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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-ninth Meeting
Montreal, 7–11 December 2026
Item 9(c) of the provisional agenda[1]

**PROJECT PROPOSALS: NORTH MACEDONIA**

This document consists of the comments and recommendation of the Secretariat on the following project proposals:

| | | |
|---|---|---|
| Phase-out | | |
| • HCFC phase-out management plan (stage II, third tranche) | UNIDO | Blanket approval |
| Phase-down | | |
| • Kigali HFC implementation plan (stage I, second tranche) | UNIDO | Blanket approval |

[1] UNEP/OzL.Pro/ExCom/99/1

Pre-session documents of the Executive Committee of the Multilateral Fund for the Implementation of the Montreal Protocol are without prejudice to any decision that the Executive Committee might take following issuance of the document.

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

North Macedonia

| PROJECT TITLE | AGENCY | MEETING APPROVED | CONTROL MEASURE |
|---|---|---|---|
| HCFC phase-out plan (stage II) | UNIDO (lead) | 88th | 100% phase-out by 2028 |

| ARTICLE 7 DATA (Annex C, Group I) | Year: 2025 | 0.00 ODP tonnes |
|---|---|---|

| COUNTRY PROGRAMME SECTORAL DATA (ODP tonnes) | | | | | | | Year: 2025 |
|---|---|---|---|---|---|---|---|
| Substance | Aerosol | Foam | Firefighting | Refrigeration | | Solvent | Total sector consumption |
| | | | | Manufacturing | Servicing | | |
| HCFC-22 | | | | | 0.03 | | 0.03 |

| CONSUMPTION DATA (ODP tonnes) | | | |
|---|---|---|---|
| 2009–2010 baseline: | 1.80 | Starting point for sustained aggregate reductions: | 3.35 |
| **CONSUMPTION ELIGIBLE FOR FUNDING** | | | |
| Already approved: | 3.35 | Remaining: | 0.00 |

| ENDORSED BUSINESS PLAN | | 2026 | 2027 | 2028 | Total |
|---|---|---|---|---|---|
| UNIDO | ODS phase-out (ODP tonnes) | 0.29 | 0.00 | 0.12 | 0.41 |
| | Funding (US $) | 127,063 | 0 | 52,163 | 179,226 |

| PROJECT DATA | | | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumption (ODP tonnes) | Montreal Protocol limits | | 1.17 | 1.17 | 1.17 | 1.17 | 0.59 | 0.59 | 0.59 | 0.59 | n/a |
| | Maximum allowable | | 0.9 | 0.79 | 0.68 | 0.58 | 0.47 | 0.36 | 0.25 | 0 | n/a |
| Amounts approved in principle (US $) | UNIDO | Project costs | 120,000 | 0 | 0 | 200,000 | 0 | 118,750 | 0 | 48,750 | 487,500 |
| | | Support costs | 8,400 | 0 | 0 | 14,000 | 0 | 8,313 | 0 | 3,413 | 34,125 |
| Funds approved by ExCom (US $) | | Project costs | 120,000 | 0 | 0 | 200,000 | 0 | 0 | 0 | 0 | 320,000 |
| | | Support costs | 8,400 | 0 | 0 | 14,000 | 0 | 0 | 0 | 0 | 22,400 |
| Total funds recommended for approval at this meeting (US $) | | Project costs | | | | | | 118,750 | | | 118,750 |
| | | Support costs | | | | | | 8,313 | | | 8,313 |

| Secretariat's recommendation: | Blanket approval |
|---|---|

## PROJECT DESCRIPTION

1. On behalf of the Government of North Macedonia, UNIDO as the designated implementing agency, has submitted a request for funding for the third tranche of stage II of the HCFC phase-out management plan (HPMP), in the amount of US $118,750, plus agency support costs of US $8,313.[2] The submission includes a progress report on the implementation of the second tranche, the verification report on HCFC consumption for 2021 to 2025, and the tranche implementation plan for 2027 to 2028.

Report on HCFC consumption

2. The Government of North Macedonia reported a consumption of 0.00 ODP tonnes of HCFC-22 in 2025, which is 100 per cent below the country's HCFC baseline for compliance. The 2021–2025 HCFC consumption is shown in table 1.

**Table 1. HCFC consumption in 2021–2025 in North Macedonia (Article 7)**

| HCFC-22 | 2021 | 2022 | 2023 | 2024 | 2025 | Baseline |
|---|---|---|---|---|---|---|
| **Metric tonnes (mt)** | 0.00 | 1.72 | 0.00 | 0.00 | 0.00 | 32.78 |
| **ODP tonnes** | 0.00 | 0.09 | 0.00 | 0.00 | 0.00 | 1.80 |

3. HCFC-22 consumption has declined to zero, with no imports since 2021, apart from a small import in 2022. This decline results from the implementation of activities under the HPMP, the market transition to HFCs, the use of recycled refrigerants and the utilization of stockpiles. The country has implemented a refrigerant recovery and recycling (R&R) programme to sustain HCFC phase-out and has committed to a complete phase-out of HCFCs by 2028, ahead of the Montreal Protocol phase-out schedule.

