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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(d) of the provisional agenda[1]

PROJECT PROPOSAL: ARGENTINA

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

Energy efficiency

• Project to enhance energy efficiency in the manufacturing of room air-conditioning units at five enterprises in Argentina in the context of HFC phase-down	UNIDO	Individual consideration

[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 – NON-MULTI-YEAR PROJECT

Argentina

PROJECT TITLE	AGENCY
Project to enhance energy efficiency in the manufacturing of room air-conditioning units at five enterprises in Argentina in the context of HFC phase-down	UNIDO

PROJECT OBJECTIVE
This project aims to improve the energy efficiency of room air-conditioning units manufactured by five enterprises in Argentina that are currently converting from R-410A to HFC-32 under the project approved by decision 95/58, in combination with regulatory and laboratory strengthening actions to enable the manufacturing of higher-efficiency equipment.

NATIONAL COORDINATING AGENCY	National Ozone Office, Directorate of Sustainable Industry, Undersecretariat of Industrial Policy, Secretariat of Industry and Commerce

ARTICLE 7 DATA (Annex F)	**Year: 2025**	3,501.53 mt	5,718,004 CO_2-eq tonnes

PROJECT DETAILS		
R-410A consumption in the AC manufacturing sector in 2025 (country programme (CP) data)	mt	658.13
	CO_2-eq tonnes	1,373,846
HFC-32 consumption in the AC manufacturing sector in 2025 (CP data)	mt	558.53
	CO_2-eq tonnes	377,008
Project duration	months	36
Grant amount requested from the Multilateral Fund	US $	*4,118,051
Grant amount agreed	US $	7,215,252
Project support costs for UNIDO	US $	505,068
Total cost of project to Multilateral Fund	US $	7,720,320
Energy-efficiency savings to be achieved through the project	GWh/year	**195.54
Counterpart funding		Yes
Project monitoring milestones included		Yes
Minimum energy performance standards for relevant applications are established		Yes
Minimum energy performance standards for relevant applications are enforced		Yes

*As originally submitted in the 98th meeting. A revised proposal was subsequently submitted with two scenarios: at US $7,589,190, based on the 2023–2025 manufacturing data, or US $8,586,152, based only on 2025 data.
**Based on the 2023–2025 manufacturing data scenario

SECRETARIAT'S RECOMMENDATION	Individual consideration

PROJECT DESCRIPTION

Summary of the proposal as submitted

1. On behalf of the Government of Argentina, UNIDO as the designated implementing agency has submitted, in line with decisions 94/60 and 95/58(c),[2] a request for a project to enhance energy efficiency in the context of HFC phase-down at five enterprises in the room air-conditioning (AC) manufacturing sector in Argentina, in the amount of US $4,118,051, plus agency support costs of US $288,264, as originally submitted.[3]

2. The project was submitted in March 2026 to the 98th meeting of the Executive Committee. During project review, a revised proposal was submitted with two scenarios: at US $7,589,190, based on the 2023-2025 manufacturing data, or US $8,586,152, based only on 2025 data. Notwithstanding constructive discussions and a careful review of the information provided, additional time was required to address issues that could not be resolved in the limited time available for project review. Subsequently, a further adjusted proposal was submitted by UNIDO to be presented at the 99th meeting for the Executive Committee's consideration.

Background

3. Argentina ratified the Kigali Amendment on 22 November 2019. At the 95th meeting, the Executive Committee approved a project for phasing out R-410A in the room AC manufacturing sector in Argentina, in the amount of US $5,697,593, plus agency support costs for UNIDO, and the country committed to issue, upon completion of the project, a ban on the manufacturing and import of small, self-contained room AC units using R-410A in Argentina.

Status of implementation of other activities related to energy efficiency

4. Argentina previously implemented projects linking ozone protection and energy efficiency, including a project that replaced CFC-based centrifugal chillers with non-ODS equipment, and demonstration projects using carbon dioxide and hydrocarbons in commercial refrigeration. These projects showed that refrigerant transitions and system design changes, including heat exchange, controls and parallel compression, can reduce electricity consumption and direct and indirect greenhouse gas emissions. They also increased technical capacity among manufacturers, servicing technicians and regulatory institutions, supported expertise in system design, installation, testing and maintenance, and supported the development of standards and certification processes.

Policy, regulatory and institutional framework

5. Cooling energy efficiency in Argentina depends on coordinated action among government bodies, standards organizations, customs authorities, manufacturers, technicians, and international partners. The National Ozone Programme Office (OPROZ) oversees refrigerant policies and compliance with international agreements; the Secretariat of Energy and the Secretariat of Industry and Commerce are responsible for the energy-efficiency agenda; the Argentine Institute for Standardization and Certification (IRAM) sets out the technical standards and certification framework; the customs authorities enforce refrigerant controls; and domestic manufacturers and service providers implement technological improvements in the market.

[2] To invite the Government of Argentina, if it so wished, to submit a project under decision 94/60 to enhance the energy efficiency of the HFC-32-based split AC units manufactured by the enterprises assisted by the conversion project, on the understanding that the project would be submitted no later than at the 97th meeting.

[3] As per the letter of 26 March 2026 from the Ministry of Foreign Affairs, International Trade and Worship of Argentina to UNIDO.

Minimum energy performance standards

6. The Secretariat of Energy and the Secretariat of Industry and Commerce enforce the minimum energy performance standards (MEPS) and mandatory energy labelling for refrigeration and air-conditioning (RAC) equipment, establishing the basis for improved energy performance in the market.

7. The regulatory framework for energy-efficiency labelling and MEPS for room AC in Argentina is based on IRAM Standard 62406:2019 and the Secretary of Energy Resolution 228/2014. The IRAM standard defines the methodology for determining the energy-efficiency class of non-ducted, electrically driven AC, including split and compact-type units for room or similar use with a cooling capacity of up to 10.5 kW, establishing test procedures, the seasonal energy-efficiency index (SEEI) calculations, and characteristics of the mandatory energy-efficiency label. Resolution 438/2024 of the Secretariat of Industry and Commerce builds on the IRAM standard by establishing the essential requirements for energy-efficiency labelling and introducing an updated energy-efficiency classification and labelling scale for non-ducted AC. The minimum energy performance requirement currently in force remains the one that was established under Resolution 228/2014 (energy-efficiency index (EEI) ≥ 3.18 for split-type units in cooling mode, up to 7 kW).

