabling-activity projects with the funding level of US \$50,000 typically had a basic structure composed of only three components: (a) support for ratification of the Kigali Amendment; (b) capacity building and awareness of HFC alternatives; and (c) development of Article 4B licensing and reporting systems. Enabling-activity projects with higher funding included additional specific components addressing the specific needs and priorities of the recipient countries.

132. The guidelines for funding of enabling activities stipulated that the duration of an enabling-activity project should not exceed 18 months from the date of approval. At the 81st meeting, the Executive Committee decided to maintain the 18-month implementation period for such projects and, if needed, to extend that period by no more than 12 months (totalling 30 months from project approval), when an official request for extension was received by the Secretariat.⁴³ Analysis of the total portfolio of 138 enabling-activity projects showed that the implementation of most enabling activities was slower than expected. The majority of enabling activities experienced delays in implementation and were granted extensions, in some cases repeatedly.

133. Until early 2020, extensions were granted to a total of 123 countries at three Executive Committee meetings.⁴⁴ The prevailing length of the extensions was 12 months (for 117 countries), with six-month extensions given to six countries. The main reasons for the extension requests, as recapitulated in the relevant Executive Committee documents, included the following challenges affecting implementation: (a) more time needed to start enabling activities implementation than originally expected; (b) insufficient time to complete the activities as originally planned; and (c) difficulties in coordination between NOUs and the implementing agencies. As most of the final reports from individual enabling- activity projects do not provide the reasons for delays in implementation, a systematic analysis of the reasons for the extension requests was not possible as part of the desk review.

⁴³ Decision 81/32(a)

⁴⁴ Decisions 83/40, 84/26 and 85/19

134. At the 83rd meeting, the Executive Committee approved the extension date for the completion of enabling activities for 51 countries⁴⁵ and requested that final reports be submitted by implementing agencies within six months of completion. Restrictions related to the COVID-19 outbreak in early 2020 disrupted planned enabling activities. Further extensions were granted at the 87th Executive Committee meeting by revising the previously approved completion dates for 93 countries.⁴⁶ The new extensions were granted in several cases for up to 48 months of total project duration. Moreover, a total of 23 enabling activities were extended at the subsequent 88th, 90th and 91st Executive Committee meetings.⁴⁷ In total, 90 per cent of the total approved projects were extended. While the desk review did not find a single explanation for the longer implementation time required, this fact would support the assessment by some agencies that the initial time allocated for enabling-activity projects, namely 18 months, was insufficient. It would be advisable to learn this lesson for similar exercises in the future, allowing for at least 24 months duration from approval to project completion.

IV. 2 Requests for extension period for implementation

135. The desk study found that a majority of the reviewed enabling activities experienced implementation delays and were therefore extended. Out of the 44 country reports in the sample, only eight countries did not require an extension (Belize, Cambodia, Haiti, Grenada, Montenegro, South Africa, Venezuela (Bolivarian Republic of) and Viet Nam). Ten countries required only a single extension that was granted during 2019. The remaining 26 countries required second-stage extensions that were approved in the period 2020–2021, with new completion dates either in December 2021 or June 2022. The statistics for extensions of the enabling-activity projects reviewed in the study are given in tables and charts in Annex III.

136. It follows from table 3 in Annex III that the highest number of projects completed within the original (not extended) period of 18 months was in the Latin America and the Caribbean region (three), followed by the Asia and Pacific region (two) and the Europe and Central Asia and Africa regions with one each. More than half of the enabling activities in Africa had a 12-month extension and Africa also had the highest share of projects with the longest extension (30 months). While the Asia and Pacific region had a relatively even share of enabling activities in all extension categories, the Europe and Central Asia region had only a marginal portion of enabling activities in the groups with extensions longer than 12 months. All three enabling-activity projects in West Asia were granted 24-month extensions.

137. Data in table 4 in Annex III show that while 57 per cent of the enabling activities with the lowest level of funding (US \$50,000) required at most one extension, only 27 per cent of the enabling activities with the highest level of funding (US \$250,000) required a single extension. The two-stage extension of 24–30 months was required for almost 73 per cent of enabling activities in the highest funding category, but only 43 per cent in the lowest category (US \$50,000). The incidence of the two-stage extension in the US\$150,000 and US \$95,000 funding categories were 59 per cent and 56 per cent, respectively. The greater number of two-stage extension requests in the higher funding categories suggests that there is a higher probability of implementation delays in projects with higher funding levels because these projects include more planned results and therefore require more time for completion.

⁴⁵ Angola, Armenia, Bhutan, Bosnia and Herzegovina, Burkina Faso, Cameroon, Chile, China, Colombia, the Congo, Costa Rica, Dominica, Dominican Republic, Ecuador, Eritrea, Fiji, Gabon, Gambia (the), Ghana, Guatemala, Jamaica, Kyrgyzstan, Lebanon, Lesotho, Malaysia, Maldives, Mexico, Mongolia, Namibia, Nigeria, North Macedonia, Palau, Peru, Philippines (the), Rwanda, Saint Lucia, Saint Vincent and the Grenadines, Senegal, Serbia, Somalia, the Sudan, Suriname, Thailand, Togo, Trinidad and Tobago, Tunisia, Türkiye, Turkmenistan, Uruguay, Zambia and Zimbabwe.

⁴⁶ Decision 87/22 and Annex IX of UNEP/OzL.Pro/ExCom/87/58

⁴⁷ Decisions 88/12, 88/13, 88/15, 88/16, 90/26(b), and 91/11(c)

IV.3 Project duration

138. Apart from the above analysis of extensions, the desk study further assessed the implementation of enabling activities in terms of actual duration of the projects. Some agencies have indicated that the initially planned 18-month timeframe underestimated the time required to design, approve, and implement the project. The COVID-19 outbreak only added on the already tight schedule intended for the whole cycle of project implementation. This should be considered in the future if similar funding initiatives for a one-time group of projects were to be approved by the Executive Committee (e.g., the timeframe should be at least 24 months).

139. Analysis of the data on the completion dates of the projects in the study shows that about 30 per cent of the reviewed enabling activities were completed several months before the end of the last granted extension period. Less than half (45 per cent) of the projects were completed just around the end of the last extension period and 25 per cent of the projects ended a few months after the end of the granted extension. Data on the duration of the extensions and on the length of implementation are summarized in Annex III table 5.

140. It follows from the data in table 5 that enabling activities in the Europe and Central Asia region had notably shorter durations in comparison with the other regions, where the average length of the projects was 10-14 months longer. Also, three out of four projects in the Europe and Central Asia region were completed before the end of their respective granted extension periods. The shortest project duration in the entire sample was 12 months (South Africa/UNIDO) while the longest duration was 51 months (the Philippines/UNIDO/World Bank).

141. One project (Mexico/UNIDO/UNEP) was completed 24 months early and two other projects (Türkiye/UNIDO and Ghana/UNEP) finished 12 months before the end of their respective granted extension periods. On the other hand, the completion of four projects (China/UNDP/UNEP, Cameroon/UNIDO, Gambia (the)/UNIDO and Nigeria/UNIDO) was delayed by 12 months and one project (Haiti/UNDP) was delayed by 16 months.

142. Data in Annex III (table 6) shows that UNEP projects had an average duration that was nine months longer than the other two agencies and six months longer than the enabling activities approved for joint implementation. The shortest length of extension and duration of implementation were found for the reviewed projects at the funding level of US \$50,000. Projects at the higher funding levels had an extension and duration of implementation that was 3–6 months longer (table 7). However, the final reports do not shed light on issues that would explain the delays in implementation that have led to a systematic extension of projects. It is hard to assess from the desk study's findings whether synchronicity with the pandemic is the key factor or whether other parameters apply.

IV.4 Reporting on the enabling-activity projects

143. Implementing agencies were requested to submit a final report on enabling activities within six months of the project completion date.⁴⁸ The format for the final reports specified that the reports should contain the project objectives and expected output, the description of implemented activities and results, the dates of completion by component, as well as a financial report with a detailed breakdown by activity. The Secretariat compiled summary information from completed enabling activities and presented that information in the progress reports submitted to the 88th and 91st Executive Committee meetings.⁴⁹

⁴⁸ Decision 81/32(b)

⁴⁹ UNEP/OzL.Pro/ExCom/88/12 (Annex III) and UNEP/OzL.Pro/ExCom/91/12 (Annex V)

144. The reviewed final reports on enabling activities were found to be in line with the prescribed reporting outline both in terms of the main report structure and contents. Final reports from all UNDP-supported projects include annexes with substantive output resulting from the projects as required by the reporting outline. For UNIDO, substantive output is annexed for about half of the projects (not included in three projects in the Europe and Central Asia region, two projects in the Latin America and Caribbean region and one in the Africa region). The final reports from the UNEP-supported projects comprise the main report with the complete list of key documents in reference.⁵⁰ These are available to the Secretariat upon request.

145. A detailed review of the final reports found a relatively high level of compliance with the obligatory timing for final report submission. Agencies noted that in a few cases the late submission of the report was due to the fact that they had not received a request from the Secretariat. Reporting within six months of the completion date was requested in decision 81/32⁵¹ and the related information was included in the format of the reporting outline document prepared by the Secretariat (the Guide). It might have helped the agencies to be reminded about the due date for submission of the final report, in those cases where information from the progress report indicated that a project had been completed but no final report had been submitted. However, it is worth noting that the Executive Committee was regularly informed by the Secretariat on progress in implementing enabling activities, either through the progress report section on enabling activities or through *ad hoc* reports as prepared for the 85th meeting.⁵²

146. In a few cases, enabling-activity projects implemented by UNDP, which were successfully completed by 2020, were selected by a bilateral agency to further build upon the results obtained. The final reports for these projects included information on the activities performed with the funding from the bilateral agency, but this was not a reporting requirement as it was not related to the original funding from the Multilateral Fund. The additional enabling-activity components supplemented the previous achievements based on the countries' needs.

⁵⁰ All documents are available from the Secretariat upon request and not sent, due to their large size.

⁵¹ Decision 81/32 stated that a final report on completed enabling activities should be submitted by the bilateral and implementing agencies within six months of the project completion date and should highlight lessons learned about how the fast-start activities supported early action on implementing the Kigali Amendment in the country concerned.

⁵² See UNEP/OzL.Pro/ExCom/85/9, section V.

V. Key findings: achievements, challenges and lessons learned

147. Lessons learned are inferred from the analysis of enabling-activity projects, by considering both success factors and challenges identified during the projects' implementation phases. Most of the information arises from the final enabling-activity reports and their subsections on challenges faced during the implementation of enabling activities and lessons learned.⁵³

V.1 Achievements

Enabling factors of success (good practices)

148. All countries in the study reported that effective implementation of the enabling-activity projects was accomplished by using the existing national infrastructures and institutional settings that had been previously established for ODS phase-out programmes. Collaboration and information exchange among key actors, the development of enabling policies, and regular communication among the NOUs, implementing agencies and international/national consultants were the most frequently cited elements that facilitated the effective and timely delivery of the planned output.

Building the national roadmap for the Kigali HFC implementation plans

149. The roadmap prepared under the enabling-activity projects is commonly considered a powerful tool to guide a sectoral approach to the establishment of short, medium, and long-term actions to phase down HFCs. For example, the studies and assessments developed in the enabling-activity project in Mexico enabled the NOU to identify the main priorities and initiate steps for the development of policies and regulations for HFC control, including safety codes and standards on low-GWP alternatives and energy efficiency.