*Country programme implementation report*

4. The HCFC consumption data provided by the Government of North Macedonia in its country programme (CP) implementation report for 2025 is consistent with the data reported under Article 7 of the Montreal Protocol, noting that the HCFC-22 reported under the CP in 2021 and from 2023 to 2025 used for servicing refrigeration and air-conditioning (RAC) equipment was sourced from stockpiles or recycled refrigerants.

*Verification report*

5. The verification report confirmed that the Government was implementing a licensing and quota system for HCFC imports and exports and that the total consumption of HCFCs reported under Article 7 of the Montreal Protocol for 2021 to 2025 was correct (as shown in table 1 above). The verification concluded that the 2021–2025 data demonstrates consistent progress toward phasing out HCFCs in North Macedonia, and that the country fully achieved the targets under both the Montreal Protocol and its Agreement with the Executive Committee.

Progress report on the implementation of the second tranche of stage II of the HCFC phase-out management plan

*Legal framework*

6. North Macedonia has established a licensing and quota system to control HCFC imports and exports. Key national legislation includes a ban on the import and export of HCFC-based equipment as of January 2012; a ban on the sale of refrigerants in non-refillable cylinders since January 2015; a prohibition

[2] As per the letter of 21 September 2026 from the Ministry of Environment and Physical Planning of North Macedonia to UNIDO.

on the import and export of HCFC-141b in bulk and contained in pre-blended polyols as of March 2021; a ban on the sale of HCFC-141b and its mixtures since May 2021; and a progressive import restriction on HCFC-22 leading to a complete ban on all HCFCs by 1 January 2028. The country has also introduced the implementation of logbooks for equipment containing 3 kg or more of HCFCs, proper labelling, and measures to minimize emissions.

7. To strengthen best practices for preventing illegal imports, a brochure was produced detailing North Macedonia's legal obligations, key legislation, cylinder labelling, Harmonized System (HS) codes, practical customs control procedures, and common smuggling methods. The brochure supported a training campaign to strengthen the capacities of the Customs Administration to apply best practices and prevent the illegal import of Montreal Protocol substances. A scenario analysis and lessons learned on a case of illegal refrigerants confiscated by customs has been conducted and will be used as a training exercise in the future.

*Refrigeration servicing sector*

8. The following activities were implemented during the second tranche:

(a) The quantities of refrigerants recovered and recycled were monitored and reported: in 2024, 21.09 mt of refrigerants (CFC, HCFC and HFC) was recovered and recycled, of which 14.24 mt (1.62 mt HCFC-22) was recycled, 6.86 mt (0.225 mt HCFC-22) was recovered, and 1.3 mt was waste, the 2025 data is under review;

(b) Thirty sets of R&R equipment were purchased and delivered to the country in January 2026; a distribution plan has been developed, and equipment distribution is expected to be completed by November 2026;

(c) To support the establishment of the training centre, several meetings and coordination efforts were held among Cyril and Methodius University in Skopje, the national ozone unit (NOU), and UNIDO. Detailed equipment specifications were presented to the University; and procurement is expected in the fourth quarter of 2026;

(d) Regarding the planned laboratory upgrades for practical training on good service practices, several visits were made to the Vlado Tasevski Vocational High School in Skopje which already offers RAC training courses and has expressed interest in introducing topics on the safe handling of alternatives to HCFCs and HFCs. A list of additional equipment[3] has been provided to the school, and one refrigerant recovery machine will be allocated in October 2026;

(e) A study tour to PROZON, a training centre in Poland, was organized for four staff from the Faculty of Mechanical Engineering at Cyril and Methodius University in Skopje; two participants attended the study tour, and two participants received four-day training, including an examination and certificates to become trainers for technician certification;

(f) A feasibility study was undertaken to assess the financial viability and business model for establishing a reclamation centre in Skopje, and the financial analysis confirms profitability and overall viability. The establishment of the reclamation centre is also included in the action plan for the management of banks of unwanted ODS and HFCs; and

(g) In May 2025, representatives of the NOU and the Ministry of Environment and Physical Planning participated in an International Study Tour on Refrigerants Recovery, Recycling and Reclamation Practices, organized for several countries in the region, where the

[3] Including refrigerant recovery unit with filters (30), recovery cylinders (4), vacuum pump, leak detector, electronic scale manifold (2), and other miscellaneous.

establishment of a reclamation centre and the reclamation process were discussed; the representatives also visited the ASC recycling waste management centre and the recovery, recycling and reclamation (RRR) centre in Barcelona.