8. As part of its commitment to increase the energy efficiency of room AC, the Government of Argentina, through the Secretary of Energy, issued Resolution 426/2025, which establishes an even more ambitious standard (awaiting entry into force). Based on the existing regulations, the Secretariat of Industry, Commerce, and Small and Medium-Sized Enterprises (SMEs), which oversees consumer protection and Technical Barriers to Trade, is mandated to define an implementation schedule for the entry into force of the new Resolution and the steps of its implementation.[4] The implementation of the proposed project will enable the Secretary of Industry, Commerce and SMEs to initiate the entry into force of the new standard.

HFC consumption and sector background

9. The HFC consumption baseline for Argentina has been established at 19,219,484 CO_2-equivalent (CO_2-eq) tonnes. The Government reported a consumption of 5,718,004 CO_2-eq tonnes of HFCs in 2025, which is 70 per cent below the country's baseline. Table 1 presents the use of HFC-32 and R-410A in room AC manufacturing based on the country programme (CP) implementation reports for 2021–2025.

Table 1. HFC use in the room AC manufacturing sector in Argentina (CP data) (2021–2025)

Substance	2021	2022	2023	2024	2025
Metric tonnes (mt)					
HFC-32	0.00	0.00	0.00	35.38	558.53
R-410A	1,378.66	1,286.33	1,440.92	917.85	658.13
Total AC (mt)	**1,378.66**	**1,286.33**	**1,440.92**	**953.23**	**1,216.66**
CO_2-eq tonnes					
HFC-32	0	0	0	23,882	377,008
R-410A	2,877,954	2,685,214	3,007,921	1,916,012	1,373,846
Total AC (CO_2-eq tonnes)	**2,877,954**	**2,685,214**	**3,007,921**	**1,939,894**	**1,750,854**

Room air-conditioning manufacturing

10. The room AC manufacturing sector is one of the largest consumers of HFCs in Argentina. The demand is covered almost entirely by local manufacturing (approximately 86 per cent), while around 14 per cent of the units are imported. There are seven enterprises manufacturing room AC units by assembling imported complete-knock-down (CKD) kits. All enterprises use R-410A as refrigerant, and six have begun to use HFC-32 in the course of the ongoing room AC conversion project. All seven enterprises

[4] Disposition 5/2025 clarifies that the implementation of MEPS established in Resolution 426/2025 remains subject to the effective date to be determined by a relevant technical regulation authority (the Secretariat of Industry, Commerce, and SMEs) under the framework of Resolution 438/2024.

manufacture window and split units with cooling capacities ranging from 2.5 to 6.9 kW. These products are exclusively sold in the domestic market, with none destined for export.[5]

Project overview

Project objectives

11. The project's objectives are improving the energy efficiency of room AC units manufactured by five enterprises in Argentina; strengthening and optimizing the country's MEPS framework; upgrading energy-efficiency testing centres and laboratories in line with international standards; enhancing the compliance, verification, and reporting systems for energy performance; and encouraging the adoption of highly efficient technologies in the room AC market, contributing to long-term sustainability, reduced energy demand, and lower indirect emissions. The project will be implemented in coordination with the room AC sector conversion project approved by decision 95/58.

Project beneficiaries

12. The direct beneficiaries of the project are five enterprises (BGH, Electrofueguina, Newsan, Radio Victoria Argentina S.A. and Solnik) currently participating in the project to phase out R-410A use in the room AC manufacturing sector in Argentina.[6] The enterprises, which supply a large share of households nationwide, have previously participated in the country's HCFC phase-out management plan (HPMP) and are well acquainted with implementation procedures, technical requirements, and overall project commitments. None of the beneficiaries have previously received external funding for energy-efficiency upgrades. One additional eligible enterprise (Aires del Sur) was not included in the proposal, and one enterprise was non-eligible.

Proposed activities as submitted

Manufacturing activities

13. The five assisted room AC manufacturers use CKD kits. The following additional costs have been included in the project:

(a) Additional capital costs: Product design and testing (mostly personnel), prototype manufacturing, modifications to the manufacturing and testing facilities (jigs and tools), monitoring and verification, third party testing and validation, and training of technical personnel; and

(b) Additional components costs: Mostly focused on the cost of CKD kits, including compressors, heat exchangers, inverter drives, and electronic controls.

14. Details on the number of models, manufacturing lines, manufacturing volumes and additional costs per enterprise are provided in table 2.

Table 2. Baseline, target energy performance, and capital and additional component costs, as originally submitted, based on average manufacturing levels in 2022–2024

Particulars	BGH	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Enterprise characteristics						
Year established	1978	1988	1991	1984	2010	n.a.
Article 5 ownership (%)	61.94	100	100	100	100	n.a.

[5] UNEP/OzL.Pro/ExCom/95/40

[6] UNEP/OzL.Pro/ExCom/95/40 and decision 95/58

Particulars	BGH	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Participating lines	4	2	2	3	2	13
Manufacturing capacity (units/year)	500,000	100,00	500,000	200,000	100,000	1,400,000
Manufacturing level* (units)	327,268	52,10	301,567	181,891	56,055	918,885
Project parameters						
Baseline EEI	4.332	3.532	5.610	4.073	4.516	--
Target EEI	5.374	4.000	5.832	5.788	5.706	--
Baseline MEPS performance	3.160	3.180	3.180	3.180	3.180	--
Target MEPS performance	3.160	3.180	3.180	3.180	3.180	--
Additional capital costs (US $)						
Total (US $)	257,580	149,500	251,870	437,100	135,500	1,231,550
Requested (US $)	****154,850**	**250,000**	**250,000**	**250,000**	**250,000**	**1,154,850**
Additional component costs						
Additional total component cost (US $)	2,753,176	419,937	311,867	2,986,387	768,235	7,239,603
Additional component cost incentive requested (US $)	**917,725**	**139,979**	**103,956**	**995,462**	**256,079**	**2,413,201**