150. The timely completion of enabling activities was a key element of success for early ratification of the Amendment. As an example, Viet Nam managed to produce all deliverables of the enabling-activity project earlier than planned and was one of the few countries that finalized the recommendations to the Government and enabling early ratification of the Kigali Amendment.

Regional cooperation

151. Some countries in Africa reported that regional cooperation had a positive impact on capacity building. As an example, Mozambique commended the engagement that took place with neighbouring countries through a training workshop that proved to be very useful for sharing and comparing regulation strategies for HFC control, for discussing the establishment of harmonized border regimes, and for addressing common challenges at the sub-regional level. This was also considered to be a contribution to strengthening South-South cooperation. In the process of identifying policies and regulations that could facilitate HFC phase-down, the NOU of the Niger used a specific tool prepared by the international consultants consisting of two parts: (a) mandatory policy requirements of the Montreal Protocol; and (b) policy options that countries could consider.

⁵³ Additionally, the final reports on enabling activities from all UNEP-supported countries contained a section with a list of suggested follow-up steps and actions related to implementation of the Kigali Amendment. A summary of the follow-up actions from UNEP projects is provided in Annex V to the present document.

152. Several countries in the Asia and Pacific region reported that the regional approach proved to be effective for establishing the HS codes for HFCs. As revising the national HS codes would imply adjusting the national tariff systems, several countries referred the issue to the ASEAN Working Group for the assignment of ASEAN regional HS codes for HFCs and HFC blends.⁵⁴ Similarly, countries from the Pacific Island Countries Network benefited from the work with the OCO that resulted in the adoption of updated PACHS in time to allow for the implementation of PACHS 2022 as of 1 January 2022.

Information sharing

153. Several LVC countries acknowledged sharing sample reports from other countries as a good practice, as it reportedly enabled local consultants to better understand the expected report format and helped them to produce reports of the required quality.

154. Venezuela (Bolivarian Republic of) reported a good practice for strengthening the interaction of leading educational institutions with the NOU and the refrigeration association through the creation of a committee for joint work on different aspects of Kigali Amendment implementation related to the RAC servicing sector. The interaction among the different stakeholders in a participatory approach contributed to progress towards the enabling environment for Kigali Amendment implementation.

Customs and data classification

155. Timor-Leste considers periodical reconciliation of import data for controlled substances between the NOU and customs on a quarterly basis to be a good practice for ensuring accurate data collection and reporting on HFCs. According to the report on enabling activities in Belize, more resources are required to modify and adjust the existing online electronic licensing system, and to train customs officers and other stakeholders.

156. Türkiye's NOU, in cooperation with institutions of the European Union, organized an informative webinar on the identification of non-refillable containers with ODS and F-gases. About 150 participating customs and enforcement officers learned about case studies of illegal trade with refrigerants. This, together with continuous capacity building of customs officers at the point of entry, is a good practice for enhanced monitoring of illegal trade.

Engagement of relevant stakeholders

157. Outreach to relevant stakeholders and awareness raising was identified as an essential element for the achievement of country-wide support for the Amendment ratification process. Numerous countries reported that engaging the stakeholders during the initial stages of the enabling activities helped to ensure their buy-in. For example, the Togo NOU was initially sceptical about the engagement of the private sector (importers, resellers, service workshops, supermarkets, hotels). However, by involving them from the beginning of the enabling-activity project, the private sector entities quickly connected and turned out to be active stakeholders in the Kigali Amendment process.

158. In the process of data collection under enabling activities, countries in West Africa learned that NOUs need to gain the support and confidence of the end-users of refrigerants for easy access to the data. A good working relationship with the end-users was critical for the timely collection of accurate data. A few LVC countries in the Asia-Pacific and Africa regions reported data collection challenges due to

⁵⁴ UNEP reported that some countries in Southeast Asia have what is known as a “non-tariff code” system, which has been used as the national digit to assign individual HS codes for HFCs and blends. As it is a non-tariff code, it is not linked to the national tariff system.

deficient ODS record-keeping on the part of businesses. Countries reported that this lack of data precluded the completion of assessments on the availability of refrigerants in ODS-based appliances.

159. Venezuela (Bolivarian Republic of) stressed the importance of engaging customs officers, NOU officials and importers to make proper use of the online licensing system as soon as it is fully operational. This was reported to save time and effort in acquiring data for the country's reports.

National Ozone Units' role and outreach

160. For Cambodia and Kyrgyzstan, analyzing stakeholders' input and assessing legislative and policy options reportedly required more time and human resources than anticipated at the enabling-activity planning stage. This was due to the extensive engagement required from the NOUs to organize numerous follow-up calls and face-to-face meetings with technical experts appointed to collect information from a variety of sources. Argentina reported that additional staff was needed at the NOU given that the workload had doubled because of the preparation for implementation of the Kigali Amendment.

161. Several UNEP-supported countries across regions reported challenges in preparing the CARs, in particular with regard to the requirement to collect and analyze large sets of data from different stakeholders. Providing standardized questionnaires and a unified data collection methodology was cited as the most useful practice when accompanied by a detailed explanation of the approach and methodology to local experts.

162. For most of countries supported by UNEP and few countries supported by the other implementing agencies, OzonAction products⁵⁵ were an important element in facilitating the delivery of planned output for the ratification process. The following tools and publications were mentioned most frequently:

- (a) The Kigali Kit (19 fact sheets) was used to prepare presentations for the national stakeholder consultation workshops and to compile document packages that supported the ratification process;
- (b) The publication "*Legislative and Policy Options to Control Hydrofluorocarbons*" served as background information for government agencies and authorities when considering different options during the process of revising and/or amending existing ODS legislation; and
- (c) The mobile and desktop applications described in section III.3 were very useful tools for the training workshops for RAC technicians.

Training support

163. Several countries supported by UNIDO highlighted that the "Kigali in Action" training program organized by UNIDO was a key tool to help the NOU develop enabling activities, and was a useful channel for countries to exchange experiences on a number of issues, including: updating national licensing systems; setting up quota systems; adopting energy-efficient, low-GWP solutions for industries (including case studies); providing guidance on data collection, registry/processing, harmonized tariff codes, analysis, reporting on HFCs; addressing the new reporting requirements under the Kigali Amendment; and setting safety codes and international standards at the national, regional, and international levels. UNDP noted that

⁵⁵ https://www.ozonactionmeetings.org/system/files/unep_ozonactions_tools_and_products.pdf and mobile applications (op. cit.)

the training activities were developed in response to the specific needs of the countries where they provided support for the enabling activities.

164. UNEP noted that regular training of customs officers is crucial to compensate for their high rotation rate. It is also needed for effective enforcement of the licensing and quota system. Moreover, equipping the country's border crossings/ports with equipment to identify HFCs in imported products is vital to ensuring proper control. In the case of UNEP, training and capacity building was at the core of enabling activities in all the countries in their portfolio. It was noted that training activities for enabling activities benefitted from previous results arising from twinning workshops, as these previous activities had raised awareness on the need to engage with other stakeholders in order to deal with the emerging issues related to the Kigali Amendment.

V. 2 Challenges

165. The implementation of enabling activities started more or less quickly depending on the existing capacities in the different countries. Some countries were better prepared than others in terms of availability of technical and human resources. Constraints were also related to the readiness of institutional frameworks and the changes required to enable ratification of the Kigali Amendment once all the conditions had been met.

Constraints due to lack of national expertise

166. Several LVC countries in the Asia and the Pacific region and in the Africa, region experienced a shortage of qualified local experts with the right skills and experience to support the NOU with consultancy services for the preparation of technical and policy-related output. The lack of local expertise was particularly evident in the recruitment of local legal experts who could assist the NOUs in drafting new legislative tools and preparing the legal text of the decrees or laws required for ratification of the Amendment. Regional and/or international collaboration was reported to be useful in addressing this challenge.

Delays in national administrative processes

167. Several countries reported that Kigali Amendment ratification documents were not formally adopted in the course of the enabling activities due to protracted cabinet and parliamentary approval processes. For example, postponement of the Kigali Amendment ratification in Jamaica was caused by provisions in the national legislation that require the establishment of the HFC consumption baseline as a necessary pre-condition of the ratification process. Delays in administrative clearances, the approval process for ratification of the Kigali Amendment, and the finalization of regulations posed challenges in certain Article 5 countries; close follow-up, support from government decision-makers and information outreach to government officials were helpful in addressing delays.

Linkages between the national and regional level

168. Several countries in Africa argued that if the HS codes are regulated at the regional level, it is not possible to set them nationally. Nevertheless, initiatives for any change at the regional level must come from the national level and thus required extra time for discussion between members of the regional groupings. Cameroon reported that such proposals cannot be submitted by the NOUs, but must be submitted by national customs, thus creating an added level of complexity.

Challenges to future HFC phase-down projects

169. Capacity building in the RAC servicing sector has been recognized as challenging by a number of LVC countries where a majority of technicians are in the informal sector. Finding ways to engage and train informal-sector technicians is expected to be one of the main challenges in the implementation of KIPs, especially for the introduction of HFC alternatives with safety and flammability issues. The tools required to handle flammable refrigerants must also be made available to technicians in the servicing sector to ensure effective training in the safe use and handling of refrigerants.

Technological availability and cost-effectiveness

170. Several countries in Africa encountered challenges related to limited availability of cost-effective HFC alternative technologies, including an abundance low-quality HFC alternative refrigerants in local markets and inflated prices for recommended HFC alternative technologies. Now, the state of the global supply chain, international transportation challenges and the economic consequences of the COVID-19 pandemic raise the concern that future conversion projects will likely require a longer implementation periods.

Impact of the COVID-19 pandemic on the implementation of enabling activities

171. Almost all countries in the study highlighted that the COVID-19 pandemic posed significant challenges to the implementation of their enabling-activity projects. Activities in many countries had to be halted due to stringent health protocols and restrictions imposed on public gatherings, such as stakeholder roundtables and training workshops. Consequently, various awareness activities had to be shifted to virtual settings.

172. Several countries reported that the online meetings had a positive impact. Using tools such as Facebook and a shared Google drive to distribute information purportedly opened up opportunities for more extensive outreach to stakeholders, more regular contact with project partners, and savings of funds originally earmarked for the organization of physical meetings and travel. In the Asia and Pacific region, for example, UNEP introduced virtual RAC training to successfully address challenges linked to in-person training due to public gathering policy/travel restrictions.

173. Several countries reported the negative effect of COVID-19 on political decision-making in terms of changed government priorities and disrupted legal processes that caused delays in the approval of Kigali Amendment ratification documents. For some countries the shift to online settings was not possible in all situations. One-to-one meetings with members of government or parliament, and some specific stakeholder consultations had to be postponed. A few of the LVC Least Developed Countries (LDC) in Africa also cited problems with the reliability and stability of Internet access for online meetings with project partners and key stakeholders. Moreover, a few countries reported that some planned activities could not be completed at all due to the impact of the COVID-19 pandemic.

174. Overall, the impact of COVID-19 was ambiguous; while it implied the postponement of activities requiring in-person interaction, it also fostered the development of other ways of communicating that would remain after the pandemic.

