UNITED
NATIONS

EP

United Nations
Environment
Programme

Distr.
GENERAL

UNEP/OzL.Pro/ExCom/99/75
16 November 2026

ORIGINAL: ENGLISH

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: TÜRKIYE

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 residential air-conditioning and self-contained commercial refrigeration in Türkiye 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

Türkiye

PROJECT TITLE	AGENCY
Project to enhance energy efficiency in the manufacturing of residential air-conditioning and self-contained commercial refrigeration in Türkiye in the context of HFC phase-down	UNIDO

PROJECT OBJECTIVE
The project aims to enhance energy efficiency in the manufacturing of residential air-conditioning (AC) and self-contained commercial refrigeration appliances at two facilities.

NATIONAL COORDINATING AGENCY	Department of the Monitoring of Greenhouse Gas Emissions under the Directorate of Climate Change

ARTICLE 7 DATA (Annex F)	**Year:** 2025	mt	17,321,612 CO_2-eq tonnes

PROJECT DETAILS		
HFC-32 consumption in the AC manufacturing sector in 2025 (country programme (CP) data)	mt	2,461.12
	CO_2-eq tonnes	1,661,256
R-404A consumption in the refrigeration manufacturing sector in 2025 (CP data)	mt	61.88
	CO_2-eq tonnes	242,669
R-410A consumption in the AC manufacturing sector in 2025 (CP data)	mt	139.88
	CO_2-eq tonnes	292,000
Project duration	months	36
Grant amount requested from the Multilateral Fund	US $	714,235
Grant amount agreed	US $	385,243
Project support costs for UNIDO	US $	26,967
Total cost of project to Multilateral Fund	US $	412,210
Energy-efficiency savings to be achieved through the project*	kWh/year	60,314,619
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

* For Arçelik only

SECRETARIAT'S RECOMMENDATION	Individual consideration

PROJECT DESCRIPTION

1. On behalf of the Government of Türkiye, UNIDO as the designated implementing agency has submitted, in line with decision 94/60, a request for a project to enhance energy efficiency in the context of hydrofluorocarbon (HFC) phase-down at two manufacturers: one in the residential air-conditioning (AC) manufacturing sector and one in the self-contained commercial refrigeration (SCCR) sector, in the amount of US $714,235, plus agency support costs of US $49,996, as originally submitted.[2]

Background

2. Türkiye ratified the Kigali Amendment on 10 November 2021. Stage I of the country's Kigali HFC implementation plan (KIP) was approved at the 95th meeting of the Executive Committee (December 2024)[3] and the Agreement for stage I was approved at the 98th meeting (June 2026).[4]

Status of implementation of activities related to HFC phase-down and energy efficiency

3. At the 94th meeting, the Executive Committee approved funding for UNIDO for the preparation of a national inventory of banks of unwanted controlled substances and for the development of a national plan for the management of those substances in Türkiye.

4. In approving stage I of the KIP at the 95th meeting, given the need for additional time to obtain meaningful data from the manufacturing sectors and to assist eligible enterprises in complying with the regulations on fluorinated gases, the Executive Committee noted, inter alia, that during the implementation of stage I, and no later than the 98th meeting, the Government of Türkiye would be allowed to submit investment projects in the refrigeration, AC and foam sectors to achieve additional HFC reductions (decision 95/74(b)(vi)). At the same meeting, the Committee approved the preparation of a project to enhance energy efficiency and to convert the use of HFCs to a technology with low global-warming potential (GWP) for 29 refrigeration and air-conditioning (RAC) manufacturing enterprises in Türkiye (decision 95/39). At the 98th meeting, UNIDO informed the Executive Committee that the project would not be submitted as planned because outstanding activities had not been completed. Accordingly, project submission was rescheduled to the 99th meeting,[5] and received only as an energy-efficiency project under decision 94/60 for two enterprises.

Policy, regulatory and institutional framework

5. The Ministry of Energy and Natural Resources (ETKB) regulates and coordinates energy-efficiency policies, while the minimum energy performance standards (MEPS) for commercial refrigeration and commercial AC are regulated by the Ministry of Industry and Technology (MIT). Accredited labs are responsible for testing and certifying energy efficiency in equipment, and monitoring is done through regular compliance checks.

6. Several standards have been adopted for the energy efficiency of appliances, energy performance of buildings, and energy-labelling requirements for buildings and appliances. As a candidate for European Union (EU) membership, Türkiye aims to achieve full harmonization with EU standards. National regulations, aligned with EU norms, are expected to increase the efficiency levels of refrigeration, air-conditioning and heat pump (RACHP) equipment by 10 to 15 per cent over the next three years.