*Based on the average 2022–2024 output, as submitted
**Reflects adjustment based on non-Article 5 ownership

Additional activities

15. The following additional activities and costs were proposed by UNIDO:

(a) *Regulatory support and institutional coordination:* Strengthening the coordination among OPROZ, IRAM, and customs and energy authorities in the process of developing and enforcing MEPS and energy-efficiency labeling schemes; assessment of current testing facilities; facilitation of technical dialogue to align MEPS development and technology transition; market assessment of the room AC sector to support progressive MEPS updates; organization of two national stakeholder consultations with manufacturers, testing laboratories, energy authorities, and industry associations; delivery of training for technical staff and policymakers on MEPS design, energy-performance testing and compliance verification; and undertaking of a feasibility study to establish or enhance the testing capacity of the main manufacturing hub in the Tierra del Fuego region (US $150,000);

(b) *Laboratory strengthening / Enhancement of energy-efficiency testing capacities:* [7] Strengthening the national capacity for testing and verification of room AC equipment by upgrading two laboratories to improve the accuracy, reliability, and compliance of testing, including the procurement of advanced sensors, data acquisition systems, and calibrated power measurement equipment; upgrading the calorimeter infrastructure to reduce measurement uncertainty and ensure stable testing conditions; installing regulated power supply systems; strengthening inter-laboratory comparisons and adopting accredited software to enhance data processing and support ISO/IEC 17025 accreditation; installing refrigerant recovery and disposal systems; and providing targeted technical training and exchange with internationally recognized laboratories to build local testing expertise and quality assurance capacity (US $250,000); and

(c) *Monitoring, verification and reporting*: Hiring of specialists to provide hands-on technical support to each enterprise, ensure oversight and compliance with energy-efficiency benchmarks throughout the project's duration, provide follow-up and reporting;

[7] As per decision 97/88, the Executive Committee agreed to consider funding for the strengthening or upgrading of the existing energy-efficiency testing centres in manufacturing countries in the context of proposals submitted under decision 94/60.

organization of meetings and regular site visits, collecting data, verifying performance, overseeing capacity-building for local staff, and preparing progress and final reports (US $150,000).

Cost of the project as submitted

16. The total cost of the project to enhance energy efficiency in the room AC manufacturing sector in Argentina amounts to US $4,118,051, plus agency support costs, as initially submitted at the 98th meeting and shown in table 3.

Table 3. Summary of activities and costs of the project, as submitted (US $)

Item	Project cost (US $)
Additional capital costs	1,154,850
Additional component costs	2,413,201
Regulatory support / Institutional coordination	150,000
Laboratory strengthening / Enhancement of energy-efficiency testing capacities	250,000
Monitoring, verification and reporting	150,000
Total	**4,118,051**

17. Beneficiary enterprises are expected to provide both in-kind and financial co-financing, including incremental costs associated with technology conversions; adaptation of manufacturing lines, tooling and processes; development, import and validation of prototypes; energy performance and safety testing in accredited laboratories; technical training of the engineering and manufacturing personnel, and operational costs associated with the market introduction of new models.

18. Based on the baseline energy consumption per model, target energy efficiency, and number of units of each model manufactured by the enterprises, the cumulative energy savings of the project as submitted amount to 106.78 GWh/year. The project is expected to be completed within 36 months from approval.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

Adjustment to the project proposal

19. In reviewing the project, the Secretariat noted that the manufacturing data for 2025 had not been included in the proposal and that the most recent Resolution 426/2025 had set a mandatory minimum SEEI of 5.60 in cooling for air conditioners up to 10.5 kW, below which products could not be manufactured, imported, or sold in Argentina. While noting that this Resolution was recent and still needed to follow a process led by the Secretary of Industry to set a timeline to enter into force, and that most enterprises had proposed models with targets above the future MEPS level, several of the products included in the project had a target energy efficiency below 5, some of the units had a target energy efficiency of 4 or less, and one enterprise exclusively manufactured units that would not meet the future MEPS level. Accordingly, the Secretariat discussed with UNIDO the sustainability of energy-efficiency improvements that could be achieved through the project and whether the recently established MEPS could be enforced in the future if products were targeting lower levels. In addition, it was also discussed whether the enterprises included in the project could consider increasing the target energy efficiency of those models with an SEEI equal or below 4, so that the MEPS could accordingly enter into force and be updated in the future.

20. One of the main concerns raised about increasing the targets was the capacity and timelines to secure competitively priced CKD kits in order to avoid major increases in the final price of the product to consumers,

which required further consultations with the country. Noting that the most common and average difference between the price of the baseline and target CKD kit was US $10/unit and US $15/unit, respectively, the Secretariat suggested that those costs might be too low and that, after adjusting for eligible additional component costs, they could result in underestimating the costs of enhancing energy efficiency at the enterprises.

21. Following discussions between the Government of Argentina, UNIDO and the beneficiary enterprises, the project was updated to include the 2025 data and adjusted to consider energy-efficiency targets higher than those set by the future MEPS (SEEI equal or above 5.6). This constituted a major change to the proposal, which required additional data collection and extensive consultation and coordination with the enterprises.

Consideration of a revised proposal and deferral to the 99th meeting

22. Following the consultations mentioned above, a revised proposal was submitted by UNIDO for the five enterprises including the data from the last three years (2023–2025), comprising a larger number of manufactured models, proposing higher energy-efficiency targets for those models whose target was below the future MEPS, and recalculating the price difference between the baseline and target CKD kits. The revised proposal was prepared to allow the entry into force, no later than December 2029, [8] of a SEEI 5.6 MEPS established by Resolution No. 426/2025, a standard that would become mandatory for all enterprises in the local market and would also be applicable to imported equipment. The revised proposal still included the same components to enable the manufacturing of higher-efficiency equipment aligned with national and international standards.