V.3 Lessons learned

Effect on Kigali Amendment ratification

175. A key achievement of the enabling-activity projects is that most of the countries in the study ratified the Kigali Amendment either within or shortly after completion the enabling-activity projects. This was the *raison d'être* behind the approval of funding for enabling activities. Assessment of the existing legal and institutional frameworks for implementation of the Kigali Amendment, determination of the mandatory steps and documentation required for ratification of the Kigali Amendment, and the identification of national stakeholder institutions involved in the ratification process were important milestones on the path toward ratification. The achievements under enabling-activity projects laid the foundation for the preparation of the KIPs. Only a few countries used their enabling-activity funding to prepare national strategies or plans defining the technology pathways, policies and investment actions required to implement the Kigali Amendment, since these activities could be funded from KIP preparation funding.

Effect on policy and regulatory frameworks

176. All enabling-activity projects reviewed the existing institutional, policy and legislative frameworks in light of Kigali Amendment provisions. The NOUs took the lead in organizing high-level consultative and coordination meetings with the representatives of relevant ministries and other government agencies to review the existing legislation. This participatory approach led to development, revision and adoption of standards, codes, and norms that take into account HFC phase-down obligations. The development of new standards for flammable refrigerants could facilitate the acquisition, operation and servicing of technologies based on low-GWP refrigerants. None of the enabling activities attempted to address specific policies for the control of high-GWP substances.

Effect on stakeholders

177. The implementation of all enabling-activity projects was accomplished using the existing national infrastructure and institutional settings already in place for ODS phase-out. Nevertheless, enabling activities included training NOU staff to ensure that capacities and knowledge were up to date for Kigali Amendment ratification and implementation. Numerous enabling activities included a separate component on capacity building that focused mostly on traditional stakeholders already involved in HCFC phase-out programmes, such as national customs and the RAC servicing sector. Some enabling activities addressed new stakeholders that had not yet been fully engaged in the implementation of the Montreal Protocol, such as national educational and training institutes, as well as MAC servicing. In a few cases, enabling-activity projects also sensitized the agencies responsible for energy efficiency and prepared them to take on responsibilities in the implementation of the HFC phase-down.

178. Some NOUs reported a strengthening of their cooperation and partnership with stakeholders among energy officials, which and facilitated discussions with energy-efficiency counterparts about Montreal Protocol objectives in support of the Kigali Amendment. This laid an excellent foundation for the stakeholder consultation meetings organized as part of the enabling-activity projects when reviewing and discussing the existing ozone and climate policy/legislation to ensure an energy-efficient RAC sector.

Effect on existing enforcement and reporting systems

179. A component of most of the enabling-activity projects was the comprehensive review and upgrading of the existing licensing systems for ODSs and ODS-based products aimed at including HFCs and HFC-based equipment. Several countries also achieved official promulgation of the revised or upgraded legislation, making their licensing and quota system operational even before the completion of their

enabling-activity projects. In a few countries, the enabling activities supported the development of an online system to manage the annual quota application process in direct connection with national customs. In all reviewed countries the enabling activities provided essential support for capacity building on data collection and reporting for the NOUs and thus reinforced the existing infrastructure required for the preparation of future HFC phase-down projects.

Effect on data availability for HFC baseline consumption

180. A number of countries used the enabling-activity support to undertake discussions with the national customs authorities on updating of the WCO HS codes for better identification of HFC product imports as a basis for updated licensing systems. This work not only resulted in the adoption of new specific HS codes that allow for differentiation between HFCs and their blends, but also fostered a more comprehensive collection of national data on HFCs that can be used to determine an accurate HFC consumption baseline. A key achievement in the Asia and Pacific region was the adoption of new HS codes under regional initiatives, facilitating the comparability of data across countries in the same region. When countries adopt their regional code as their national code, such as the regional HS code in the Pacific Island Countries Network, it reduces the burden of engaging with each country to assign individual codes for HFCs and blends and facilitates regional implementation of control mechanisms at the customs level to address potential illegal trade.

Factors of success

181. The timely completion of enabling activities was a key element of success for progress towards ratification of the Kigali Amendment. A participatory approach to extensive outreach and awareness building involving a wide range of stakeholders was another fundamental factor in the achievement of country-wide support for the ratification process. Regional cooperation was essential to achieving planned results for the regulatory and enforcement components, as well as for data collection and reporting. Close cooperation with leading national educational establishments and vocational training institutes was indispensable for the successful implementation of the capacity-building components.

Energy efficiency

182. Only two projects had a distinct component on energy efficiency, which included the identification of non-ODS, low-GWP, safe and commercially available energy-efficient alternatives through studies and roundtables to review existing national energy efficiency laws, rules and regulations, and an assessment of the availability of new technologies and opportunities for tapping into energy-efficient solutions, with a particular emphasis on RAC sectors. A few other projects included activities on energy efficiency in other components. None of the countries reported collaboration with other funds such as GEF or GCF on energy efficiency. In general, the focus on energy efficiency was limited in the reviewed projects.

Gender mainstreaming

183. Only one project included a detailed assessment of the gender mainstreaming checklist. About half of the projects referred to some aspect of gender mainstreaming but with differing levels of detail. The most frequent reference was given only in terms of promoting gender participation where possible. About half of the enabling activities in Africa contain gender-disaggregated statistics for participation in training events and/or stakeholder consultations. Some final reports claimed that the low level of focus on gender was caused by the fact that the majority of enabling-activity projects had been approved before the official launching of the Multilateral Fund's operational policy on gender mainstreaming.

Implementation delays

184. Many of the reviewed enabling-activity projects required an extension, and the actual duration of projects was in several cases more than double the originally approved 18-month implementation period. Reasons for the delays were not included in the final reports on enabling activities until early 2020. The projects experienced further delays due to the COVID-19 pandemic outbreak that forced the postponement of consultation, training and awareness activities or their shift to online modalities. Small enabling-activity projects with the lowest funding level required an extension less frequently than enabling activities with higher funding levels.

185. The desk study also found some correlation between the level of funding and the risk of running up against the limits of the timeframe, maybe due to the more ambitious set of planned activities. Project extension implies additional costs for the implementing/bilateral agencies, given extended oversight without additional fees. Unfortunately, the requests for extension and the reports from the enabling-activity projects do not specify the reasons for delays; hence, it cannot be asserted whether the delays are systemic in nature or related to the specific limitations of individual enabling-activity projects. It seems that there is consensus that a 24-month period for implementation could have prevented the systematic use of extension requests (90 per cent of the enabling-activity projects). It would be simplistic to attribute all delays to the impact of the COVID-19 pandemic.

186. As a result of the findings and lessons learned from the desk-study, it is suggested to consider the following elements, as relevant, when designing and implementing projects for the implementation of the Kigali Amendment and preparing the HFC phase-down plans:

- (a) In designing the projects, implementing and bilateral agencies, together with NOUs, could identify technical knowledge gaps in order to minimize the negative impact of a lack of national expertise on the timely formulation and implementation of preparatory projects for KIPs. Projects could include mobilizing regional expertise to conduct HFC consumption surveys and to analyze the data for an accurate estimation of HFC baselines for compliance;
- (b) The projects could account for the necessary support for NOUs to reach out and engage with all relevant actors, in particular government agencies and stakeholders responsible for energy-related issues, in order to include the effective identification of energy-efficient technologies and equipment in the implementation of the KIP preparatory projects. The implementing and bilateral agencies could help the NOUs identify complementary sources of international or regional financing opportunities in this area;
- (c) The implementing and bilateral agencies, in cooperation with the NOUs, could stress the need for participatory approaches to the development and adoption of new or revised national norms and standards for flammable refrigerants as a prerequisite for the early acquisition and safe use of technologies based on low-GWP alternatives;
- (d) The implementing and bilateral agencies could support the NOUs' further engagement with national educational institutions and vocational training institutes to deliver extensive training of RAC service technicians, particularly on the introduction of HFC alternatives with safety and flammability issues; and
- (e) The Secretariat and the agencies could ensure that the reporting mechanisms and guidance for KIP-related funding, including the project completion report formats, incorporate indicators to report on the implementation of energy-related aspects as well as on the

implementation of the Multilateral Fund's operational policy on gender mainstreaming while implementing KIPs, as per the existing checklist that was included in the enabling-activity reporting format.

VI. Conclusion

187. The findings and lessons learned reported in the previous sections are worth considering in the design of future projects for the implementation of the Kigali Amendment. The experience gained from the implementation of enabling activities confirms that there is no one-size-fits-all project approach. The desk study presents lessons learned, success factors and challenges, yet there is no general pattern arising from the analysis to be applied across the board for all Article 5 countries.

188. The role of the implementing agencies, in close coordination with the NOUs, is instrumental in ensuring that the planning of future activities to implement the Kigali Amendment is adapted to the country's actual level of preparedness. The KIPs can build upon the results achieved through the enabling-activity projects. The lessons learned from these projects can be used to design each specific national KIP. The particularity of the enabling-activity funding is that it enabled each country to design the activities based on its own needs. These projects have strengthened countries' capacity and have enabled an institutional and legislative framework that will facilitate further engagement in the next phases of implementation of the Kigali Amendment.

189. The desk study has confirmed the usefulness of the enabling-activity projects as a tool for fast-starting transformative action towards the achievement of KIPs. The unique modality of this Multilateral Fund funding, conceived to adapt to the country's specific needs, was successful in providing fast-track support to countries so that they could be better prepared for the implementation of the Kigali Amendment. The enabling activities have helped accelerate either the actual ratification of the Amendment or the preparedness for doing so, compared to the situation prior to the enabling-activity implementation.

190. The desk study has also revealed that countries must have the national capacity to embark on technological transitions and the related institutional, legislative, and regulatory adjustments to address the new challenges related to the implementation of the Kigali Amendment. As such, capacity building, training, awareness raising and outreach to all stakeholders have been confirmed as core enabling activities, together with strengthening the role of customs and data collection. The availability of affordable and safe technologies, and the training of technicians to handle the transition are also elements of success when setting up national frameworks for the implementation of KIPs.

191. Institutional and policy-making factors also play an important role, particularly in relation to the ratification of internationally binding obligations such as the Kigali Amendment. Therefore, the speed of the ratification process alone cannot be used to measure the success of the enabling activities for HFC phase-down. While the purpose of the enabling activities has been fulfilled, most of the countries focused on activities relevant to the ratification of the Kigali Amendment, and on some initial activities defined in paragraph 20 of decision XXVIII/2, without integrating them systematically into a national plan or strategy for the fulfilment of Kigali Amendment commitments.