[2] As per the letter of 19 August 2026 from the Ministry of the Environment, Urbanization and Climate Change of Türkiye to UNIDO.
[3] Document UNEP/OzL.Pro/ExCom/95/79 and decision 95/74
[4] Decision 98/12(e) and annex XXXIV to document UNEP/OzL.Pro/ExCom/98/64
[5] Paragraphs 87–91 of document UNEP/OzL.Pro/ExCom/98/6 and decision 98/15

7. Regulations are revised and updated, when necessary, in alignment with EU legislation and based on feedback from relevant institutions, sectoral associations, and non-governmental organizations. Manufacturers are typically given a transition period of up to three years to comply with the new requirements, while the manufacturing or sale of non-compliant products is gradually phased out. Once the regulations enter into force, the Ministry of Trade and the MIT are responsible for market surveillance and inspections to ensure compliance.

8. Türkiye participated in UNEP's global twinning initiative on safety standards for flammable refrigerants, launched by OzonAction to strengthen cooperation between national ozone units (NOUs) and standards bodies in Article 5 countries. The Cool Up Programme has supported Türkiye in strengthening the policy and regulatory framework for sustainable cooling, including the promotion of MEPS implementation through technology demonstrations, training on low-GWP refrigerants, and preparation of the National Cooling Strategy.

Minimum energy performance standards

9. The national MEPS are defined and updated within the framework of energy labelling and ecodesign regulations, in alignment with the EU Ecodesign Directive 2009/125/EC and Energy-Labelling Regulation 2017/1369. The main authorities involved in those processes are the MIT, the General Directorate of Energy Efficiency and Environment embedded within the ETKB, the Ministry of Trade, and the Turkish Standards Institute (TSE).

10. The newly established MEPS levels for relevant product groups, including domestic refrigerators, air conditioners, electric motors, commercial refrigeration equipment, fans and pumps, enter into force following the publication of ecodesign implementing communiqués in the Official Gazette. The MIT requests feedback and technical input from industry stakeholders, associations and manufacturers, while the TSE and relevant technical committees evaluate the applicable standards. All standards are updated every five years. The relevant MEPS for the present project are:

(a) MEPS for residential AC units established under the Communiqué on Ecodesign Requirements for Air Conditioners and Fans (206/2012/13), aligned with Commission Regulation (EU) No 206/2012 on Ecodesign Requirements for Air Conditioners and Comfort Fans. It covers AC units with rated cooling capacity of 12 kW or less. Current minimum seasonal energy-efficiency ratio (SEER) levels are 4.60 for units with refrigerant GWP above 150 and capacity below 6 kW and 4.30 for units between 6 and 12 kW. Minimum SEER is 4.14 for units with refrigerant GWP equal to or below 150 GWP and capacity below 6 kW and 3.87 for units between 6 and 12 kW; and

(b) MEPS for display cabinets established under the Communiqué on Ecodesign Requirements for Refrigeration Devices with Direct Sales Function (2019/2024/EU) (SGM:2021/9). Current maximum Energy Efficiency Index (EEI) requirements are 50[6] for ice cream freezers and 80 for all other refrigerating appliances with a direct sales function except for refrigerator drum vending machines.

11. Additional energy-efficiency measures for the cooling sector include the environmentally friendly design requirements regarding no-load energy consumption and average active efficiency of external power sources; energy labelling for household cooling devices, air conditioners and space heaters; and combined heater, space heater, temperature control and solar device packages.

[6] The appliance's measured annual energy consumption must be no more than 50 per cent of the Standard Annual Energy Consumption calculated for that type and size of appliance.

HFC consumption and sector background

12. The HFC consumption baseline for Türkiye is 37,117,410 CO_2-equivalent (CO_2-eq) tonnes. The Government reported a consumption of 17,321,612 CO_2-eq tonnes of HFCs in 2025. Table 1 presents the use of HFC-32 and R-410A in AC manufacturing and the use of HFC-134a, R-404A and R-449A in refrigeration manufacturing, based on the country programme (CP) implementation reports 2021–2025.