*Project implementation and monitoring*

9. The NOU and UNIDO have been monitoring activities, reporting on progress, and working with stakeholders to phase out HCFCs. Of the US $15,000 approved for project monitoring activities under the second tranche, US $3,000 was disbursed to coordinate implementation of the second tranche, and US $12,000 was disbursed to support the purchase and delivery of R&R kits and the development of selection criteria for institutions to become training centres.

Level of fund disbursement

10. As of September 2026, of the US $320,000 approved so far, US $193,250 has been disbursed for UNIDO, as shown in table 2. The balance of US $126,750 will be disbursed during the implementation of the next tranche.

**Table 2. Financial report of stage II of the HPMP for North Macedonia (US $)**

| Funding tranche | Funds approved | Funds disbursed | Disbursement rate (%) | Fund balance |
|---|---|---|---|---|
| First | 120,000 | 109,550 | 91 | 10,450 |
| Second | 200,000 | 83,700 | 42 | 116,300 |
| **Total** | **320,000** | **193,250** | **60** | **126,750** |

Implementation plan for the third tranche of stage II of the HCFC phase-out management plan

11. The following activities will be implemented by UNIDO between January 2027 and December 2028:

(a) *Policy instruments*: Continue implementing import quotas and permits; update environmental taxes for HCFC imports; complete the legal and institutional procedures for establishing the certification system; and introduce a scheme for the integrated inspection of RAC equipment by environmental and customs inspectors (from national institutional resources coordinated by the NOU);

(b) *Upgrading the R&R scheme*: Continue to monitor the recovered and recycled refrigerant quantities; distribute R&R equipment; train 100 technicians (20 to 30 per cent women) on good servicing practices (US $16,000);

(c) *Establishment of sustainable training centres*: Purchase and install the training and demonstration unit including RAC servicing equipment for public vocational institutions; organize training for service providers on business models for reclamation (US $82,750);

(d) *Strengthening best practices to prevent illegal import and control refrigerant quality*: Train 40 customs officers and environmental inspectors (20 to 30 per cent women) on the control of Montreal Protocol substances and blends at border points and in the internal market, on best practices including refrigerant quality control and on preventing and controlling illegal trade (US $5,000); and

(e) *Project monitoring*: Define annual work plans, participate in the selection of beneficiary institutions, and manage the procurement and handover of R&R and reclamation equipment to the selected entities and institutions (US $15,000).

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

Progress report on the implementation of the second tranche of stage II of the HCFC phase-out management plan

*Legal framework*

12. The Government of North Macedonia has issued HCFC import quotas for 2026 and 2027 in accordance with the control targets in the Agreement with the Executive Committee which are lower than the Montreal Protocol control targets.

13. North Macedonia will phase out HCFCs completely by 1 January 2028, in advance of the Montreal Protocol, with no servicing tail. Regarding the legal framework for sustaining the phase-out and monitoring compliance beyond 1 January 2028, UNIDO explained that the Order Prohibiting the Trade of HCFCs strictly prohibits the import, export and trade of virgin HCFCs. The import licensing and quota system will control HCFC imports as a transitional mechanism for gradual phase-down through 2027 and formally sets the import quota to zero starting from 1 January 2028. Compliance with the targets is monitored through enforcement of the licensing and quota system. Currently, the country's demand for HCFC-22 is decreasing, and the country is implementing an active refrigerant recovery, recycling and reclamation programme. The remaining stocks, together with recovered and recycled HCFC-22, are therefore expected to cover declining servicing needs until the equipment is fully retired.

*Refrigeration servicing sector*

14. The Secretariat noted that the study tour to Barcelona was not originally included in the second tranche plan and represented a minor change to that plan. UNIDO explained that North Macedonia is implementing a refrigerant R&R programme and will establish a reclamation centre to sustain the HCFC phase-out. The study tour provided first-hand operational insights into the reclamation system, including management of refrigerant banks, technical specifications for reclamation equipment, cylinder tracking logistics, quality assurance mechanisms, and the safe extraction of fluorinated gases from waste equipment. The Secretariat further noted that the verification report found annual HCFC recovery had declined to 225 kg per year, with servicing demand now dependent on depleting stockpiles; establishing a centralized reclamation centre, as outlined in the feasibility study, is therefore critical to securing reclaimed refrigerant supplies and preventing venting during the final phase-out leading up to 2028 and beyond; and that the study tour is needed for the design and smooth implementation of the reclamation system, thereby ensuring the sustainability of the phase-out.