Annex I

FINAL COUNTRY REPORTS SUBMITTED AND RATIONALE FOR THE SAMPLING

The final selection of projects involving enabling activities indicated in the table below was based on interactions with the Senior Monitoring and Evaluation Officer and the Multilateral Fund Secretariat who provided guidance to ensure a sample with balanced diversity in funding levels, typology of countries (size, consumption, language, status of ratification of Kigali Amendment), diversity of implementing and bilateral agencies, and regional representation. As of 31 December 2022, cut-off date for the sampling, 88 final country reports had been submitted to the Secretariat.

| | Country | Region | HCFC status | Project code | Agency | Total funds approved (US \$) | Included in sample | Rationale for the sampling |
|----|----------------------------------|-------------------------|-------------|--|-------------|------------------------------|--------------------|---|
| 1 | Afghanistan | South Asia | Non-LVC | AFG/SEV/81/TAS/01+ | UNEP | 150,000 | | |
| 2 | Albania | Europe and Central Asia | LVC | ALB/SEV/80/TAS/01+ | UNIDO | 95,000 | | |
| 3 | Argentina | South America | Non-LVC | ARG/SEV/81/TAS/02+ | UNIDO | 250,000 | Yes | Geographical and agency representation |
| 4 | Armenia | Europe and Central Asia | LVC | ARM/SEV/80/TAS/01+ | UNIDO | 150,000 | Yes | Geographical and agency representation |
| 5 | Bahrain | West Asia | Non-LVC | BAH/SEV/81/TAS/34 | UNEP | 150,000 | Yes | Geographical and agency representation, HAT exemption |
| 6 | Belize | Caribbean | LVC | BZE/SEV/85/TAS/37 (UNDP) BZE/SEV/85/TAS/38 (Canada) | UNDP/Canada | 55,000 | Yes | Geographical and agency representation, Kigali Amendment not ratified |
| 7 | Bhutan | South Asia | LVC | BHU/SEV/80/TAS/01+ | UNEP | 50,000 | | |
| 8 | Bolivia (Plurinational State of) | South America | LVC | BOL/SEV/82/TAS/01+ | UNEP | 150,000 | Yes | Geographical representation |
| 9 | Bosnia and Herzegovina | Europe and Central Asia | LVC | BHE/SEV/80/TAS/01+ | UNIDO | 95,000 | | |
| 10 | Botswana | Africa Anglophone | LVC | BOT/SEV/81/TAS/01+ | UNEP | 150,000 | Yes | Geographical and agency representation, anglophone country |
| 11 | Burkina Faso | Africa Francophone | Non-LVC | BKF/SEV/80/TAS/01+ | UNIDO | 150,000 | | |
| 12 | Cambodia | Southeast Asia | LVC | KAM/SEV/80/TAS/01+ | UNEP | 150,000 | Yes | Geographical and agency representation |

| | Country | Region | HCFC status | Project code | Agency | Total funds approved (US \$) | Included in sample | Rationale for the sampling |
|----|--------------------------|--------------------------|-------------|---|-------------|------------------------------|--------------------|--|
| 13 | Cameroon | Africa Francophone | Non-LVC | CMR/SEV/80/TAS/01+ | UNIDO | 150,000 | Yes | Geographical and agency representation, francophone country |
| 14 | China | South Asia | Non-LVC | CPR/SEV/80/TAS/01+ (UNEP) CPR/SEV/80/TAS/04+ (UNDP) | UNDP/ UNEP | 250,000 | Yes | Geographical and agency representation |
| 15 | Congo | Africa Francophone | LVC | PRC/SEV/80/TAS/01+ | UNIDO | 150,000 | | |
| 16 | Cook Islands (the) | Pacific Island Countries | LVC | CKI/SEV/82/TAS/01+ | UNEP | 50,000 | Yes | Geographical representation, small island developing state |
| 17 | Dominican Republic (the) | Central America | Non-LVC | DOM/SEV/80/TAS/02+ | UNEP | 150,000 | Yes | Geographical and agency representation |
| 18 | Ecuador | South America | Non-LVC | ECU/SEV/80/TAS/02+ | UNEP | 150,000 | | |
| 19 | Egypt | Africa Anglophone | Non-LVC | EGY/SEV/81/TAS/03+ (UNEP) EGY/SEV/81/TAS/02+ (UNIDO) | UNEP/ UNIDO | 145,000 | | |
| 20 | Ethiopia | Africa Anglophone | LVC | ETH/SEV/81/TAS/01+ | UNEP | 95,000 | Yes | Geographical and agency representation, anglophone country |
| 21 | Eritrea | Africa Anglophone | Non-LVC | ERI/SEV/80/TAS/01+ | UNEP | 95,000 | | |
| 22 | Eswatini | Africa Anglophone | LVC | SWA/SEV/81/TAS/01+ | UNEP | 95,000 | | |
| 23 | Gambia (the) | Africa Anglophone | LVC | GAM/SEV/80/TAS/01+ | UNIDO | 95,000 | Yes | Geographical and agency representation, anglophone country, HAT exemption |
| 24 | Georgia | Europe and Central Asia | LVC | GEO/SEV/81/TAS/01+ | UNEP | 95,000 | | |
| 25 | Ghana | Africa Anglophone | Non-LVC | GHA/SEV/80/TAS/01+ | UNEP | 150,000 | Yes | Geographical and agency representation, anglophone country, HAT exemption |
| 26 | Grenada | Caribbean | LVC | GRN/SEV/81/TAS/01+ | UNIDO | 50,000 | Yes | Geographical and agency representation, Caribbean region, small island developing state |
| 27 | Guatemala | Central America | LVC | GUA/SEV/80/TAS/01+ | UNEP | 150,000 | | |
| 28 | Haiti | Caribbean | LVC | HAI/SEV/84/TAS/23 | UNDP | 95,000 | Yes | Geographical and agency representation, francophone country, Kigali Amendment not ratified |

| | Country | Region | HCFC status | Project code | Agency | Total funds approved (US \$) | Included in sample | Rationale for the sampling |
|----|--|--------------------------|-------------|---|-------------|------------------------------|--------------------|---|
| 29 | Honduras | Central America | LVC | HON/SEV/81/TAS/01+ | UNEP | 150,000 | | |
| 30 | Iraq | West Asia | Non-LVC | IRQ/SEV/81/TAS/26 | UNEP | 250,000 | | |
| 31 | Jamaica | Caribbean | LVC | JAM/SEV/80/TAS/01+ | UNDP | 150,000 | Yes | Geographical and agency representation, Kigali Amendment not ratified |
| 32 | Kiribati | Pacific Island Countries | LVC | KIR/SEV/81/TAS/01+ | UNEP | 50,000 | Yes | Geographical and agency representation |
| 33 | Kenya | Africa Anglophone | Non-LVC | KEN/SEV/81/TAS/01+ | UNEP | 150,000 | | |
| 34 | Kuwait | West Asia | Non-LVC | KUW/SEV/81/TAS/33 | UNEP | 250,000 | Yes | Geographical and agency representation, HAT exemption |
| 35 | Kyrgyzstan | Europe and Central Asia | LVC | KYR/SEV/80/TAS/01+ | UNEP | 95,000 | Yes | Geographical and agency representation |
| 36 | Lao People's Democratic Republic (the) | Southeast Asia | LVC | LAO/SEV/81/TAS/01+ | UNEP | 95,000 | Yes | Geographical and agency Representation |
| 37 | Lesotho | Africa Anglophone | LVC | LES/SEV/80/TAS/03+ (Italy) LES/SEV/80/TAS/04+ (UNDP) | UNEP/Italy | 95,000 | Yes | Geographical and agency representation |
| 38 | Malawi | Africa Anglophone | LVC | MLW/SEV/81/TAS/01+ | UNEP | 150,000 | | |
| 39 | Maldives | South Asia | LVC | MLD/SEV/80/TAS/01+ (UNEP) MDV/SEV/80/TAS/02+ (Italy) | UNEP/ Italy | 95,000 | | |
| 40 | Marshall Islands (the) | Pacific Island Countries | LVC | MAS/SEV/81/TAS/01+ | UNEP | 50,000 | | |
| 41 | Mauritius | Africa Francophone | LVC | MAR/SEV/82/TAS/28 | UNEP | 150,000 | Yes | Geographical and agency representation, small island developing state |
| 42 | Mexico | Central America | Non-LVC | MEX/SEV/80/TAS/01+ (UNIDO) MEX/SEV/80/TAS/02+ (UNEP) | UNIDO/ UNEP | 250,000 | Yes | Geographical and agency representation |
| 43 | Micronesia (Federated States of) | Pacific Island Countries | LVC | FSM/SEV/81/TAS/01+ | UNEP | 50,000 | Yes | Geographical and agency representation, small island country |
| 44 | Mongolia | South Asia | LVC | MON/SEV/80/TAS/01+ | UNEP | 95,000 | | |
| 45 | Montenegro | Europe and Central Asia | LVC | MOG/SEV/80/TAS/01+ | UNIDO | 50,000 | Yes | Geographical and agency representation |
| 46 | Mozambique | Africa Anglophone | LVC | MOZ/SEV/81/TAS/01+ | UNEP | 150,000 | Yes | Geographical and agency representation |

| | Country | Region | HCFC status | Project code | Agency | Total funds approved (US \$) | Included in sample | Rationale for the sampling |
|----|-------------------|--------------------------|-------------|---|-------------|------------------------------|--------------------|--|
| 47 | Namibia | Africa Anglophone | LVC | NAM/SEV/80/TAS/01+ | UNEP | 150,000 | | |
| 48 | Nauru | Pacific Island Countries | LVC | NAU/SEV/81/TAS/01+ | UNEP | 50,000 | | |
| 49 | Nepal | South Asia | LVC | NEP/SEV/81/TAS/01+ | UNEP | 95,000 | | |
| 50 | Nicaragua | Central America | LVC | NIC/SEV/81/TAS/01+ | UNIDO | 150,000 | | |
| 51 | Niger (the) | Africa Francophone | LVC | NER/SEV/81/TAS/01+ | UNIDO | 150,000 | Yes | Geographical and agency representation, francophone country, HAT exemption |
| 52 | Nigeria | Africa Anglophone | Non-LVC | NIR/SEV/80/TAS/01+ | UNEP | 250,000 | Yes | Geographical and agency representation, anglophone country, HAT exemption |
| 53 | Niue | Pacific Island Countries | LVC | NIU/SEV/81/TAS/01+ | UNEP | 50,000 | | |
| 54 | North Macedonia | Europe and Central Asia | LVC | MDN/SEV/80/TAS/01+ | UNIDO | 95,000 | | |
| 55 | Oman | West Asia | Non-LVC | OMA/SEV/81/TAS/35 | UNEP | 150,000 | | |
| 56 | Palau | Pacific Island Countries | LVC | TTR/SEV/80/TAS/01+ | UNEP | 50,000 | | |
| 57 | Paraguay | South America | LVC | PAR/SEV/81/TAS/01+ (UNEP) PAR/SEV/81/TAS/02+ (UNDP) | UNEP/ UNDP | 150,000 | Yes | Geographical and agency representation, spanish-speaking country |
| 58 | Peru | South America | Non-LVC | PER/SEV/80/TAS/01+ | UNDP | 150,000 | Yes | Geographical and agency representation, spanish-speaking country |
| 59 | Philippines (the) | Southeast Asia | Non-LVC | PHI/SEV/83/TAS/02+ (WB) | UNIDO | 250,000 | Yes | Geographical and agency representation |
| 60 | Qatar | West Asia | Non-LVC | QAT/SEV/82/TAS/23 (UNIDO) QAT/SEV/82/TAS/24 (UNEP) | UNIDO/ UNEP | 150,000 | | |
| 61 | Rwanda | Africa Anglophone | LVC | RWA/SEV/80/TAS/01+ (Italy) RWA/SEV/80/TAS/02+ (UNEP) | UNEP/ Italy | 95,000 | Yes | Geographical and agency representation, anglophone country |
| 62 | Samoa | Pacific Island Countries | LVC | SAM/SEV/81/TAS/01+ | UNEP | 50,000 | | |