Table 1. HFC use in the RAC manufacturing sectors in Türkiye (CP data) (2021–2025)*

Sector	Substance	2021	2022	2023	2024	2025
Metric tonnes (mt)						
AC manufacturing	HFC-32	2,103.14	3,597.22	1,722.48	1,374.91	2,461.12
	R-410A	145.68	449.98	26.30	388.16	139.88
Subtotal AC (mt)		**2,248.82**	**4,047.20**	**1,748.78**	**1,763.07**	**2,601.00**
Refrigeration manufacturing	HFC-134a	118.88	179.62	79.54	77.69	67.25
	R-404A	157.93	398.09	174.66	159.77	61.88
	R-449A	-	2.51	0.13	0.22	3.01
Subtotal refrigeration (mt)		**276.81**	**580.22**	**254.33**	**237.68**	**132.14**
CO_2-eq tonnes						
AC manufacturing	HFC-32	1,419,617	2,428,122	1,162,676	928,064	1,661,256
	R-410A	304,117	939,333	54,903	810,284	292,000
Subtotal AC (CO_2-eq tonnes)		**1,723,734**	**3,367,455**	**1,217,579**	**1,738,348**	**1,953,256**
Refrigeration manufacturing	HFC-134a	169,993	256,853	113,740	111,097	96,168
	R-404A	619,322	1,561,152	684,936	626,554	242,669
	R-449A	-	3,504	187	307	4,202
Subtotal refrigeration (CO_2-eq tonnes)		**789,315**	**1,821,509**	**798,863**	**737,958**	**343,039**

*These values include all AC and refrigeration manufacturing subsectors.

Manufacturing sector

13. Türkiye's RAC industry is diverse and highly developed. A large share of equipment produced in the country is exported to Europe, but it also serves the domestic, Middle Eastern, North African and Central Asian markets. The largest domestic manufacturers include Arçelik LG, Vestel, and DemirDöküm, while international manufacturers include Daikin, Mitsubishi Electric, LG, and Carrier. Production encompasses residential air conditioners, domestic refrigerators and freezers, commercial refrigeration equipment, heat pumps, and a broad range of heating, ventilation and AC systems. The country benefits from a well-developed manufacturing supply chain, a skilled workforce, and strong integration with European markets, making it an important regional production hub.

Residential air-conditioning manufacturing

14. Türkiye's manufacturing capacity for residential air conditioners exceeds two million units annually, with Arçelik, Vestel, Daikin, Mitsubishi Electric and other manufacturers producing split-type air conditioners for both domestic sales and export. The single-split residential AC units with an average SEER of 4.5 consume both HFC-32 and R-410A. Arçelik has close to a 50 per cent market share.

15. The commercial AC sector consists of multi-split and variable refrigerant volume systems produced primarily by Daikin and Mitsubishi, and of AC chillers, consuming HFC-134a, R-410A and R-407C. Key local manufacturers in the chiller market include İmas, İmbat, Eraco, Aytek, Termoproses, Erbay, Planer, and Güldem.

Commercial refrigeration manufacturing

16. Leading manufacturers in the commercial refrigeration sector include Uğur, Klimasan, and Simfer. Condensing units and centralized systems using HFC-134a and R-404A are manufactured mainly by

Cantaş, Frigoblock, and Savaşlar. Uğur Soğutma is the leading manufacturer of chest and upright freezers for both domestic and export markets, while Klimasan, one of Europe's largest producers of plug-in commercial refrigeration equipment, manufactures SCCR display cabinets. Other manufacturers, such as Diktaş A.Ş., Nurdil, Şenol Soğutma, Aytek, and Setab, consume mostly R-404A, R-507A and R-290 in the production of vertical display cabinets, multideck cabinets, serve-over counters, supermarket cabinets, beverage coolers and freezer display cabinets. The industry's combined output is estimated to exceed one million commercial display cabinets annually, with a significant share exported to international markets.

Project overview

Project objectives and coordination with stage I of the Kigali HFC implementation plan

17. The objective of the project is to support energy-efficiency enhancements of appliances manufactured by two enterprises in the residential AC and SCCR sectors. The project will improve the energy-efficiency ratio of residential AC units by 1.41 to 1.51 (SEER relative to the current MEPS), resulting in an average target SEER between RE-medium (1.50) and RE-high (2.00), as described in table 4 of document UNEP/OzL.Pro/ExCom/94/61. The project will also improve the energy efficiency of SCCR units from 2.807 kWh/y to 1.256 kWh/y, ultimately resulting in emission reductions of 35,281 CO_2-eq tonnes per year and annual energy savings of 74.43 GWh, including both residential AC (60.31 GWh/y) and SCCR (14.12 GWh/y). It will be implemented in coordination with stage I of the KIP.