23. The main differences between the original and the revised proposal included an increased energy-efficiency target for those models that had initially been targeted below the future MEPS; increased manufacturing levels in 2025 compared with previous years, especially by two enterprises; and a larger share of manufacturing included in the project by the enterprises (i.e., increasing the percentage of models qualifying for an incentive from 75.7 per cent to around 95 per cent, with the total number of units included in the project increased from US $918,885 to US $1.13 million or US $1.31 million, depending on the two scenarios presented), and a recalculated price difference between the baseline and target CKD kits. Consequently, the additional component cost increased substantially. The revised proposal presented two cost scenarios: one for US $7,589,190, based on average manufacturing levels for 2023–2025, and one for US $8,586,152, based on manufacturing levels in 2025 alone.

24. The Secretariat acknowledged with appreciation the extensive efforts and coordination undertaken by the Government of Argentina and UNIDO to prepare an adjusted proposal with greater potential to improve energy efficiency and enable the future enforcement of the MEPS. However, the time remaining to address the remaining issues under discussion such as the methodology for estimating additional CKD kit costs; the implications of using CKD kits for additional capital costs; the increase in manufacturing output at Newsan and Radio Victoria in 2025 and whether this increase was permanent or temporary; the cost elements of the laboratory upgrades; and the allocation of monitoring and verification costs per enterprise; was insufficient to complete the technical review for consideration at the 98th meeting.

Adjustments to the enhanced proposal submitted to the 99th meeting

25. Subsequent to the 98th meeting, UNIDO adjusted the proposal, addressing the most relevant issues under discussion in the form of the following updates: products were now clearly specified based on SEEI, instead of using a mix of SEEI and EEI; all products were verified directly with the enterprises, which provided detailed information on product capacity, baseline refrigerant, and baseline refrigerant charge; target refrigerant, charge, capacity, and performance were validated with all enterprises to ensure compliance

[8] Initially considered for July 2029 and updated to December 2029 as the project will only be considered in December 2026.

with SEEI 5.6 using HFC-32; and a new CKD kit price formula[9] was developed to replace the previous, more complex formula that had led to some inaccuracies.

26. Based on the adjustments, the two cost scenarios were recalculated using US $6,762,209, based on the average manufacturing levels for 2023–2025, and US $7,532,253, based on manufacturing levels in 2025 alone. UNIDO indicated that while the 2025 scenario represented a larger overall incentive, the 2023–2025 scenario represented a more balanced distribution of the incentive among enterprises, which would benefit the two smaller ones. The adjusted scenarios are summarized in tables 4 and 5.

Table 4. Revised proposal based on average manufacturing levels in 2023–2025

Particulars	BGH	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Enterprise characteristics						
Manufacturing capacity (units/year)	500,000	100,000	500,000	*250,000	100,000	1,450,000
Manufacturing level (units) (2023–2025)	338,566	59,553	482,152	199,240	53,602	1,133,113
Project parameters						
Baseline SEEI	4.429	3.689	4.206	4.227	5.496	--
Target SEEI	5.619	5.629	5.662	5.701	5.861	--
Baseline MEPS performance	3.165	3.180	4.206	3.180	3.180	--
Additional capital costs						
Total (US $)	257,580	149,500	251,870	437,100	135,500	1,231,550
Requested (US $)	**154,850**	**250,000**	**250,000**	**250,000**	**250,000**	**1,154,850**
Additional component costs based on average manufacturing levels in 2023–2025						
Additional total component cost (US $)	2,952,282	1,395,947	7,443,853	3,237,794	142,199	15,172,077
Additional component cost incentive requested (US $)	**984,094**	**465,316**	**2,481,284**	**1,079,265**	**47,400**	**5,057,359**
Other costs						
Regulatory support / Institutional coordination						150,000
Laboratory strengthening / Enhancement of energy-efficiency testing capacities						250,000
Monitoring, verification and reporting						150,000
Grand total						**6,762,209**

* Based on additional information from UNIDO, the manufacturing capacity was revised from 200,000 to 250,000 units/year.

Table 5. Revised proposal based on the 2025 manufacturing levels

Particulars	BGH	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Enterprise characteristics						
Manufacturing capacity (units)	500,000	100,00	500,000	*250,000	100,000	1,450,000
Manufacturing level (units) (only 2025)	345,358	65,160	**610,023	226,044	66,765	1,313,350
Project parameters						
Baseline SEEI	4.401	3.968	4.204	4.329	5.631	--
Target SEEI	5.774	5.679	5.635	5.735	5.900	--
Baseline MEPS performance	3.180	3.180	4.204	3.180	3.180	--
Additional capital costs						
Total (US $)	257,580	149,500	251,870	437,100	135,000	1,231,550
Requested (US $)	**154,850**	**250,000**	**250,000**	**250,000**	**250,000**	**1,154,850**
Additional component costs based on the 2025 manufacturing levels						
Additional total component cost (US $)	3,153,900	1,336,962	9,304,857	3,596,333	90,156	17,482,208
Additional component cost incentive requested (US $)	**1,051,300**	**445,654**	**3,101,619**	**1,198,778**	**30,052**	**5,827,403**

[9] As the baseline price of CKD kits and the estimated price of the CKD kits needed to achieve the enhanced energy efficiency of the AC units were not available, UNIDO had developed a model to estimate those prices.

Particulars	BGH	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Other costs						
Regulatory support / Institutional coordination						150,000
Laboratory strengthening / Enhancement of energy-efficiency testing capacities						250,000
Monitoring, verification and reporting						150,000
Grand total						**7,532,253**

***** Based on additional information from UNIDO, the manufacturing capacity was revised from 200,000 to 250,000 units/year.
****** As further discussed in paragraph 38, the 2025 manufacturing volume was higher than the enterprise's nominal capacity

27. The Secretariat and UNIDO discussed the new calculation of additional component costs as well as the outstanding issues and reached the conclusions set out in the following sections.