| | Country | Region | HCFC status | Project code | Agency | Total funds approved (US \$) | Included in sample | Rationale for the sampling |
|----|----------------------------|--------------------------|-------------|--|--------------|------------------------------|--------------------|---|
| 63 | Saudi Arabia | West Asia | Non-LVC | SAU/SEV/81/TAS/33 | UNEP | 250,000 | Yes | Geographical and agency representation, HAT exemption |
| 64 | Senegal | Africa Francophone | Non-LVC | SEN/SEV/80/TAS/01+ | UNEP | 150,000 | | |
| 65 | Serbia | Europe and Central Asia | LVC | YUG/SEV/80/TAS/01+ | UNIDO | 150,000 | | |
| 66 | Sierra Leone | Africa Anglophone | LVC | SIL/SEV/81/TAS/01+ | UNEP | 95,000 | | |
| 67 | Solomon Islands | Pacific Island Countries | LVC | SOI/SEV/81/TAS/01+ | UNEP | 95,000 | | |
| 68 | Somalia | Africa Anglophone | Non-LVC | SOM/SEV/80/TAS/01+ | UNIDO | 150,000 | | |
| 69 | South Africa | Africa Anglophone | Non-LVC | SOA/SEV/82/TAS/01+ | UNIDO | 240,000 | Yes | Geographical and agency representation, anglophone country |
| 70 | South Sudan | Africa Anglophone | LVC | SSD/SEV/81/TAS/01+ | UNEP | 95,000 | Yes | Geographical and agency representation, anglophone country |
| 71 | Sri Lanka | South Asia | LVC | SRL/SEV/81/TAS/01+ | UNEP | 150,000 | Yes | Geographical and agency representation |
| 72 | Sudan (the) | Africa Anglophone | Non-LVC | SUD/SEV/80/TAS/01+ (UNEP) SUD/SEV/80/TAS/02+ (UNIDO) | UNEP/ UNIDO | 150,000 | | |
| 73 | Syrian Arab Republic (the) | West Asia | Non-LVC | SYR/SEV/83/TAS/01+ | UNEP | 250,000 | | |
| 74 | Timor-Leste | Southeast Asia | LVC | TLS/SEV/82/TAS/19 | UNEP | 50,000 | Yes | Geographical and agency representation, anglophone country, Kigali Amendment not ratified |
| 75 | Togo | Africa Francophone | Non-LVC | TOG/SEV/80/TAS/01+ | UNEP | 150,000 | Yes | Geographical and agency representation, francophone country, HAT exemption |
| 76 | Tonga | Pacific Island Countries | LVC | TON/SEV/80/TAS/02+ | UNEP | 50,000 | | |
| 77 | Trinidad and Tobago | Caribbean | Non-LVC | TRI/SEV/80/TAS/01+ | UNDP | 150,000 | | |
| 78 | Tunisia | Africa Francophone | Non-LVC | TUN/SEV/80/TAS/01+ (Italy) TUN/SEV/80/TAS/02+ (UNIDO) | UNIDO/ Italy | 150,000 | Yes | Geographical and agency representation, |

| | Country | Region | HCFC status | Project code | Agency | Total funds approved (US \$) | Included in sample | Rationale for the sampling |
|----|------------------------------------|--------------------------|-------------|--------------------|--------|------------------------------|--------------------|---|
| | | | | | | | | francophone country, HAT exemption |
| 79 | Türkiye | Europe and Central Asia | Non-LVC | TUR/SEV/80/TAS/01+ | UNIDO | 250,000 | Yes | Geographical and agency representation |
| 80 | Turkmenistan | Europe and Central Asia | LVC | TKM/SEV/80/TAS/01+ | UNEP | 150,000 | | |
| 81 | Tuvalu | Pacific Island Countries | LVC | TUV/SEV/81/TAS/01+ | UNEP | 50,000 | | |
| 82 | Uganda | Africa Anglophone | LVC | UGA/SEV/81/TAS/01+ | UNEP | 50,000 | | |
| 83 | United Republic of Tanzania (the) | Africa Anglophone | LVC | URT/SEV/81/TAS/01+ | UNEP | 95,000 | | |
| 84 | Vanuatu | Pacific Island Countries | LVC | VAN/SEV/81/TAS/01+ | UNEP | 50,000 | | |
| 85 | Venezuela (Bolivarian Republic of) | South America | Non-LVC | VEN/SEV/81/TAS/01+ | UNIDO | 250,000 | Yes | Geographical and agency representation, Kigali Amendment not ratified |
| 86 | Viet Nam | Southeast Asia | Non-LVC | VIE/SEV/80/TAS/01+ | UNIDO | 250,000 | Yes | Geographical and agency representation |
| 87 | Zambia | Africa Anglophone | LVC | ZAM/SEV/80/TAS/01+ | UNEP | 95,000 | Yes | Geographical and agency representation |
| 88 | Zimbabwe | Africa Anglophone | LVC | ZIM/SEV/80/TAS/01+ | UNEP | 150,000 | | |

Annex II

SAMPLE OF COUNTRIES SELECTED FOR THE DESK STUDY

Table 1. Sample of countries by region (44)

| | Country | Implementing agency | Total funds approved (US \$) | Approval (ExCom meeting) | Extension (ExCom meeting(s)) | Project completion date | Kigali Amendment ratification * | HFC consumption reporting |
|----|---|---------------------|------------------------------|--------------------------|------------------------------|-------------------------|---------------------------------|---------------------------|
| | Asia and the Pacific | | | | | | | |
| 1 | Cambodia | UNEP | 150,000 | 80 | - | June 2019 | April 2021 | 2018-2021 |
| 2 | China | UNDP/UNEP | 250,000 | 80 | 83 | June 2021 | June 2021 | 2020-2021 |
| 3 | Cook Islands (the) | UNEP | 50,000 | 82 | 85 IAP, 87 | June 2022 | August 2019 | 2019-2021 |
| 4 | Kiribati | UNEP | 50,000 | 81 | 84,87 | June 2022 | October 2018 | 2019-2021 |
| 5 | Lao People's Democratic Republic (the) | UNEP | 95,000 | 81 | 84,87 | June 2022 | November 2017 | 2019-2021 |
| 6 | Micronesia (Federal States of) | UNEP | 50,000 | 81 | 84 | June 2021 | May 2017 | 2019-2021 |
| 7 | Philippines (the) | UNIDO | 250,000 | 80 | 83,87 | March 2022 | November 2022 | 2019-2021 |
| 8 | Sri Lanka | UNEP | 150,000 | 81 | 84,87 | June 2022 | September 2018 | 2019-2021 |
| 9 | Timor-Leste | UNEP | 50,000 | 82 | 85 IAP, 87 | June 2022 | N | 2019-2021 |
| 10 | Viet Nam | UNIDO | 250,000 | 80 | - | April 2019 | September 2019 | 2019-2021 |
| | Subtotal Asia and the Pacific | | 1,345,000 | | | | | |
| | Europe and Central Asia | | | | | | | |
| 11 | Armenia | UNIDO | 150,000 | 80 | 83 | December 2019 | May 2019 | 2019-2021 |
| 12 | Montenegro | UNIDO | 50,000 | 80 | - | June 2019 | April 2019 | 2019-2021 |
| 13 | Kyrgyzstan | UNEP | 95,000 | 80 | 83 | December 2019 | September 2020 | 2018-2021 |
| 14 | Türkiye | UNIDO | 250,000 | 80 | 83, 87 | December 2020 | November 2021 | 2019-2021 |
| | Subtotal Europe and Central Asia | | 545,000 | | | | | |
| | Latin America and the Caribbean | | | | | | | |
| 15 | Argentina | UNIDO | 250,000 | 81 | 84,87 | June 2022 | October 2019 | 2020-2021 |
| 16 | Belize | UNDP/Canada | 95,000 | 85 IAP | - | August 2022 | N | - |
| 17 | Bolivia (Plurinational State of) | UNEP | 150,000 | 82 | 85 IAP, 87 | June 2022 | October 2020 | 2020-2021 |
| 18 | Dominican Republic | UNEP | 150,000 | 80 | 83,87 | October 2021 | April 2021 | 2019-2021 |
| 19 | Grenada | UNIDO | 50,000 | 81 | - | January 2020 | May 2018 | 2018-2021 |
| 20 | Haiti | UNDP | 95,000 | 84 | - | October 2022 | N | 2018-2021 |

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| | Country | Implementing agency | Total funds approved (US \$) | Approval (ExCom meeting) | Extension (ExCom meeting(s)) | Project completion date | Kigali Amendment ratification * | HFC consumption reporting |
|----|---|---------------------|------------------------------|--------------------------|------------------------------|-------------------------|---------------------------------|---------------------------|
| 21 | Jamaica | UNDP | 150,000 | 80 | 83 | May 2022 | N | - |
| 22 | Mexico | UNIDO/UNEP | 250,000 | 80 | 83,87 | December 2019 | September 2018 | 2019-2021 |
| 23 | Paraguay | UNEP/UNDP | 150,000 | 81 | 84,87 | June 2022 | November 2018 | 2018-2021 |
| 24 | Peru | UNDP | 150,000 | 80 | 83 | May 2022 | August 2019 | 2019-2021 |
| 25 | Venezuela (Bolivarian Republic of) | UNIDO | 250,000 | 81 | 84 | June 2022 | N | 2019-2021 |
| | Subtotal Latin America and the Caribbean | | 1,740,000 | | | | | |
| | Africa | | | | | | | |
| 26 | Botswana | UNEP | 150,000 | 81 | 84,87 | June 2022 | September 2020 | 2019-2021 |
| 27 | Cameroon | UNIDO | 150,000 | 80 | 83 | June 2021 | August 2021 | 2020-2021 |
| 28 | Ethiopia | UNEP | 95,000 | 81 | 84,87 | June 2022 | July 2019 | 2019-2021 |
| 29 | Gambia (the) | UNIDO | 95,000 | 80 | 83 | June 2021 | May 2021 | 2020-2021 |
| 30 | Ghana | UNEP | 150,000 | 80 | 83 | June 2019 | August 2019 | 2019-2021 |
| 31 | Lesotho | UNEP/Italy | 95,000 | 80 | 83 | December 2019 | October 2019 | 2018-2021 |
| 32 | Mauritius | UNEP | 150,000 | 82 | 85 IAP, 87 | May 2022 | October 2019 | 2019-2021 |
| 33 | Mozambique | UNEP | 150,000 | 81 | 84,87 | November 2021 | January 2020 | 2020-2021 |
| 34 | Niger (the) | UNIDO | 150,000 | 81 | 84,87 | May 2021 | August 2018 | 2019-2021 |
| 35 | Nigeria | UNEP | 250,000 | 80 | 83 | July 2021 | December 2018 | 2019-2021 |
| 36 | Rwanda | UNEP/Italy | 95,000 | 80 | 83 | December 2020 | May 2017 | 2019-2021 |
| 37 | South Africa | UNIDO | 240,000 | 82 | - | December 2019 | August 2019 | 2019-2021 |
| 38 | South Sudan | UNEP | 95,000 | 81 | 84,87 | May 2022 | N | 2020-2021 |
| 39 | Togo | UNEP | 150,000 | 80 | 83, 87 | April 2021 | March 2018 | 2019-2021 |
| 40 | Tunisia | UNIDO/Italy | 150,000 | 80 | 83 | July 2020 | August 2021 | 2019-2021 |
| 41 | Zambia | UNEP | 95,000 | 80 | 83, 87 | December 2021 | March 2021 | 2019-2021 |
| | Subtotal Africa | | 2,260,000 | | | | | |
| | West Asia | | | | | | | |
| 42 | Bahrain | UNEP | 150,000 | 81 | 84,87 | October 2021 | N/A | - |
| 43 | Kuwait | UNEP | 250,000 | 81 | 84,87 | September 2021 | N/A | - |
| 44 | Saudi Arabia | UNEP | 250,000 | 81 | 84,87 | December 2021 | N/A | - |
| | Subtotal West Asia | | 650,000 | | | | | |
| | Grand total | | 6,540,000 | | | | | |

* https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-2-f&chapter=27&clang=_en

Tables 2, 3 and 4 below provide explanation of the rationale for composition of the sample with regard to funding levels, implementing agencies and geographical regions to emulate as close as possible the composition of the total portfolio of 138 countries involving enabling activities. The selection of countries for the sample was constrained by the number of final reports submitted by 31 December 2022. The set of 88 final reports available at the cut dates that does not provide the same patterns of representation as the total portfolio of 138 countries. This is part of the methodological constraints of the desk study. The relation of the sample categories to the total portfolio is shown in tables 5-7.