15. North Macedonia is making progress in adopting low-global-warming-potential (GWP) alternatives. The transition to R-600a in the domestic refrigeration sector is almost complete, and most imported domestic refrigerators and freezers now use R-600a. In commercial refrigeration, stand-alone plug-in units and supermarket display cabinets are adopting R-290 and $CO_2$. In stationary room air conditioning, HFC-32 currently dominates as the transitional alternative, while R-290 split AC units are entering the market in modest quantities. The main barriers are the lack of safety standards and restrictive building codes, the higher capital cost of certified explosion-proof equipment and components, and the lack of widespread technician competency in handling flammable refrigerants. North Macedonia is implementing a technician certification programme, which will further facilitate the transition to low-GWP alternatives.

Gender policy implementation

16. Aligned with the Multilateral Fund's policy, implementation of stage II of the HPMP has integrated relevant considerations across activities. This is reflected in trainings, events, direct communication with

women working in the RAC sector, and the engagement of female consultants in delivering project tasks. The NOU has actively communicated with women in the sector to better understand both the national context and the specific situation regarding gender mainstreaming. Dedicated events have also been organized to bring women together for joint discussions and experience-sharing, providing insights to guide the development of future plans, strategies, and scenarios. Over the past two decades, the NOU has consistently engaged female consultants, demonstrating its long-standing commitment in this area.

Sustainability of the HCFC phase-out and assessment of risks

17. Risks to the complete phase-out of HCFCs include political, institutional, financial, organizational, and technical factors. Political instability, economic crises, and frequent leadership turnover can reduce focus on ozone protection, while stakeholders may be reluctant to adhere to HPMP commitments or unable to adjust to market changes and new obligations. Additional risks include illegal trade and smuggling, weak enforcement by customs and inspectorates, and the high cost or limited affordability of alternatives. These can be mitigated through timely development and strong enforcement of national legislation, a well-functioning recovery and recycling scheme, capacity building for enforcement bodies, stronger inter-institutional cooperation, promotion of alternative technologies and technology transfer, support for training centres and regularly updated training materials on best servicing practices, and sustained awareness-raising and monitoring.

Conclusion

18. The Government of North Macedonia is enforcing the licensing and quota system for HCFCs and has been in compliance with the targets under both the Montreal Protocol and its Agreement with the Executive Committee. Significant progress has been achieved in implementing the second tranche, including the implementation of the refrigerant R&R scheme through the monitoring of refrigerant R&R, the provision of R&R equipment, and support to training institutions and the training of trainers and technicians. In light of the declining refrigerant recovery potentially resulting from the reducing equipment inventory, the country has planned and initiated the establishment of a reclamation centre to secure reclaimed refrigerant supplies and prevent venting, to meet servicing demand beyond the complete phase-out in January 2028. A legal framework has been established to ensure sustained HCFC reduction after January 2028. In view of the 42 per cent disbursement of the second tranche, the Secretariat recommend approval of the third tranche.

## RECOMMENDATION

19. The Fund Secretariat recommends that the Executive Committee note the progress report on the implementation of the second tranche of stage II of the HCFC phase-out management plan (HPMP) for North Macedonia, and further recommends blanket approval of the third tranche of stage II of the HPMP and the corresponding 2027–2028 tranche implementation plan for North Macedonia at the funding level shown in the table below:

| | Project title | Project funding (US $) | Support costs (US $) | Implementing agency |
|---|---|---|---|---|
| (a) | HCFC phase-out management plan (stage II, third tranche) | 118,750 | 8,313 | UNIDO |

## PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

### North Macedonia

| PROJECT TITLE | AGENCY | MEETING APPROVED | CONTROL MEASURE |
|---|---|---|---|
| Kigali HFC implementation plan (stage I) | UNIDO (lead) | 93rd | 18.7% phase-out by 2029 |

| ARTICLE 7 DATA (Annex F) | Year: 2025 | 373.55 mt | 288,931 $CO_2$-eq tonnes |
|---|---|---|---|

| COUNTRY PROGRAMME SECTORAL DATA ($CO_2$-eq tonnes) | | | | | | | | Year: | 2025 |
|---|---|---|---|---|---|---|---|---|---|
| Substance | Aerosol | Foam | Fire-fighting | Air-conditioning (AC) and refrigeration | | | Servicing | Solvent | Other |
| | | | | Manufacturing | | | | | |
| | | | | Refrigeration | AC | Other | | | |
| HFCs | | 30,132 | | 19,031 | | | 233,164 | | |

| CONSUMPTION DATA ($CO_2$-eq tonnes) | | | |
|---|---|---|---|
| HFC baseline: | 397,843 | Starting point for sustained aggregate reductions: | TBD |
| **CONSUMPTION ELIGIBLE FOR FUNDING** | | | |
| Already approved: | 74,498 | Remaining: | TBD |