Policy and regulatory framework

Minimum energy efficiency performance standards

28. The current business-as-usual (BAU) MEPS framework for room AC units in Argentina is based on the earlier minimum-efficiency requirement corresponding to Class A in cooling mode under IRAM 62406:2007, which has been in force since 2014 for air conditioners with a cooling capacity up to 7 kW. For comparison with the updated labelling framework, this level is represented as approximately 3.18 SEEI under IRAM 62406:2019. Argentina has approved a substantially more stringent MEPS level through Resolution 426/2025, which establishes a minimum cooling efficiency of SEEI > 5.60 for room air conditioners with cooling capacity up to 10.5 kW, in accordance with IRAM 62406:2019 and the updated labelling regulation introduced by Resolution 438/2024.

29. The application of the new MEPS level is not yet fully operational, as Disposition 5/2025 clarifies that implementation remains subject to the effective date to be determined by a relevant technical-regulation authority under the framework of Resolution 438/2024. Under the BAU scenario, the market would continue to operate under the existing effective MEPS level until the new requirement becomes enforceable. Under the project scenario, participating enterprises would receive technical support and factory-upgrade assistance to manufacture higher-efficiency room AC units capable of meeting or exceeding the new SEEI > 5.60 requirement. This would help remove a key supply-side barrier to implementation and provide the Government of Argentina with stronger technical and industrial readiness to establish and enforce the effective date of the upgraded MEPS.

30. The current market-average efficiency is estimated at SEEI 4.464. With project implementation, the average efficiency of the participating enterprises is expected to increase to SEEI 5.664, which is above the newly approved MEPS threshold of SEEI > 5.60. The project supports the industrial and technical readiness needed for its effective implementation, helping participating enterprises move from a market-average performance level below the approved future MEPS threshold to a projected average performance level above that threshold. The successful implementation of the project will allow the entry into force of the MEPS established by Resolution No. 426/2025 no later than December 2029.

Coordination with the project to convert six enterprises manufacturing room air-conditioning

31. This project will be implemented in coordination with the ongoing project to replace R-410A with HFC-32 in the manufacture of room AC units. UNIDO reported that the enterprises' conversion to HFC-32 was progressing satisfactorily. Approval of the present project would enable energy-efficiency improvements to be incorporated into the room AC products being converted to HFC-32.

Non-participation of the enterprise Aires del Sur

32. The Secretariat sought clarification on why Aires del Sur, one of the six enterprises assisted under the room AC manufacturing conversion project, was not participating in the present project. UNIDO initially indicated that the enterprise decided not to participate due to changes in its administration but, subsequently, the enterprise initiated bankruptcy proceedings, as publicly declared in May 2026. Following the announcement, OPROZ promptly verified the situation and was informed that the enterprise continued operating while undergoing changes in ownership and management. UNIDO and the OPROZ are assessing the implications of the proceedings. While Aires del Sur is not participating in the present project, the Secretariat recommends that UNIDO provide a separate report on the status of the conversion project, including the financial and operational status of the enterprise and actions taken in line with decision 25/3,[10] and confirming the amount of funds to be returned should the enterprise not resume operations.[11]

33. Regarding the seventh local manufacturer, which is not eligible for funding, once the MEPS are updated, it will comply with the MEPS with its own funding.

Technical and cost-related issues

Additional capital costs and use of complete knock-down kits

34. The revised proposal maintained the additional capital costs as per the original proposal submitted at the 98th meeting, as shown in tables 2, 4 and 5. In line with precedent projects, Electrofueguina and Solnik, whose annual manufacturing output has consistently remained well below 100,000 units, would each be eligible for up to US $120,000 in additional capital costs, rather than the US $250,000 requested per enterprise. The additional capital costs for these two enterprises were adjusted accordingly.

35. Regarding the use of CKD kits, all five eligible enterprises use them in their manufacturing. The kits, providing the necessary components for AC units, are assembled on-site, including vacuum and refrigerant charging, and have their performance tested before being sold on the market. At the 97th meeting, the Executive Committee agreed to defer, to a future meeting, consideration of the provision of additional capital costs to manufacturers using CKD kits in projects submitted under the operational framework on energy efficiency. As noted at that meeting, the Secretariat considered that the RAC manufacturing enterprises that used CKD kits should be treated differently than those that did not, with the latter expected to have higher additional capital costs than the former. However, the Secretariat considers it likely that purchasing CKD kits that provide a specified level of energy-efficiency enhancement would be more expensive than purchasing components individually, which, when assembled by the manufacturer, would result in the same enhancement. In other words, enterprises that use CKD kits will have lower additional capital costs but are likely to have higher additional component costs. Accordingly, and following discussions with UNIDO, it was agreed not to change the level of eligible funding provided to enterprises that manufacture using CKD kits but instead to change how the additional capital costs are provided, with half of the eligible additional capital costs provided by UNIDO to the enterprises following approval of the project and upon the transfer of funds to UNIDO, and the remaining half provided to the enterprises one year thereafter and once UNIDO had confirmed to the Secretariat that the enterprises had manufactured the RAC units at least at the proposed targets. The Secretariat noted that this agreement was without prejudice to any decision the Executive Committee might take on consideration of the provision of additional capital costs to manufacturers that used CKD kits in projects submitted under the operational framework on energy efficiency. The additional capital cost as agreed is presented in table 6.

[10] In line with decision 25/3, implementing agencies are requested *inter alia* to carry out some preliminary screening of the financial viability of enterprises when preparing project proposals; and take appropriate action, in consultation with the ozone unit in the country concerned, if there was any indication of a possibility of bankruptcy.

[11] UNIDO indicated that it had disbursed 60 per cent of the funding allocated to the enterprise.

Table 6. Agreed additional capital costs (US $)

Particulars	BGH	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Total additional capital cost to be approved at the 99th meeting	154,850	120,000	250,000	250,000	120,000	894,850
50% provided by UNIDO to enterprises upon approval	77,425	60,000	125,000	125,000	60,000	447,425
50% provided by UNIDO to enterprises after one year	77,425	60,000	125,000	125,000	60,000	447,425

Additional component costs

36. With the exception of one enterprise (Solnik), the price of the baseline CKD kits was not available, nor was the price of the CKD kit required to meet the target energy performance. Accordingly, UNIDO had proposed several different approaches to estimate those prices. The original proposal did not provide the price of the baseline or target CKD kit but estimated the difference in price as between US $5 and US $30 per unit, in increments of US $5, depending on the baseline and target energy efficiency, and on the capacity of the AC unit in question. The Secretariat suggested that those costs might be too low and, after adjusting for eligible costs,[12] would result in an underestimate of the costs to enhance the energy efficiency at the enterprises. Accordingly, the Secretariat encouraged UNIDO to gather further information to better assess the difference in prices of the baseline and target CKD kits, a matter that could not be fully resolved before that meeting. Accordingly, in the adjusted proposal submitted to the 99th meeting, UNIDO replaced the original approach with a third-order polynomial based on market research and recalculated the additional component costs for all enterprises. The methodology used to calculate the additional component costs is presented in annex I.