Table 2. Comparison of projects involving enabling activities in the total portfolio and sample by funding level

| Funding level (US \$) | Portfolio | Share of portfolio (%) | Sample | Share of sample (%) |
|-----------------------|------------|------------------------|-----------|---------------------|
| 50,000 | 22 | 15.9 | 7 | 15.9 |
| 95,000 | 33 | 23.9 | 9 | 20.5 |
| 150,000 | 63 | 45.6 | 17 | 38.6 |
| 250,000 | 20 | 14.5 | 11 | 25 |
| All levels | 138 | 100 | 44 | 100 |

Table 3. Comparison of projects involving enabling activities in the total portfolio and sample by agency

| Implementing agency | Portfolio | Percentage in portfolio | Sample | Percentage in sample |
|---------------------|------------|-------------------------|-----------|----------------------|
| UNEP | 81 | 58.7 | 22 | 50 |
| UNIDO | 24 | 17.4 | 12 | 27.3 |
| UNDP | 9 | 6.5 | 3 | 6.8 |
| Joint projects | 18 | 13 | 8 | 18.2 |
| World Bank | 3 | 2.2 | - | - |
| Germany | 3 | 2.2 | - | - |
| All agencies | 138 | 100 | 44 | 100 |

Table 4. Comparison of projects involving enabling activities in the total portfolio and sample by geographical region

| Regions | Portfolio | Percentage in portfolio | Sample | Percentage in sample |
|---------------------------------|------------|-------------------------|-----------|----------------------|
| Africa | 53 | 38.4 | 16 | 36.4 |
| Asia and the Pacific | 32 | 23.2 | 10 | 22.7 |
| Europe and Central Asia | 11 | 8 | 4 | 9.1 |
| Latin America and the Caribbean | 33 | 23.9 | 11 | 25 |
| West Asia | 9 | 6.5 | 3 | 6.8 |
| All regions | 138 | 100 | 44 | 100 |

Table 5. Occurrence of projects involving enabling activities in the funding level segments

| Funding level (US \$) | Portfolio | Sample | Sample/Portfolio (%) |
|-----------------------|------------|-----------|----------------------|
| 50,000 | 22 | 7 | 31.8 |
| 95,000 | 33 | 9 | 27.3 |
| 150,000 | 63 | 17 | 27 |
| 250,000 | 20 | 11 | 55 |
| All levels | 138 | 44 | 31 |

Table 6. Occurrence of projects involving enabling activities in the agency segments

| Implementing agency | Portfolio | Sample | Sample/Portfolio (%) |
|----------------------------|------------------|---------------|-----------------------------|
| UNEP | 81 | 22 | 27.1 |
| UNIDO | 24 | 12 | 50 |
| UNDP | 9 | 3 | 33.3 |
| Joint | 18 | 8 | 38.9 |
| World Bank | 3 | - | - |
| Germany | 3 | - | - |
| All agencies | 138 | 44 | 31.8 |

Table 7. Occurrence of projects involving enabling activities in the geographic region segments

| Region | Portfolio | Sample | Sample/Portfolio (%) |
|---------------------------------|------------------|---------------|-----------------------------|
| Africa | 53 | 16 | 30.2 |
| Asia and the Pacific | 32 | 10 | 31.3 |
| Europe and Central Asia | 11 | 4 | 36.4 |
| Latin America and the Caribbean | 33 | 11 | 33.3 |
| West Asia | 9 | 3 | 33.3 |
| All regions | 138 | 44 | 31.9 |

Annex III

DATA AND INFOGRAPHICS ON IMPLEMENTATION, MODALITIES AND DELAYS

Table 1. Effect of enabling activities on the ratification of the Kigali Amendment

| Region | Kigali Amendment ratification | | | |
|---------------------------------|-------------------------------|----------------------------|---------------------------|--------------|
| | Before enabling activities | Within enabling activities | After enabling activities | Not ratified |
| Africa | 1 | 11 | 3 | 1 |
| Asia and the Pacific | 2 | 5 | 2 | 1 |
| Europe and Central Asia | 0 | 2 | 2 | 0 |
| Latin America and the Caribbean | 1 | 6 | 1 | 3 |
| West Asia* | 0 | 0 | 0 | 3 |

*Countries with HAT exemption

Chart 1. Effect of enabling activities on the Ratification of the Kigali Amendment

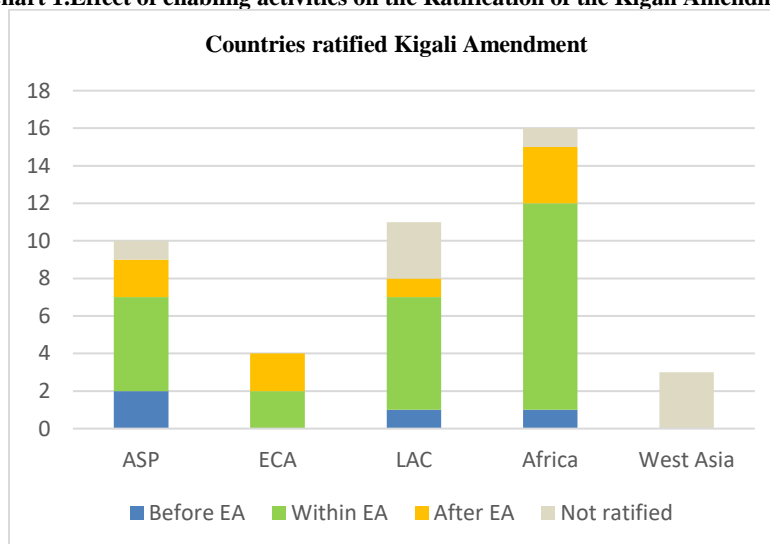


Table 2. Sample of enabling-activity reports by implementation support*

| Implementing agency | Coverage of countries |
|----------------------|-----------------------|
| UNEP | 22 |
| UNIDO | 12 |
| UNDP | 3 |
| Joint implementation | 7 |
| Total | 44 |

* Implementation support refers to the modality of implementation, either by a single agency or joint implementation.

Chart 2. Reviewed projects involving enabling activities by implementation support

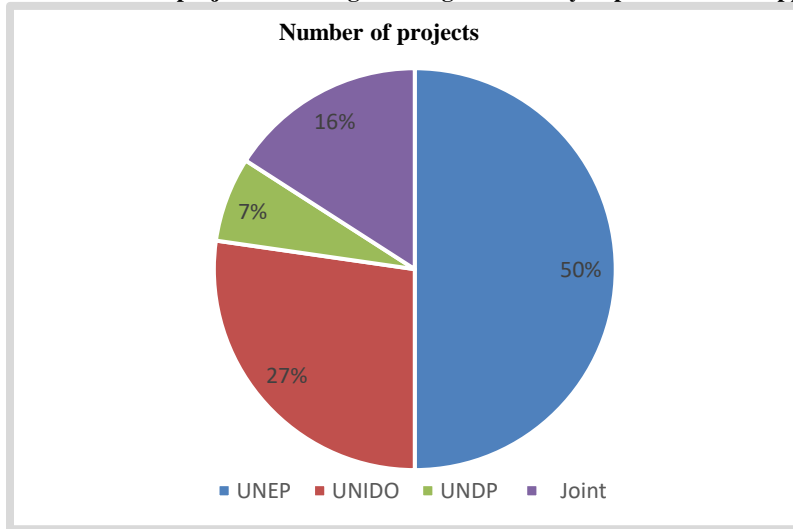


Table 3. Extension of reviewed projects involving enabling activities by region

| Region | Approved extension period (months) | | | |
|---------------------------------|------------------------------------|------------|------------|------------|
| | As planned | 12 | 24 | 30 |
| Africa | 14.3% | 53.8% | 30% | 35.7% |
| Asia and the Pacific | 28.6% | 15.4% | 20% | 28.6% |
| Europe and Central Asia | 14.3% | 15.4% | - | 7.1% |
| Latin America and the Caribbean | 42.9% | 15.4% | 20% | 28.6% |
| West Asia | - | - | 30% | - |
| All regions | 100 | 100 | 100 | 100 |

Chart 3. Extension of reviewed projects involving enabling activities by region

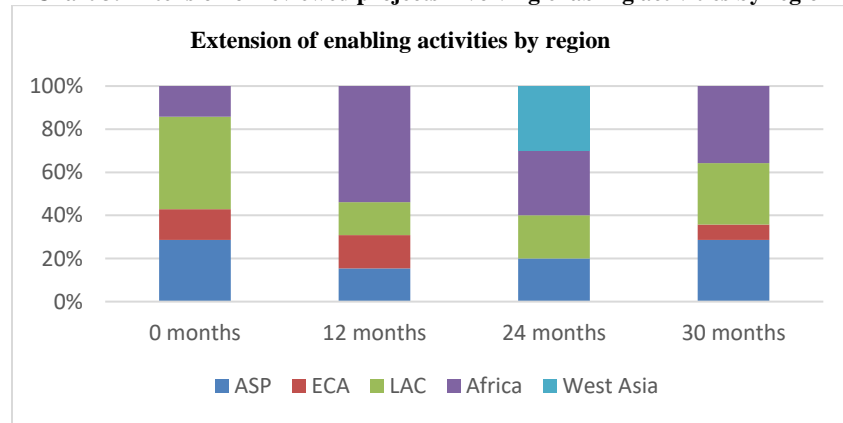


Table 4. Extension of reviewed projects involving enabling activities by funding level

| Funding (US \$) | Approved extension period (months) | | | |
|-----------------|------------------------------------|-------|-------|-------|
| | 0 | 12 | 24 | 30 |
| 50,000 | 42.9% | 14.3% | 28.6% | 14.3% |
| 95,000 | 11.1% | 33.3% | 11.1% | 44.4% |
| 150,000 | 11.8% | 29.4% | 29.4% | 29.4% |
| 250,000 | 18.2% | 9.1% | 36.4% | 36.4% |