| ENDORSED BUSINESS PLAN | | 2026 | 2027 | 2028 | Total |
|---|---|---|---|---|---|
| UNIDO | HFC phase-down (mt) | 11.71 | 0.00 | 2.85 | 14.56 |
| | Funding (US $) | 102,203 | 0 | 24,860 | 127,063 |

| PROJECT DATA | | | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Consumption ($CO_2$-eq tonnes) | Montreal Protocol limits | | n/a | 397,843 | 397,843 | 397,843 | 397,843 | 397,843 | 358,059 | n/a |
| | Maximum allowable | | n/a | 378,557 | 368,915 | 359,272 | 359,272 | 359,272 | 323,345 | n/a |
| | Reduction from baseline (%) | | | 4.8 | 7.3 | 9.7 | 9.7 | 9.7 | 18.7 | n/a |
| Amounts approved in principle (US $) | UNIDO | Project costs | 103,555 | 0 | 0 | 90,445 | 0 | 22,000 | 0 | 216,000 |
| | | Support costs | 13,462 | 0 | 0 | 11,758 | 0 | 2,860 | 0 | 28,080 |
| Funds approved by ExCom (US $) | | Project costs | 103,555 | 0 | 0 | 0 | 0 | 0 | 0 | 103,555 |
| | | Support costs | 13,462 | 0 | 0 | 0 | 0 | 0 | 0 | 13,462 |
| Total funds recommended for approval at this meeting (US $) | | Project costs | | | | 90,445 | | | | 90,445 |
| | | Support costs | | | | 11,758 | | | | 11,758 |

| Secretariat's recommendation | Blanket approval |
|---|---|

## PROJECT DESCRIPTION

20. On behalf of the Government of North Macedonia, UNIDO as the designated implementing agency has submitted a request for funding for the second tranche of stage I of the Kigali HFC implementation plan (KIP),[4] in the amount of US $90,445, plus agency support costs of US $11,758.[5] The submission includes a progress report on the implementation of the first tranche, the verification report on HFC consumption for 2024 to 2025, and the tranche implementation plan for 2027 to 2029.

Report on HFC consumption

21. The Government of North Macedonia reported a consumption of 288,931 $CO_2$-equivalent ($CO_2$-eq) tonnes of HFCs in 2025, which is 27 per cent below the country's HFC baseline for compliance. The 2021-2025 HFC consumption is shown in table 3.

**Table 3. 2021–2025 HFC consumption and HFC baseline for North Macedonia (Article 7 data)**

| HFCs | GWP | 2021 | 2022 | 2023 | 2024* | 2025 |
|---|---|---|---|---|---|---|
| **Metric tonnes (mt)** | | | | | | |
| HFC-23 | 14,800 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 |
| HFC-32 | 675 | 3.10 | 1.36 | 3.11 | 4.36 | 12.22 |
| HFC-125 | 3,500 | 0.20 | 0.06 | 0.00 | 0.00 | 0.00 |
| HFC-134a | 1,430 | 57.00 | 60.59 | 58.30 | 59.37 | 72.10 |
| HFC-152a | 124 | 297.80 | 265.79 | 323.00 | 245.43 | 243.00 |
| HFC-227ea | 3220 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 |
| R-404A | 3,921.6 | 45.70 | 45.28 | 33.24 | 28.60 | 28.05 |
| R-407C | 1,773.85 | 5.91 | 7.05 | 1.21 | 0.35 | 1.80 |
| R-410A | 2,087.5 | 16.30 | 19.10 | 7.79 | 9.67 | 15.82 |
| R-449A | 1,396.035 | 0.00 | 0.00 | 0.00 | 0.00 | 0.30 |
| R-452A | 2,139.25 | 0.00 | 0.00 | 0.05 | 0.05 | 0.10 |
| R-507A | 3,985 | 0.70 | 4.00 | 0.28 | 0.50 | 0.10 |
| **Total (mt)** | | **426.71** | **403.23** | **426.98** | **348.34** | **373.55** |
| **$CO_2$-eq tonnes** | | | | | | |
| HFC-23 | 14,800 | 0 | 0 | 0 | 148 | 0.00 |
| HFC-32 | 675 | 2,093 | 918 | 2,099 | 2,940 | 8,250 |
| HFC-125 | 3,500 | 700 | 210 | 0 | 0 | 0.00 |
| HFC-134a | 1,430 | 81,510 | 86,644 | 83,369 | 84,898 | 103,109 |
| HFC-152a | 124 | 36,927 | 32,958 | 40,052 | 30,434 | 30,132 |
| HFC-227ea | 3220 | 0.00 | 0.00 | 0.00 | 0.00 | 193 |
| R-404A | 3,921.6 | 179,217 | 177,570 | 130,354 | 112,158 | 110,001 |
| R-407C | 1,773.85 | 10,483 | 12,506 | 2,146 | 624 | 3,191 |
| R-410A | 2,087.5 | 34,026 | 39,871 | 16,262 | 20,186 | 33,024 |
| R-449A | 1,396.035 | 0 | 0 | 0 | 0 | 419 |
| R-452A | 2,139.25 | 0 | 0 | 107 | 107 | 214 |
| R-507A | 3,985 | 2,790 | 15,940 | 1,116 | 1,993 | 399 |
| **Total ($CO_2$-eq tonnes)** | | **347,746** | **366,617** | **275,505** | **253,487** | **288,931** |

