UNITED
NATIONS

EP

United Nations
Environment
Programme

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/95/67
14 November 2024

ORIGINAL: ENGLISH

EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Ninety-fifth Meeting
Montreal, 4-8 December 2024
Item 9(d) of the provisional agenda[1]

PROJECT PROPOSAL: MONTENEGRO

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

Energy efficiency

• Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities)	UNIDO	Individual consideration

[1] UNEP/OzL.Pro/ExCom/95/1

PROJECT EVALUATION SHEET – NON-MULTI-YEAR PROJECT

Montenegro

PROJECT TITLE	BILATERAL/IMPLEMENTING AGENCY
Pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities)	UNIDO

PROJECT OBJECTIVE

The objective of the pilot project is to enhance the implementation of minimum energy efficiency standards and labelling requirements, while promoting the adoption of low-global-warming-potential alternatives and energy-efficient technologies in the commercial refrigeration sector, with a specific focus on small stand-alone equipment.

NATIONAL CO-ORDINATING AGENCY	National ozone unit (NOU), Environmental Protection Agency, Ministry of Ecology

LATEST ARTICLE 7 DATA (Annex F)	**Year:** 2023	67.17 mt	191,587 CO_2-eq tonnes

Particular	Non-investment activities
HFC used by the servicing sector (2023 country programme data)	67.17 mt
	191,587 CO_2-eq tonnes
Project duration (months):	24
Initial amount requested (US $):	120,000
Final project costs (US $):	120,000
Implementing agency support cost (US $):	10,800
Total cost of project to Multilateral Fund (US $):	130,800
Energy efficiency savings (US $/KwH):	N/A
Status of counterpart funding (Y/N):	Y
Project monitoring milestones included (Y/N):	Y
Minimum energy performance standards available for the relevant sector (Y/N):	N

SECRETARIAT'S RECOMMENDATION	Individual consideration

PILOT PROJECT TO MAINTAIN AND/OR ENHANCE THE ENERGY EFFICIENCY OF REPLACEMENT TECHNOLOGIES AND EQUIPMENT IN THE CONTEXT OF HFC PHASE-DOWN (NON-INVESTMENT ACTIVITIES)

PROJECT DESCRIPTION

Background

1. On behalf of the Government of Montenegro, UNIDO has submitted, in line with decision 91/65, a request for a pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities), in the amount of US $120,000, plus agency support costs of US $10,800, as originally submitted.[2]

Energy efficiency pilot project

2. Montenegro has ratified all the amendments to the Montreal Protocol, including the Kigali Amendment on 23 April 2019. The HFC baseline for Montenegro has been established at 155,854 CO_2-equivalent tonnes (CO_2-eq tonnes). Stage I of the Kigali HFC implementation plan was approved at the 94th meeting,[3] and the country has committed to reducing HFC consumption by 10 per cent of the country's average HFC consumption in the baseline years by 2029. The Government of Montenegro reported consumption of 191,587 CO_2-eq tonnes of HFCs in 2023, which is 22.9 per cent higher than the established baseline. The increase in consumption during 2023 was primarily attributable to the country's recovery from the impact of the COVID-19 pandemic, including increased demand in the tourism sector. The country has not yet requested funding for energy efficiency-related activities under decision 89/6.

Policy, regulatory and institutional framework

3. The Ministry of Energy in Montenegro oversees energy sectors, including energy-efficiency programmes, such as legislation, industry regulation, policy formulation, and project coordination. Through its Directorate for Energy Efficiency, established in November 2009, the Ministry develops and implements energy efficiency policies, positioning the Directorate as the primary institution for energy efficiency. The Directorate coordinates and contributes to numerous energy efficiency projects in line with European Union (EU) best practices, supporting the Ministry's objectives in this field. A key priority for the Ministry is to harmonize Montenegro's legal and strategic energy frameworks with EU standards, driven by the EU accession process and membership in the Energy Community. In addition, in 2007, the Government of Montenegro established the Institute for Standardization of Montenegro (ISME) to advance standardization objectives, fulfill international and EU standardization requirements, and oversee the adoption of Montenegrin standards.

4. The Law on Efficient Use of Energy[4] aims to promote energy efficiency across various sectors, reducing energy consumption and environmental impact. This law sets standards, labelling, and regulatory requirements for energy-related products and technical systems in buildings, affecting sectors such as heating, air conditioning, and refrigeration, which is compliant with the latest EU directives[5] in the field of energy efficiency. Specifically, it mandates energy labelling and periodic inspections for large cooling systems, contributing to improved performance and reduced energy use within the refrigeration and

[2] As per the letter of 23 September 2024 from the Environmental Protection Agency of Montenegro to UNIDO.
[3] Decision 94/47
[4] Adopted by Montenegro in 2014.
[5] 2012/27/EC on energy efficiency; 2010/31/EC on the energy performance of buildings; 2010/30/EU on energy labelling of energy-related products; and 2009/125/EC establishing a framework for the setting of eco-design requirements for energy-related products.

air-conditioning (RAC) sector. However, small stand-alone commercial refrigeration units are not fully covered, with no direct requirements addressing their energy efficiency under the law.