Chart 4. Extension of reviewed projects involving enabling activities by funding levels

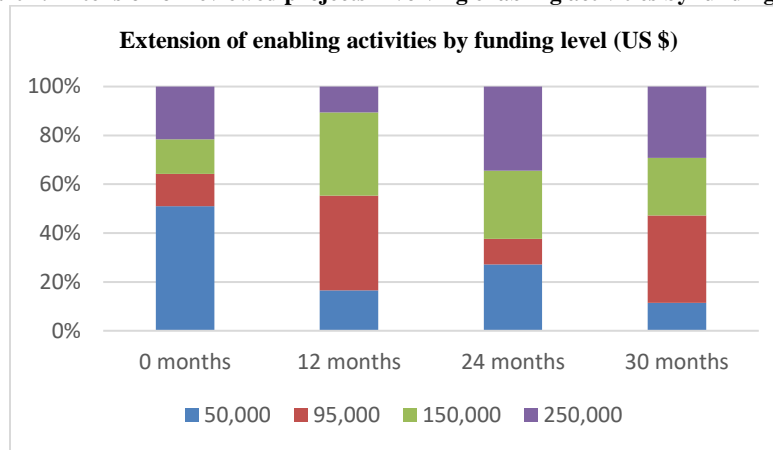


Table 5. Extensions and actual duration of enabling activities by region

| Region | Average period (months) | |
|---------------------------------|-------------------------|---------------|
| | Extension (5a) | Duration (5b) |
| Africa | 19.1 | 37 |
| Asia and the Pacific | 19.2 | 39 |
| Europe and Central Asia | 13.5 | 26 |
| Latin America and the Caribbean | 16.4 | 35 |
| West Asia | 24 | 40 |

Chart 5a and 5b. Average extension and actual duration periods of enabling activities by region

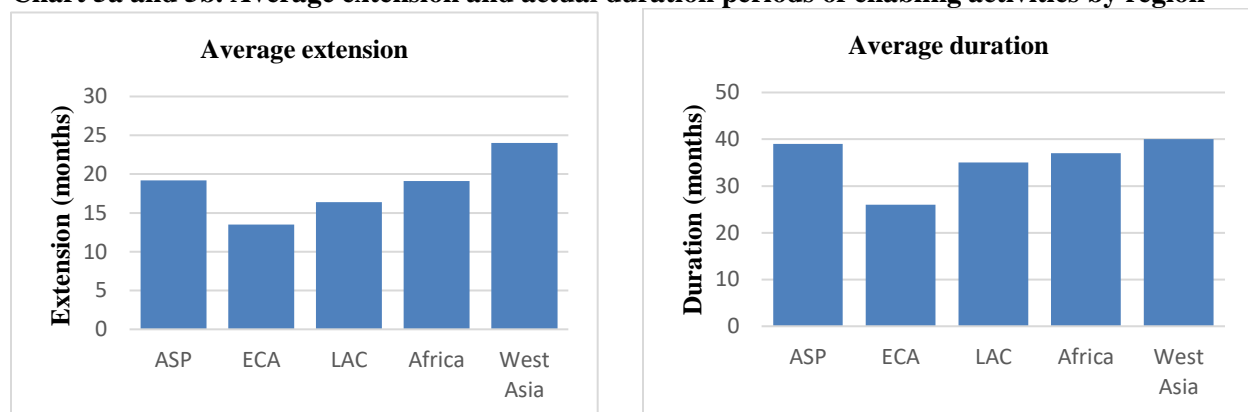


Table 6. Extension and actual duration of enabling activities by implementation support

| Implementing agency | Average period (months) | |
|---------------------|-------------------------|---------------|
| | Extension (6a) | Duration (6b) |
| UNDP | 4 | 31 |
| UNEP | 23.2 | 40.4 |
| UNIDO | 13.6 | 31 |
| Joint | 16.5 | 34.4 |

Chart 6a and 6b. Extension and actual duration of enabling activities by implementation support

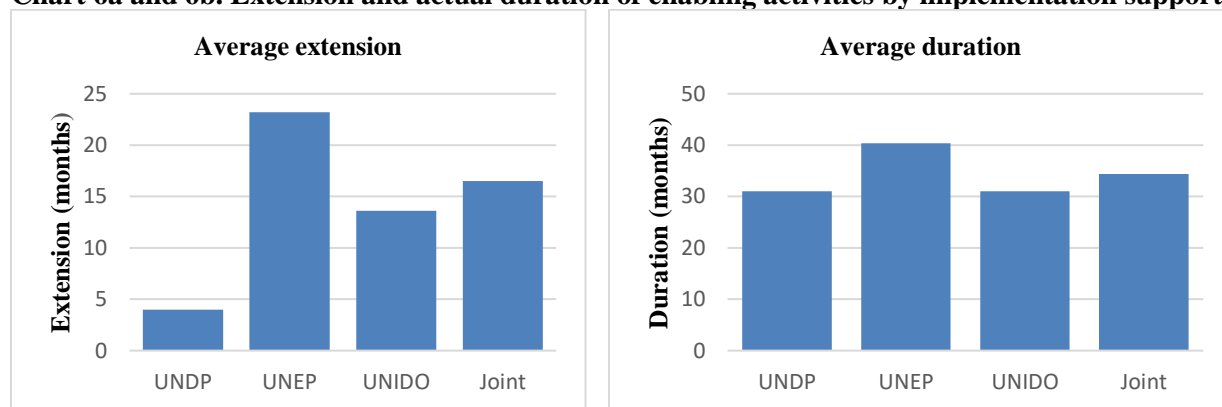
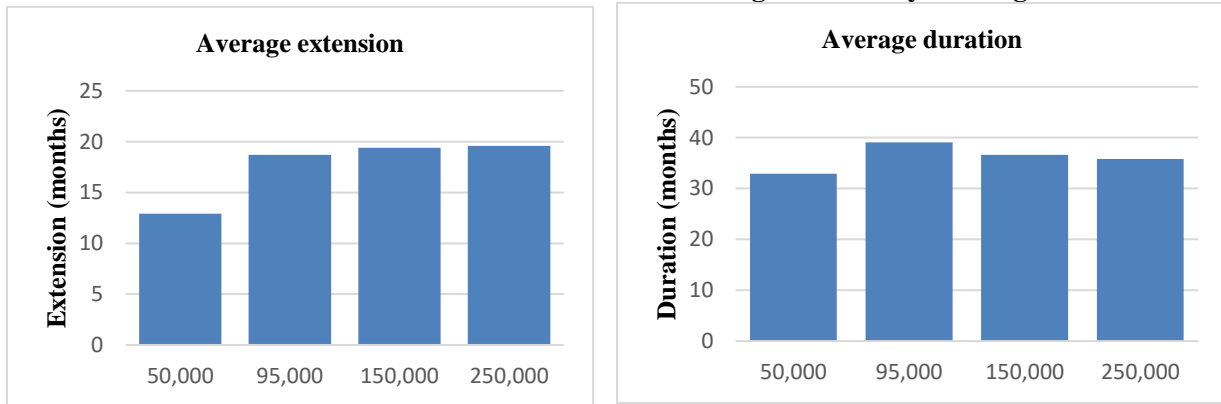


Table 7. Extensions and actual duration of enabling activities by funding level

| Funding level (US \$) | Average length (months) | |
|--------------------------|-------------------------|----------|
| | Extension | Duration |
| 50,000 | 12.9 | 32.9 |
| 95,000 | 18.7 | 39.1 |
| 150,000 | 19.4 | 36.6 |
| 250,000 | 19.6 | 35.8 |

Chart 7a and 7b: Extensions and actual duration of enabling activities by funding level



Annex IV

SOURCES OF INFORMATION REVIEWED

| Reference | Title/Description |
|--|--|
| UNEP/OzL.Pro/ExCom/90/8/Rev.1 | Terms of Reference for the Desk Study for the Evaluation of Enabling Activities for HFC Phase-Down |
| UNEP/OzL.Pro/ExCom/79/51, 80/59, 81/58, 82/72, 83/48, 84/75, 85/67, 86/100, 87/58, 88/79, 89/15, 89/16, 90/40, 91/72 | Reports of the meetings of the Executive Committee to the Multilateral Fund for the Implementation of the Montreal Protocol |
| UNEP/OzL.Pro/ExCom/78/10 | Draft procedures for Article 5 countries that have HFC consumption baseline years from 2020 to 2022 in accessing additional contributions for enabling activities |
| UNEP/OzL.Pro/ExCom/79/47 | Development of the Cost Guidelines for the Phase-Down of HFCs in Article 5 Countries: Draft Guidelines on Enabling Activities |
| UNEP/OzL.Pro/ExCom/84/73 | Draft Operational Policy on Gender Mainstreaming for Multilateral Fund-Supported Projects |
| UNEP/OzL.Pro/ExCom/85/9 | Status Reports and Reports on Projects with Specific Reporting Requirements |
| UNEP/OzL.Pro/ExCom/85/IAP/3 | Projects Approved Intersessionally |
| UNEP/OzL.Pro/ExCom/87/9 | Status Reports and Reports on Projects with Specific Reporting Requirements |
| UNEP/OzL.Pro/ExCom/87/13 | Overview of Issues Identified during Project Review |
| UNEP/OzL.Pro/ExCom/87/46 | Draft Guidelines for the Preparation of HFC Phase-Down Plans for Article 5 Countries |
| UNEP/OzL.Pro/ExCom/88/12 | Consolidated Progress Report as of 31 December 2020 |
| UNEP/OzL.Pro/ExCom/89/4 | Review of Institutional Strengthening Projects Including Funding Levels |
| UNEP/OzL.Pro/ExCom/90/09 | Status Reports and Reports on Projects with Specific Reporting Requirements |
| UNEP/OzL.Pro/ExCom/91/12 | Consolidated Progress Report as of 31 December 2021 |
| UNEP/OzL.Pro/ExCom/91/63 | Criteria for Pilot Projects to Maintain and/or Enhance Energy Efficiency of Replacement Technologies and Equipment in the Context of HFC Phase-Down |
| MLF/IACM.2020/1/19 | Guide for the Submission of Enabling Activities |
| Final reports on enabling activities from 44 countries | Sample of final reports submitted by the implementing agencies to the Multilateral Fund for the Implementation of the Montreal Protocol Secretariat up to 31 December 2022 |