[4] Stage I of the KIP for North Macedonia was approved at the 93rd meeting (decision 93/71) and the Agreement was approved at the 98th meeting (decision 98/12(r) and annex XXI to document UNEP/OzL.Pro/ExCom/98/64).

[5] As per the letter of 21 September 2026 from the Ministry of Environment and Physical Planning of North Macedonia to UNIDO.

| HFC baseline calculation ($CO_2$-eq tonnes) | |
|---|---|
| HFC average consumption in 2020–2022 | 359,272 |
| HCFC baseline (65%) | 38,570 |
| **HFC baseline** | **397,843** |

*The verification report shows a consumption 349.34 mt as one mt of R-404A was missing from the previously reported Article 7 data for 2024. The Government has sent a request to the Ozone Secretariat to revise the Article 7 data according to the verified HFC consumption for 2024. The data revision is in progress.

22. HFC consumption fluctuated between 2021 and 2025, showing an overall downward trend attributable to the implementation of activities under the KIP, particularly the enforcement of the licensing and quota system, and changes in market demand and stock levels. The high consumption observed in 2021-2023 resulted from three main factors: the construction industry's recovery following COVID-19, rising demand for air-conditioning, and importers stockpiling ahead of the introduction of the HFC quota system and the 2024 freeze. The decrease in 2024, meanwhile, reflects the start of the quota system, the use of stocks accumulated in previous years, and higher HFC prices.

*Country programme implementation report*

23. The Government of North Macedonia reported 288,930 $CO_2$-eq tonnes HFC imports in its 2025 country programme implementation report, consistent with the data reported under Article 7 of the Montreal Protocol. The country programme also reported total HFC use of 282,328 $CO_2$-eq tonnes, with the remaining 6,602 $CO_2$-eq tonnes used for replenishing HFC stock.

*Verification report*

24. The verification report confirmed that the Government was implementing a licensing and quota system for HFC imports and exports and that the total consumption of HFCs reported under Article 7 of the Montreal Protocol for 2025 was correct (as shown in table 3 above). For 2024, there were minor discrepancies between the reported Article 7 data (348.34 mt) and the verified consumption data (349.34 mt), caused by clerical reporting omissions and double counting. The verification concluded that North Macedonia met its targets under both the Montreal Protocol and its Agreement with the Executive Committee for 2024 and 2025.

Progress report on the implementation of the first tranche of stage I of the Kigali HFC implementation plan

*Legal framework*

25. The country has established a legal framework for phasing down HFCs, including a licensing and quota system. The single-window electronic system for import, export and transit licences (EXIM) continued to serve as the main platform for issuing HFC import permits and supporting the implementation of the annual HFC quota system.

26. Global-warming potential (GWP)-based environmental fees for HFC imports were incorporated into the draft amendment to the Law on Environment, which has been submitted to Parliament for adoption. The planned stakeholder workshops on the updated Rulebooks will be organized after the formal adoption of the respective legal instruments. In April 2026, the national ozone unit (NOU) database was upgraded enabling multi-user remote access, and now includes an expanded refrigerant registry, updated technician, city, importer and exporter registers, and enhanced reporting functions.

27. A workshop on the Montreal Protocol, Kigali Amendment obligations, and the implementation of the licensing and quota system was conducted for 16 HFC importers, six of whom were women. A sensitization programme was developed to facilitate the gradual formalization and certification of informal technicians. A study on standards and codes of good practice for the safe management of refrigeration,

air-conditioning and heat pump (RACHP) systems using low-GWP refrigerants was finalized and included recommendations for the adoption of standards supporting the safe use of alternatives. Awareness raising on low-GWP and energy-efficient technologies was initiated through cooperation with the ongoing energy efficiency project.