37. The Secretariat carefully considered the revised model to estimate the price of CKD kits provided by UNIDO, including by consulting an industry expert. UNIDO's model was based on an assessment of representative prices in Article 5 countries. Accordingly, the Secretariat applied UNIDO's model to the project to enhance energy efficiency in residential AC manufacturing in Nigeria submitted to the present meeting[13] and found differences between the prices predicted by the model and those provided in that submission. The Secretariat applied the model to the AC units manufactured by Solnik and similarly found differences between the prices predicted by the model and those provided by the enterprise. Following detailed discussion with UNIDO and consultations with an industry expert, it was agreed to use the price of CKD kits as included in the revised submission, on the understanding that the price of the baseline and target kits would be part of the project report submitted to the Executive Committee following completion of the project and noting that this information might be submitted confidentially.

38. The choice of reference years for calculating the additional component-cost incentive remained a key issue. During the review for the 98th meeting, the Secretariat sought clarification on the increases in manufacturing output at Newsan and Radio Victoria in 2025. It was unclear whether those increases reflected sustained market conditions or a one-off rise that might reverse in subsequent years. UNIDO explained that enterprise-level data for 2025 had not previously been collected and that the manufacturing levels reported by Newsan and Radio Victoria reflected market conditions and growth in their market shares. UNIDO also indicated that the country could choose either average manufacturing levels for 2023–2025 or manufacturing levels in 2025 alone as the reference, and preferred the latter because it would yield a larger overall incentive. However, as the 2025-based calculation would provide relatively little support to the smaller enterprises, UNIDO enquired whether the approved funds could subsequently be redistributed among enterprises.

[12] In line with the operational framework, the cost adjustment ratio R_{cost} would be less than one, resulting in a decrease of eligible additional component costs.

[13] UNEP/OzL.Pro/ExCom/99/64

39. The Secretariat explained that Solnik's lower incentive partly reflected the fact that several of its products were already energy-efficient and therefore qualified for a smaller incentive. It also considered that funds calculated under the operational framework could not subsequently be redistributed among enterprises on a different basis. Several options were explored to address the Government's concern that the two smaller enterprises would receive both lower additional capital funding and lower additional component incentives.

40. During discussions on the matter, the Secretariat enquired whether the increases in the manufacturing output in 2025 partly reflected the transfer of manufacturing previously undertaken by Aires del Sur. If so, they could represent a lasting redistribution of manufacturing within the existing market rather than a temporary increase in overall demand. Although this explanation could not be conclusively established, the Secretariat proposed a phased funding approach that would mitigate the risk that the higher output would not be sustained, and provide a more balanced distribution of incentives while remaining consistent with the methodology.

41. Accordingly, and based on the specific circumstances in the country, the Secretariat recommended initially approving an additional component incentive of US $5,057,359, calculated using average manufacturing levels for 2023–2025. This would provide a more balanced distribution among enterprises based on their manufacturing output. After one year, a supplementary incentive of US $770,043 would be approved, conditional on confirmation that Aires del Sur would not resume operations, in which case it would be assumed that its manufacturing would be absorbed by other enterprises. Supplementary funding would be allocated among the enterprises based on their manufacturing levels in 2025, bringing the total additional component incentive to US $5,827,402. Table 7 summarizes the proposed approach.

Table 7. Additional component cost incentive

Item	BGH*	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total	Comment
Additional component incentive	984,094	465,316	2,481,284	1,079,265	47,400	**5,057,359**	Based on 2023-2025 average
Supplementary additional component incentive	202,490	38,205	357,669	132,534	39,146	**770,043**	Distributed based on 2025 manufacturing
Total additional component incentive	1,186,584	503,521	2,838,953	1,211,799	86,546	**5,827,402**	

*Reflects adjustment based on non-Article 5 ownership

Institutional coordination, monitoring, verification, reporting, and laboratory upgrades

42. In addition to direct funding provided to the enterprises, the proposal requested US $550,000 for institutional coordination (US $150,000), monitoring, verification and reporting (US $150,000), and upgrades to two laboratories (US $250,000). These amounts remained unchanged in the adjusted proposal, despite its substantially larger scale.

43. The Secretariat and UNIDO discussed the monitoring, verification and reporting budget in detail. While noting that the verification of energy-efficiency targets and sales-data collection would remain specific to this project, the Secretariat explored opportunities to streamline other verification and reporting activities with the ongoing investment project, the project management unit (PMU) for stages II and III of the HPMP, and a future Kigali HFC implementation project, if submitted during the implementation of this project. UNIDO acknowledged the potential for synergies but emphasized the extensive travel and logistical arrangements required to supervise enterprises in Ushuaia and Tierra del Fuego. It also noted that each project had distinct technical, monitoring and reporting requirements, and that the expanded energy-efficiency project would require substantial effort from OPROZ and UNIDO. Considering the direct costs of enterprise-level monitoring, verification and reporting, precedent cases, and the higher travel costs associated with the enterprises' location, funding was agreed at US $75,000, averaging US $15,000 per enterprise, on an exceptional basis and without setting a precedent.