Annex V

SUMMARY OF MAIN FOLLOW-UP ACTIONS FROM ENABLING ACTIVITIES SUPPORTED BY UNEP

- Follow-up on the Kigali Amendment ratification (for countries that did not reach ratification within the project involving enabling activities)
- Follow-up on the signing and promulgation of new legislation (for countries that completed only draft legislation with the project involving enabling activities)
- Implementation of agreed recommendations in the Country Assessment Report (for countries that produced it)
- Additional staffing of the national ozone units (NOUs) to perform the additional day-to-day tasks for the Kigali Amendment implementation
- Reactivate the National Taskforce on Ozone-Depleting Substances and redefine its members and role to better prepare the country to implement the Kigali Amendment
- Work with UNEP to update the national HFC Outlook model to include new HFC data input
- Periodically reconcile import data of controlled substances between the NOUs and the customs, e.g., on a quarterly basis, to ensure accurate HFC data reporting
- Refine the quota allocation methodology and criteria for future enforcement
- Prepare for the implementation of the World Customs Organization's harmonized system codes
- Develop standards on the use, transportation, and storage of flammable refrigerants
- Explore feasibility of introducing early disincentives/restrictions for the import of equipment relying on HFCs with high global-warming potential (GWP) (e.g., HFC-134a and R-410A)
- In cooperation with government stakeholders establish criteria for the refrigeration and air-conditioning (RAC) servicing enterprises to require approval from the NOUs for operations in RAC servicing
- Expand the mandatory labelling of RAC appliances to include information about the climate friendliness of refrigerants in use
- Continue to implement market inspection of refrigerants in the domestic market
- Additional training for enterprises who are applying for import quota and permits for HFC refrigerant and HFC-based equipment
- Plan for outreach to all importers to be aware of the new document on HFC management and how to appropriately declare the information in the application for a license
- Further training of the customs and enforcement officers on the mandatory licensing system, identification of refrigerants, and enforcement of permits
- Further training of RAC technicians on best practices in use of flammable HFC alternatives and related safety practices and include the mobile air-conditioning servicing sector in the training programme
- Complete the work on the national RAC training curriculum and fully implement the certification for RAC technicians including the development of a Recognition of Prior Learning system
- Strengthen the regulation of the servicing sector by introducing standard operating procedures, registration, and competency requirements and other provisions

- Introduce mechanisms to support workshops to purchase the tools and refrigerant recovery units to handle low-GWP and energy-efficient RAC technologies
- Encouraging more RAC sector workshops/ servicing enterprises to join RAC associations to ensure that they get all relevant information and reach out to capacity-building activities
- Strengthen the interaction of national educational institutions with the NOU and the Refrigeration Associations for work on various aspects of the implementation of the Kigali Amendment related to the RAC servicing sector
- Continue actions for ensuring availability of propane as a refrigerant in the national market
- Develop and implement national standards for energy labelling or Minimum Energy Performance Standards for RAC equipment
- Advocate for the institutionalization of specific energy efficiency national standards for RAC appliances in line with best international practices
- Update public procurement guidelines to include requirements on the GWP and energy efficiency of RAC equipment
- Continue using OzonAction publications/tools to support the implementation of different activities under the Kigali Amendment

Annex VI

SUMMARY FACT SHEET ON THE RESULTS OF ENABLING ACTIVITIES

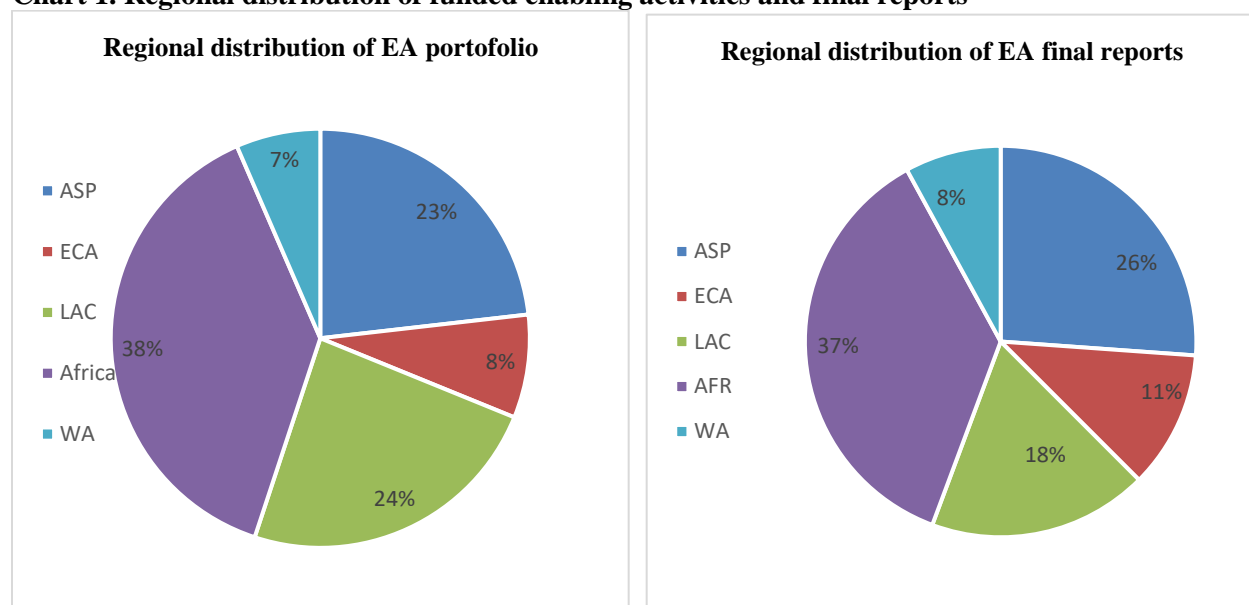
This fact sheet presents essential results of the desk study for the evaluation of enabling activities for HFC phase-down that covers the enabling activities implemented from 1 December 2017 until 31 December 2022. The study is based on review and analysis of final reports from 44 selected projects involving enabling activities as a representative sample of large and small countries in all regions, countries with early and more recently approved projects involving enabling activities, countries of diverse status of ratification, as well as low-volume-consuming (LVC) and non-LVC countries supported by different implementing agencies.

Table 1. Portfolio of enabling activities

| | |
|--|------------------------|
| Total number of recipient countries for enabling activities funding | 138 |
| Total funds approved for enabling activities | US \$18,775,000 |
| Total number of submitted final country reports on enabling activities * | 88 |

*As of 31 December 2022

Chart 1. Regional distribution of funded enabling activities and final reports



ENABLING ACTIVITIES RESULTS ON KIGALI AMENDMENT RATIFICATION OR ON PREPAREDNESS FOR RATIFICATION

All countries:

- Initial assessment of the existing legal and institutional frameworks required for the implementation of the Kigali Amendment (Country Assessment Reports)
- Determination of the mandatory steps and preparation of legal documents for the Kigali Amendment ratification
- Identification of national stakeholder institutions relevant to the ratification process
- Production of information materials and organisation of stakeholder consultation meetings for building awareness on Kigali Amendment

Countries with higher funding levels:

- Analysis of implications of different HFC alternatives and technologies, barriers to their introduction and effective use, and their availability
- Revision of national laws on ozone-depleting substances (ODS) control for inclusion of HFCs
- Proposed national strategy or road map for the HFC phase-down and introduction of alternatives

ENABLING ACTIVITIES RESULTS ON CAPACITIES OF NATIONAL STAKEHOLDERS

All countries:

- Increased understanding by traditional stakeholders, including the staff of national ozone units (NOUs), customs officers, and representatives of the refrigeration and air-conditioning (RAC) industry, of the Kigali Amendment and its implications on policy changes
- Sensitisation and involvement of agencies and institutions that had not yet been engaged in implementation of the Montreal Protocol
- Increased awareness of a wide range of stakeholders on policy measures related to the Kigali Amendment and on the importance of accurate and timely data collection on HFCs
- Training programmes for RAC technicians on safety procedures in handling flammable refrigerants

Countries with higher funding levels:

- Comprehensive training needs assessments prepared and validated through roundtable discussions with institutional stakeholders
- Contribution to establishment of national certification schemes for RAC technicians
- Modification of training curricula to align with Good Servicing Practices and to ensure preparedness for introduction and safe use of flammable refrigerants
- Revision of national labour competency standards for RAC technicians
- Training for national customs and enforcement officers on enhanced control of import and consumption of HFCs and HFC blends
- Consumer awareness for general public to understand the costs and benefits related to alternative technologies with low global-warming potential (GWP)

ENABLING ACTIVITIES RESULTS ON NATIONAL ENFORCEMENT AND REPORTING SYSTEMS

Majority of countries:

- Review of the existing licensing and quota system and proposal of update either through revision of the existing legislation or drafting a new legislative instrument for inclusion of HFCs and HFC-based equipment;
- Enhanced capacities of the NOUs on HFC data collection and reporting and adaptation to different units/metrics of HFC control

Countries with higher funding levels:

- Establishment or upgrade of an online system for management of the annual quota application process and annual periodical and post-clearance reporting
- Cooperation with national customs for update and adoption of the World Customs Organization's Harmonized Commodity Description and Coding Systems (HS) for better identification of HFC product imports
- Cooperation with regional economic and customs groupings (ECOWAS, ASEAN, OCO)

ENABLING ACTIVITIES RESULTS ON ENERGY EFFICIENCY – LESSONS LEARNED AND GOOD PRACTICES

- A few countries addressed identification of non-ODS, low-GWP, safe and commercially available energy-efficient alternatives
- Review of the existing energy efficiency laws, rules, and regulations, as well as assessment of availability of new technologies and opportunities for energy-efficient solutions, with particular emphasis on the RAC sector (Viet Nam, the Philippines)
- Seminars and roundtables on energy-efficient alternative technologies (Montenegro, Cameroon, Dominican Republic)
- Initiation of work on the Minimum Energy Performance Standards and labelling for RAC equipment to encourage import of energy-efficient appliances based on low-GWP refrigerants (Ghana, Lesotho, Nigeria)

LESSONS LEARNED AND GOOD PRACTICES

- Collaboration and information exchange and regular communication among the NOUs, implementing agencies, and international/national consultants essential for effective and timely delivery of the planned output
- Roadmap for HFC phase-down prepared under the projects involving enabling activities considered a powerful tool to guide through a sectoral approach for establishment of short, medium, and long-term actions
- Periodical reconciliation of import data for controlled substances between the NOU and the customs ensures accurate data collection and reporting on HFCs
- Outreach to relevant stakeholders and their continued engagement from initial stages of the enabling activities helped to ensure the stakeholders' buy into the projects
- Good working relationship with the end-users critical for timely collection of accurate data
- Analysis of stakeholders' input and assessment of legislative and policy options reportedly required more time and human resources than anticipated at the planning stage for enabling activities
- Regional and/or international collaboration was essential for addressing lack of local expertise for assistance to the NOUs in drafting new legislative tools in LVC countries
- Utilisation of OzonAction tools and products facilitated the delivery of planned output related to the Kigali Amendment ratification process
- The training programme "Kigali in Action" was a key tool to help the NOUs in the development of enabling activities and a useful channel for exchange experiences
- Regional approach proved effective for revision and establishment of the HS codes for HFCs and HFC blends
- Capacity building in the RAC servicing sector in LVC countries presents challenges for engaging with technicians in the informal sector for introduction of HFC alternatives with safety and flammability issues
- Limited availability of cost-effective HFC alternative technologies, abundance low-quality HFC alternative refrigerants at the local markets, and inflated prices for recommended HFC alternative technologies recognised as main obstacles for implementation of future HFC phase-down projects
- The COVID-19 pandemic posed significant challenges to implementation of projects involving enabling activities in terms of forced shift of meetings to virtual settings
- Use of Facebook and shared Google drive for distribution of information purportedly opened opportunities for more extensive outreach to stakeholders, more regular contact with project partners, and savings of funds originally earmarked for organisation of physical meetings and travel
- The COVID-19 pandemic had negative impact on political decision-making in terms of changed priorities of the governments and disrupted legal processes due to the pandemic that caused delays in approval of the Kigali Amendment ratification documents
- Political instability in several countries delayed normal administrative and legislative procedures and related insecurity caused difficult access to stakeholders from remote areas