28. Three training workshops for 42 customs officers (including 20 women) and 16 enforcement officers, brokers, importer and other stakeholders were organized on HFCs, Harmonized System (HS) codes, cylinder labelling, national legislation, import permits and the role of customs in preventing illegal trade. Awareness-raising among economic operators was also initiated through workshops and consultations concerning forthcoming legislative changes, HFC quotas, market developments and the transition towards more environmentally friendly and energy-efficient equipment.

*Refrigeration servicing sector*

29. A two-day workshop was conducted for 75 refrigeration and air-conditioning (RAC) technicians (including 13 women) on good servicing practices, legal requirements and the safe handling of low-GWP alternatives. A practical handbook on low-GWP refrigerants was also prepared and distributed to participants.

30. A sectoral study on HFC consumption and refrigerant use in the RAC manufacturing and assembling sectors was initiated with the data-collection methodology and questionnaire developed and distributed to manufacturers, assemblers, importers, and servicing companies.

31. Ten sets of recovery and recycling (R&R) tools and equipment (recovery units, manifolds, scales, filters, and recovery cylinders) were received, inspected, and verified as functional. The equipment will be distributed to support the refrigerant R&R scheme being implemented in parallel under stage II of the HPMP.

*Pilot project to enhance energy efficiency (decision 91/65)*

32. The pilot project on energy efficiency for North Macedonia was approved at the 96$^{th}$ meeting in line with decision 91/65 to define the national framework related to energy efficiency, strengthen the implementation of MEPS and labelling in the RAC sector, and introduce leakage detection systems in stationary equipment containing HFCs. As of September 2026, a detailed work plan has been developed; terms of reference and job descriptions for national experts to develop energy efficiency legislation have been drafted; and stakeholders have been identified. A review and interpretation of policies and legal acts aligning the Kigali Amendment with energy efficiency priorities has also been completed. A coordination meeting was convened to bring together the Ministry of Environment and Physical Planning (the NOU), the Ministry of Energy, the United Nations Framework Convention on Climate Change (UNFCCC) focal point, RAC associations, industry bodies, NGOs and small and medium sized enterprises to launch the project. A survey on installed cooling equipment was initiated, and the collected data is being analysed by the energy efficiency expert and the NOU. Ten public institutions will be selected for installing leakage detection systems. Ongoing consultations with key stakeholders are being held to establish priority criteria for site selection and practical demonstration.

33. Public awareness campaign has been initiated and a partnership with Resource Environmental Center (REC) was established to launch initial preparatory and technical expert consultations. REC's communication strategy and detailed implementation work plan were reviewed and officially approved.

*Project implementation and monitoring*

34. The NOU and UNIDO have been monitoring activities, reporting on progress, and working with stakeholders to phase down HFCs. The US $5,110 approved for project monitoring activities under the first tranche was all used for project staff and consultants.

Level of fund disbursement

35. As of September 2026, of the US $103,555 approved so far for UNIDO, US $59,700 (57.6 per cent) had been disbursed. The balance of US $43,855 will be disbursed in 2027.

Implementation plan for the second tranche of stage I of the Kigali HFC implementation plan

36. The following activities will be implemented by UNIDO between January 2027 and December 2029:

(a) *Strengthening of the legal and regulatory framework to support HFC phase-down:* Finalize the adoption of the amendment to the Law on Environment establishing the framework for environmental fees on HFCs and HFC-based equipment, and conduct subsequent workshops on the application of the updated rulebooks; continue consultations with importers concerning import restrictions on HFC-based equipment; undertake a study on the reduction of HFC-134a demand in passenger cars in the mobile air-conditioning sector; implement the national technician certification scheme, including support to training and examination centres, establishment of the national registry of certified technicians and servicing companies, capacity building of examiners and technicians, and cooperation with environmental inspectorates on monitoring and compliance; conduct stakeholder consultations on the standards and codes of good practice for the safe management of RACHP systems using low-GWP refrigerants; and conduct awareness-raising activities and disseminate materials on energy efficiency and the safe handling of low-GWP refrigerants, targeting female servicing technicians, importers, and end users (US $11,000);

(b) *Capacity-building of customs officers, environmental inspectors and importers*: Train 100 customs and enforcement officers on control and identification of HFCs and HFCs-based equipment, pertinent laws and regulations on imports, licensing and quota system, prevention of illegal trade through risk profiling and mislabelling of refrigerant cylinders, use of HS codes for HFCs, blends and equipment, and monitoring and reporting of data; conduct dedicated awareness-raising workshops for chemical importers, refrigerant distributors and equipment wholesalers (US $7,000);

(c) *Capacity-building of RAC technicians*: Train 100 RAC technicians on good servicing practices, legal requirements and the safe handling of low-GWP alternatives, evacuation, pressure testing, charging, recovery and containment practices (US $7,500);

(d) *Facilitating the introduction of low-GWP technologies*: Finalize the sectoral studies on HFC consumption and refrigerant use in the RAC manufacturing and assembling sectors; employ an expert to prepare technical and operational basis for the demonstration project to replace R-404A with $CO_2$ in commercial refrigeration; (US $5,000);

(e) *Strengthening technical and human capacities for refrigeration management*: Plan and implement facility assessments, modifications and safety inspections of the relevant vocational training facilities, including the planned safety inspection and facility modifications of the training room in the Faculty of Mechanical Engineering; provide additional RAC servicing tools and four gas identifiers (US $56,445); and

(f) *Project monitoring*: Project coordination, monitoring, reporting and verification and a total of US $3,500 has been requested for international and national consultants.