Project objective

5. The objective of the pilot project is to enhance the implementation of minimum energy efficiency standards (MEPS) and labelling requirements, while promoting the adoption of low-global-warming-potential (GWP) alternatives and energy-efficient technologies in the commercial refrigeration sector, with a specific focus on small stand-alone equipment.

Proposed activities

6. The activities as initially proposed are as follows:

(a) Conduct a market study on commercial refrigeration equipment that utilizes hydrocarbon (HC) and other low-GWP refrigerants, evaluating their energy efficiency in comparison to HFC-based equipment (US $10,000); develop technical specifications suited to the local market for various types of small stand-alone units (US $8,000); and review national legislations, MEPS standards, and energy labelling programmes; create awareness-raising materials on MEPS standards, labelling, and the safe use of R-290 in commercial refrigeration; and organize two stakeholder workshops on MEPS standards, labelling, and R-290 safety for small stand-alone refrigeration equipment (US $12,000);

(b) Purchase and install three small stand-alone commercial refrigeration units[6] across three locations, along with equipment for monitoring energy consumption on existing and new units, for measuring and analyzing energy usage over 60 days, focusing on energy savings, investment, operational costs, and return on investment (US $60,000); and organize training sessions for 40 RAC service technicians, covering essential skills in installation, maintenance, and energy-efficient servicing of small stand-alone HC-based refrigeration units (US $10,000);

(c) Prepare awareness guides on proper refrigerant decommissioning, management, and disposal practices of HCFCs and HFCs contained in small stand-alone equipment (US $6,000); and

(d) Develop awareness-raising materials on the pilot project, highlighting equipment performance in real working conditions, energy savings, investment, and operational costs, and return on investment; print and distribute these materials to relevant stakeholders;[7] and organize two workshops on energy efficiency, proper refrigerant management, the decommissioning and disposal of replaced small stand-alone commercial refrigeration equipment for key stakeholders (US $14,000).

Total cost of the pilot project

7. The project is expected to be completed in 24 months after approval, between January 2025 and December 2026, for a total cost of US $120,000 plus agency support cost, as initially submitted.

[6] Supermarket plug-in display cabinets and small cooling capacity cold storages (walk-in cold rooms) where monoblock plug-in refrigeration units can be installed. Monoblocks are refrigeration equipment pre-charged with refrigerant and containing all components required for cooling (i.e., compressor, condenser, evaporator, expansion valves and fans) in a single unit.

[7] Government personnel, national standard organisation officers, environmental inspectors, importers of substances and equipment, RAC service companies, RAC service technicians and end users.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

8. The Secretariat has reviewed the project proposal in light of the activities and criteria under decisions 89/6 and 91/65 as well as those to be implemented under stage I of the KIP.

9. In line with decision 91/65, confirmation has been obtained from the Government of Montenegro that the NOU will coordinate with relevant energy-efficiency authorities[8] and national standards bodies to facilitate the consideration of refrigerant transition when developing energy-efficiency standards in the relevant sectors/applications; that, if Montenegro has mobilized or were to mobilize funding from sources other than the Multilateral Fund (MLF) for energy-efficiency components when phasing down HFCs, the project will not result in the duplication of activities among those funded by the MLF and those funded from other sources; that information on project progress, results, and key learning will be made available, as appropriate; and that the date of completion of the project will be set as no more than 24 months after the date of approval by the Executive Committee and that a detailed project report will be submitted to the Executive Committee within six months of the date of completion of the project.

Policy, regulatory and institutional framework

10. In response to the Secretariat's inquiry about whether the proposed project would lead to the development and enforcement of MEPS, UNIDO explained that the project would involve the development of MEPS for small stand-alone commercial refrigeration equipment, including national-level stakeholder consultations on various aspects of MEPS development. UNIDO further clarified that MEPS for certain categories of RAC equipment[9] are established through national regulations on eco-design requirements, aligned with the latest EU legal framework and regulations.[10] Additionally, energy-efficiency labelling for each category of RAC equipment is governed by national regulations, ensuring compliance with EU standards[11] and accompanying regulations for various equipment types.

11. UNIDO confirmed that the Directorate for Energy Efficiency had been consulted during the different steps for developing the current project proposal and that their views had been appropriately incorporated into the project components. UNIDO also explained that implementing this project would further strengthen institutional coordination with the Directorate for Energy Efficiency, which would facilitate the implementation of additional policies and regulations on energy efficiency while phasing down HFCs.

12. Upon inquiry from the Secretariat, UNIDO explained that the ISME plays a critical role in developing and adopting standards related to calculation and testing procedures for various RAC equipment, as outlined by MEPS. These MEPS are established in regulations adopted by the Ministry of Energy, which prescribes the standards for specific equipment categories. The ISME collaborates closely with the Ministry to identify and incorporate relevant standards into the national standards system, ensuring that testing and monitoring procedures align with national and international requirements.