44. In reviewing the laboratory upgrades, the Secretariat noted that several products with SEEI above 5.6 were already available on the market, indicating some existing capacity to test high-efficiency equipment. Further upgrades would nevertheless be needed to ensure consistent and reliable testing of a larger numbers of units once the MEPS were enforced. The proposed upgrades included improved chamber insulation, water-cooling circuits, temperature measurement systems, high-precision sensors, data-acquisition and power-measurement equipment, software and training. After comparing the US $250,000 request with international benchmarks, the Secretariat proposed adjusting the costs of chamber insulation, water-cooling circuits and software, and removing the regulated three-phase power supply, considered as basic laboratory infrastructure, as well as refrigerant charging and recovery equipment, which could be covered under the ongoing HPMP servicing-sector activities. Funding of US $74,000 per laboratory, or US $148,000 in total, was agreed.

45. For regulatory support and institutional coordination, UNIDO emphasized that the larger number of products to be upgraded to energy-efficiency levels above the future MEPS would require more extensive coordination with authorities, enterprises and laboratories. Additional technical assistance would also be needed to support MEPS enforcement. Therefore, while the monitoring, verification and reporting and laboratory-upgrade budgets were rationalized, institutional coordination funding was increased to US $270,000. This component would cover coordination and a package of technical activities to support the progressive strengthening and enforcement of national MEPS for room AC.

46. The activities include building local capacity to specify, source and evaluate CKD kits that comply with the upgraded MEPS, thereby strengthening the supply chain required for technology adoption by smaller enterprises and the servicing sector; enhancing coordination among OPROZ, IRAM, energy and customs authorities and other relevant stakeholders to ensure that refrigerant transition and energy-efficiency policies advance in a coordinated manner; building stakeholder capacity on the upgraded MEPS; establishing a methodology for the Government to track results; developing an online product registry to complement the existing energy-efficiency product database; conducting national technical consultations with manufacturers, laboratories, authorities and industry associations; and providing training on MEPS design, energy-performance testing and compliance verification. Given the institutional and cross-cutting nature of these activities, it was agreed that the institutional coordination component would be included within the pilot projects approved under decision 91/65, consistent with precedent cases.

47. The combined funding for the three components was therefore reduced from US $550,000 to US $493,000. Of this amount, US $223,000 for monitoring and laboratory upgrades would be allocated under the funding window established by decision 94/60, and US $270,000 for institutional coordination would be allocated under the funding window established by decision 91/65.

Cost of the project as agreed

48. The agreed cost of the project to enhance energy efficiency at five enterprises in the room AC manufacturing sector in Argentina amounts to US $7,215,252, as shown in table 8.

Table 8. Activities and costs of the project, as agreed

Component	BGH*	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Additional capital costs	154,850	120,000	250,000	250,000	120,000	894,850
Additional component incentive	984,094	465,316	2,481,284	1,079,265	47,400	5,057,359
Additional component incentive (supplementary)**	202,490	38,205	357,669	132,534	39,146	770,043
Total	**1,341,434**	**623,521**	**3,088,953**	**1,461,799**	**206,546**	**6,722,252**
Regulatory support/ Institutional coordination (funding window under decision 91/65)						270,000
Laboratory upgrade						148,000
Monitoring, verification and reporting						75,000
Total						**7,215,252**

Component	BGH*	Electro-fueguina	Newsan	Radio Victoria	Solnik	Total
Total to be approved at the 99th meeting						6,445,209
Total to be approved at the 101st meeting						770,043

* Reflects adjustment based on non-Article 5 ownership

**To be approved at the 101st meeting upon confirmation that the enterprise Aires del Sur will not resume activities.

49. As shown in table 8, US $6,445,209 will be approved at the 99th meeting, and the supplementary additional-component incentive of US $770,043 will be approved after one year, at the 101st meeting, upon confirmation that the enterprise Aires del Sur did not resume operations.

Energy-efficiency enhancements and estimated savings

50. Based on the baseline energy consumption per model, target energy efficiency, and number of units of each model manufactured by the enterprises,[14] the cumulative energy savings amount to 195.54 GWh/year.

Sustainability, replicability and assessment of risks

51. Several project risks were identified, including financial volatility, technical capacity constraints, market transformation barriers and workforce readiness for flammable refrigerants. Mitigation measures incorporated into project design are intended to reduce those risks.

52. Potential delays in updating the MEPS will be addressed through stakeholder consultation, phased compliance schedule and an appropriate framework for regulatory notification; insufficient testing capacity for performance validation will be addressed through the upgrade of laboratories; supply-chain constraints and cost escalation of imported components will be addressed through framework agreements, early supplier engagement, bulk procurement agreements, phased technology transition schedules; and low consumer uptake of high-efficiency products will be addressed through awareness campaigns, strengthened labelling scheme and public procurement demonstration.

53. Through the integration of policy alignment, institutional coordination, financial accountability, and industrial modernization, the project establishes durable structural conditions that support sustained energy-efficiency improvements and HFC phase-down in Argentina's room AC sector beyond the implementation period. The enforcement of MEPS and strengthening of local testing capabilities will help ensure that the improved energy performance achieved through the project will be sustained.

54. Financial sustainability is supported through the funding modality under decision 94/60 and provisions of document UNEP/OzL.Pro/ExCom/94/61. Additional capital costs will be disbursed upfront to support enhanced energy efficiency in manufacturing at the facilities, including the selection and testing of CKD kits and acquisition of testing equipment. This approach enables enterprises to establish higher-efficiency manufacturing capabilities. The project will also help overcome initial supply-chain barriers for higher-efficiency CKD kits. As manufacturing increases and the enterprises gain experience, economies of scale are expected to reduce additional costs and enable higher-efficiency manufacturing without continued financial assistance.

55. Market sustainability will be supported by certification and testing systems administered by IRAM, ensuring product differentiation and regulatory enforcement. Outreach activities will increase awareness among manufacturers, distributors, and end users of energy-efficient and climate-friendly technologies, including their energy and lifecycle cost benefits.

56. Regarding the enterprises' financial viability risk, UNIDO will conduct a rigorous financial and operational assessment of each participating enterprise before entering into a project implementation

[14] Information considered confidential.

agreement, covering financial viability, operational capacity, and indications of financial distress or potential insolvency. Enterprises presenting significant financial risks will not be eligible for project support. Funding will also be disbursed in phases against the defined implementation milestones, with subsequent instalments released only upon verification of satisfactory progress, including equipment procurement, installation, and commissioning. While UNIDO cannot guarantee the enterprises' future commercial performance or long-term viability, these due-diligence and milestone-based disbursement measures will minimize the risk of allocating resources to enterprises unable to complete the agreed activities.