## SECRETARIAT'S COMMENTS AND RECOMMENDATION

### COMMENTS

Progress report on the implementation of the first tranche of stage I of the Kigali HFC implementation plan

*Legal framework*

37. The Government of North Macedonia has issued HFC import quotas of 357,938 $CO_2$-eq tonnes for both 2026 and 2027, which are lower than the Montreal Protocol control targets and those in the Agreement with the Executive Committee.

38. In view of the progress made in adopting low-GWP alternatives, the Secretariat discussed immediate regulatory measures for restricting the import of HFC-based equipment in some applications such as domestic refrigeration. UNIDO explained that although new imports are negligible, a substantial legacy park of older domestic refrigerators remains in use nationwide and requires residual HFC-134a servicing availability over their operational lifetimes. The Secretariat noted that a draft Order has been developed on the ban of the import, production and placing on the market of RAC equipment containing HFCs, including domestic refrigerators and freezers that contain HFCs with GWP of 150 by 1 January 2028, and stand-alone refrigerators and freezers that contain HFCs with a GWP of 2,500 or more by 1 January 2033, subsequently lowered to 150 by 1 January 2035.

*Refrigeration servicing sector*

39. Regarding the updated rulebook requiring a mandatory logbook for equipment with a refrigerant charge of more than 3 kg, the Secretariat enquired how implementation of the rulebook is monitored. UNIDO clarified that the NOU database contains information on such equipment. Equipment owners are obliged to request a documentation set from the NOU to record and label their equipment. Once labelling is complete, scans of the relevant documents and photographs are sent to the NOU, and the data is then registered in the system. The Secretariat noted that such a management system for large refrigerant-charge equipment would systematize routine leakage inspections and promote good servicing practices in managing large-charge HFC equipment.

Gender policy implementation

40. In line with decisions 84/92(d) and 90/48(c), the Multilateral Fund policy has been implemented in all activities under the KIP. The Government of North Macedonia considers relevant measures and indicators when planning and implementing activities in the tranche. Sex-disaggregated data is collected by the NOU. Training of technicians and customs officers has achieved a significant percentage of female participation. Awareness-raising and technical assistance activities also incorporate relevant aspects.

Sustainability of the HFC phase-out and assessment of risks

41. The NOU maintains constant communication with project stakeholders to ensure that external factors do not compromise implementation and the sustainability of results. It continues to strengthen collaboration and build trust through regular meetings and consultations with all stakeholders, including the RAC association, importers, and customs. The import is well below the controlled targets indicating low risk of non-compliance. The country is implementing an extensive refrigerant R&R scheme to reduce demand for virgin refrigerant. A comprehensive framework is being established through legislative updates to govern refrigerant management, including a licensing and quota system, registration of importers, distributors, and end-users, a mandatory logbook, and a ban on venting. With completion of the legislative updates, strengthened capacities for the safe handling of new technologies, and improved R&R practices, these measures will secure the sustainability of results.

Conclusion

42. North Macedonia continues to comply with the Montreal Protocol and the HFC consumption targets specified in its Agreement with the Executive Committee. In 2025, HFC consumption was 22 per cent below the maximum allowable level set in the Agreement. The country has a functioning licensing and quota system and is implementing a R&R scheme to reduce demand for virgin refrigerants. Implementation of the first tranche has achieved significant progress, with a disbursement rate of 58 per cent. The Secretariat recommends approval of the second tranche, which will continue to support the country in meeting its commitments.

**RECOMMENDATION**

43. The Fund Secretariat recommends that the Executive Committee note the progress report on the implementation of the first tranche of stage I of the Kigali HFC implementation plan (KIP) for North Macedonia, and further recommends blanket approval of the second tranche of stage I of the KIP and the corresponding 2027–2029 tranche implementation plan for North Macedonia at the funding level shown in the table below:

| | Project title | Project funding (US $) | Support costs (US $) | Implementing agency |
|---|---|---|---|---|
| (a) | Kigali HFC implementation plan (stage I, second tranche) | 90,445 | 11,758 | UNIDO |