Technical and cost-related issues

13. Regarding the connection between the present proposal and activities under the KIP, UNIDO explained that implementing this project would create linkages to implementing the activities under stage I

[8] Directorate for Energy Efficiency of the Ministry of Energy.
[9] Air-conditioning devices and comfort fans, refrigerating appliances, and refrigerating appliances with a direct sales function.
[10] Directive 2009/125/EC.
[11] Regulation (EU) 2017/1369 of the European Parliament and of the Council of 4 July 2017 setting a framework for energy labelling and repealing Directive 2010/30/EU.

of the KIP, which would help the NOU ensure that MEPS design supports low-GWP technologies and assist in the market transition to low-GWP, energy-efficient technologies. Furthermore, UNIDO clarified that the Government would take steps, to the extent feasible, to incorporate the promotion of energy efficiency in RAC equipment in different approved projects (e.g., demonstration projects for low-GWP alternatives to HCFCs and HFCs and training activities) and would continue to explore the possibility of promoting the adoption of low-GWP and energy-efficient alternatives. UNIDO also confirmed that the training activities planned under the pilot project complements those to be implemented under stage I of the KIP.

14. Regarding the current project's integration with other climate-change initiatives, the National Energy and Climate Plan (NECP) serves as the primary document for establishing Montenegro's energy efficiency policy. Development of Montenegro's first NECP, which sets new energy efficiency targets for 2030, is currently underway and is expected to be adopted by the end of 2024. The NECP will outline the targets, policies, and measures necessary to achieve them. Furthermore, the NOU will ensure that other HFC phase-down and energy-efficiency activities are integrated into the next update of the Nationally Determined Contributions (NDCs).

15. UNIDO informed the Secretariat that there are currently no projects addressing energy efficiency in the context of HFC phase-down funded by non-MLF sources.

Agreed cost of the pilot project

16. After discussions between the Secretariat and UNIDO, some activities were reorganized. The revised activities and agreed funding for the pilot project are as follows:

(a) Conduct a market study on commercial refrigeration equipment that utilizes HC and other low-GWP refrigerants, evaluating its energy efficiency in comparison to HFC-based equipment (US $10,000); develop technical specifications suited to the local market for various types of small stand-alone units (US $8,000); and review national legislations, MEPS standards, and energy labelling programmes; create awareness-raising materials on MEPS standards, labelling, and the safe use of R-290 in commercial refrigeration; and organize two stakeholder workshops on MEPS standards, labelling, and R-290 safety for small stand-alone refrigeration equipment (US $12,000);

(b) Purchase and install three small stand-alone commercial refrigeration units[12] across three locations, along with equipment for monitoring energy consumption on existing and new units, for measuring and analyzing energy usage over 60 days, focusing on energy savings, investment, operational costs, and return on investment (US $60,000);

(c) Organize training sessions for 40 RAC service technicians, covering essential skills in installation, maintenance, and energy-efficient servicing of small stand-alone HC-based refrigeration units (US $10,000); and

(d) Develop two awareness-raising materials on the pilot project, highlighting equipment performance in real working conditions, energy savings, investment, and operational costs, and return on investment, as well as awareness guides on proper decommissioning, refrigerant management, and disposal practices of HCFCs and HFCs contained in small stand-alone equipment; print and distribute these materials to relevant stakeholders;[13] and organize two workshops on energy efficiency, proper refrigerant management, and the

[12] Supermarket plug-in display cabinets and small cooling capacity cold storages (walk-in cold rooms) where monoblock plug-in refrigeration units can be installed.

[13] Government personnel, national standard organisation officers, environmental inspectors, importers of substances and equipment, RAC service companies, RAC service technicians and end users.

decommissioning and disposal of replaced small stand-alone commercial refrigeration equipment for 40 key stakeholders each (US $20,000).

Sustainability of the pilot project and assessment of risks

17. By implementing this pilot project proposal while also implementing the KIP, the country's main stakeholders will gain experience in identifying challenges and opportunities related to assessing the market response to energy-efficient technology and determining the performance of energy-efficient RAC equipment. Furthermore, the capacity-building of the NOU and institutions involved in energy efficiency and standards will highlight challenges in the enforcement of MEPS and identify solutions that could address those challenges and facilitate the inclusion of refrigerants' GWP in designing and implementing those standards. This would help support adopting low-GWP energy-efficient technologies in commercial refrigeration equipment.

RECOMMENDATION

18. The Executive Committee may wish to consider approving the pilot project to maintain and/or enhance the energy efficiency of replacement technologies and equipment in the context of HFC phase-down (non-investment activities) for Montenegro, in the amount of US $120,000, plus agency support costs of US $10,800 for UNIDO, noting:

(a) That the Government of Montenegro has committed to the conditions referred to in decision 91/65(b)(iv) b. to (b)(iv) d.; and

(b) That the project would be operationally completed no later than 31 December 2026, and a detailed project report would be submitted to the Executive Committee within six months of the date of completion of the project.