RECOMMENDATION

57. The Executive Committee may wish to consider:

(a) Approving the project to enhance energy efficiency at five enterprises in the room air-conditioning (AC) manufacturing sector in Argentina in the context of HFC phase-down, in the amount of US $6,445,209, plus agency support costs of US $451,165, for UNIDO;

(b) Noting:

(i) That US $6,175,209, plus agency support costs of US $432,265, will be allocated under the funding window established by decision 94/60 and US $270,000, plus agency support costs of US $18,900 for regulatory support and institutional coordination, will be allocated under the funding window established by decision 91/65;

(ii) That, at the 101st meeting, an additional US $770,043, plus agency support cost of US $53,903, will be approved for the enterprises participating in the project in line with table 8 of document UNEP/OzL.Pro/ExCom/99/36, upon submission of a report by UNIDO on behalf of the Government of Argentina confirming inter alia that the enterprise Aires del Sur has not resumed activities;

(iii) That the provision of additional capital costs to manufacturers using complete knock-down (CKD) kits is without prejudice to any decision that the Executive Committee might take on the matter;

(c) Noting also that the Government of Argentina is committed:

(i) In line with paragraph 36 of document UNEP/OzL.Pro/ExCom/94/61, to ensure that project implementation is operationally completed no later than 36 months from the date of approval, and to return the funding related to the additional component costs and any other remaining balances that have not already been obligated if the project was not completed within 36 months;

(ii) In line with paragraph 37 of document UNEP/OzL.Pro/ExCom/94/61, to ensure that the beneficiary enterprises will manufacture, after project completion, equipment with at least the target energy-efficiency performance, and make their best efforts to continue improving the energy efficiency of the products beyond the project implementation duration at their own cost, noting that the performance of equipment manufactured by the enterprises will be monitored, for a period of two years from the date of completion of the project, by the national ozone unit and UNIDO, through appropriate mechanisms;

(iii) In line with paragraph 38 of document UNEP/OzL.Pro/ExCom/94/61, to ensure periodic upgrading of the minimum energy performance standards (MEPS)

regulations, labelling programmes and awareness and outreach activities and the publicization of target energy-efficiency levels for the equipment under the project among stakeholders, and to take steps to implement, within three years of the date of completion of the project, regulations to ensure that the manufacturing, import and sale of the equipment achieved at least the target energy-efficiency performance levels;

(iv) To implement and make best efforts to enforce the MEPS specified in Resolution 426/2025 by December 2029;

(v) To operationally complete the project no later than December 2029, and to submit to the Executive Committee within six months of the date of completion of the project a detailed project report, including information on the additional capital and component costs incurred for the models covered in the project, the price of the baseline and target CKD kits, the energy-efficiency gains accrued, and challenges faced while implementing the project;

(d) Noting further that, if Argentina does not comply with the conditions specified in subparagraphs (c)(i) to (v) above, the Executive Committee will take this into account when considering future projects submitted by Argentina that are unrelated to compliance; and

(e) Requesting UNIDO to submit to the 101st meeting a report on the HFC phase-out conversion project at Aires del Sur approved under decision 95/58, including the financial and operational status of the enterprise and actions taken pursuant to decision 25/3 and confirming the amount of funds to be returned should the enterprise not resume operations.

Annex I

METHODOLOGY TO CALCULATE ADDITIONAL COMPONENT COSTS

1. UNIDO provided detailed information for each air-conditioner (AC) model manufactured by the five enterprises, including (by model) the number of units sold between 2022 and 2025; the capacity (in tonnes of refrigeration, TR); the baseline and target Seasonal Energy-Efficiency Index (SEEI, in W/W);[15] and the current minimum energy performance standards (MEPS) (SEEI, in W/W) applicable to the model. The information provided by UNIDO is considered confidential and is available upon request to Executive Committee members, on the understanding that it will not be shared and will only be used to evaluate the project.

2. The Secretariat used the information provided by UNIDO to calculate the eligible additional component costs in using the methodology described in table 4 of document UNEP/OzL.Pro/ExCom/94/61. The present annex provides further explanation of the methodology and presents the calculations for two AC models; for reasons of confidentiality, no information is provided on which enterprise manufactured the models, nor the quantity of each manufactured model.

3. Table 4 of document UNEP/OzL.Pro/ExCom/94/61 specifies three levels (E-low, E-medium, and E-high) based on which additional component cost per unit is provided (US $0/unit, US $34/unit, and US $45/unit, respectively), where the eligible additional component cost per unit is determined based on the baseline and target energy performance of the model, as described in paragraph 28 of document UNEP/OzL.Pro/ExCom/94/61 and in document UNEP/OzL.Pro/ExCom/94/61/Add.1. The additional component incentive is then determined by dividing the additional component cost by three and adjusting for the capacity of the model (relative to 1.5 TR).

4. Two illustrative examples for the calculation of the eligible additional component incentive for AC models are given in the table below.

Examples of the calculation of the eligible additional component incentive

Particulars	Units	Reference	Model A	Model B
Baseline SEEI to MEPS ratio	Current SEEI / MEPS	**A1**	1.264	1.082
Target SEEI to MEPS ratio	Target SEEI / MEPS	**A2**	2.000	1.764
E-low	SEEI (low) / MEPS	**A3**	1.000	1.000
E-medium	SEEI (medium) / MEPS	**A4**	1.500	1.500
E-high	SEEI (high) / MEPS	**A5**	2.000	2.000
Capacity	TR	**A6**	0.739	1.479
Additional component cost	US $/unit	**A***	27.05	34.23
Eligible additional component incentive	US $/unit	**B=(A*/3)*(A6/1.5)**	4.44	11.25

[15] As submitted to the 98th meeting, the information provided by UNIDO was in terms of the Energy-Efficiency Index (EEI) rather than SEEI. That information was subsequently updated for the 99th meeting, in line with the applicable MEPS, which are measured in SEEI.