Project beneficiaries

18. The direct beneficiaries of the project are described below and in table 2:

(a) Arçelik-LG Klima Sanayi ve Ticaret A.Ş. (Arçelik) has a 50 per cent Article 5 ownership and manufactures both residential and commercial AC equipment. It has four manufacturing lines included in the project for residential AC units, using HFC-32 for products destined for the EU and Türkiye markets, and R-410A for products exported to other markets. Arçelik has psychrometric test laboratories that are fully capable of meeting the requirements of ISO 5151 test conditions and test procedures compliant with the EN 14825 and EN 14511 standards, which define the efficiency and performance testing of relevant products. The enterprise does not benefit from any external funding such as subsidies, research and development or other support schemes for energy-efficiency improvements; and

(b) Diktaş Refrigeration and Metal Manufacturing Industry. Tic. A.Ş. (Diktaş) has 100 per cent Article 5 ownership and manufactures commercial type refrigerated and unrefrigerated cabinets. Two manufacturing lines would be included in the project. The enterprise has not received external funding for energy-efficiency-related activities. The enterprise will convert its manufacturing capacity from R-404A to R-290 and R-449A with own resources.

19. None of the products manufactured by the two beneficiary enterprises use complete knock-down or semi-knock-down kits.

Proposed activities as submitted

Manufacturing activities

20. The project will assist the enterprises with product design, modifications to manufacturing facilities and technical capacity-building to enable higher energy efficiency of manufactured equipment. UNIDO will undertake facility-level technical monitoring, verification and reporting throughout the three-year

implementation period, followed by continued follow-up and reporting for another two years after project completion, through to 2031.

21. Both participating enterprises commit to manufacturing equipment with at least the target energy-efficiency performance after project completion and to making best efforts to continue improving the energy efficiency of those products beyond the project duration at their own cost. The energy performance of exported AC and display units would exceed the domestic MEPS.

22. The following additional capital costs were proposed by UNIDO:

(a) *Product research and development:* Including the work of five engineers and four designers for three months at Arçelik (US $101,700) and of one engineer and one technician for six months at Diktaş (US $27,960);

(b) *Prototype manufacturing*: Manufacturing of prototypes at Arçelik (US $12,000) and at Diktaş (US $5,000);

(c) *Manufacturing facility modifications*: Procurement of new welding jigs for copper pipe design at Arçelik (US $1,000) and installation of a gas charger and polyurethane molding at Diktaş (US $100,000);

(d) *Training of technical personnel*: Training to be conducted at Diktaş (US $10,000); and

(e) *Monitoring, verification and testing*: Monitoring and verification activities at Arçelik (US $10,000); and third-party tests at Arçelik (US $256,000) and at Diktaş (US $15,000).

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

Table 2. Baseline, target energy performance, capital and additional component costs, as submitted

Particulars	Arçelik	Diktaş	Total
Enterprise characteristics			
Year established	1999	1961	-
Article 5 ownership (%)	50	100	-
Participating lines	4	2	6
Manufacturing capacity	1,500,000	12,000	1,512,000
Manufacturing level (average 2023–2025)	534,739	9,100	543,839
Project parameters			
Number of models included in the project	20	16	36
Savings in energy consumption (GWh/y)	60.31	14.12	74.43
Additional capital costs (US $)			
Product development and prototype manufacturing	113,700	32,960	146,660
Manufacturing facility modifications	1,000	100,000	101,000
Monitoring, testing, training	266,000	25,000	291,000
Total	380,700	157,960	538,660
Eligible	250,000	150,000	400,000
Requested after deducting non-Article 5 ownership	*125,000*	*150,000*	*275,000*
Additional component costs (US $)			
Requested additional component cost incentive	*331,865*	*47,370*	*379,235*
Total fund request (eligible additional capital costs and additional component cost incentive) (US $)	**456,865**	**197,370**	**654,235**

Cost of the project as submitted

24. The total cost of the project to enhance energy efficiency in the residential AC and commercial refrigeration manufacturing sectors in Türkiye amounts to US $714,235, plus agency support costs, as initially submitted 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	275,000
Additional component costs	379,235
Verification and reporting	60,000
Total	**714,235**

25. Beneficiary enterprises are expected to provide both in-kind and financial co-financing, including incremental costs associated with technology conversions, where applicable (Arçelik already converted to HFC-32 with its own resources); adaptation of production lines, tooling and processes; development, import and validation of prototypes; energy performance and safety testing in accredited laboratories; technical training of engineering and production personnel, and operational costs associated with the market introduction of new models. The project is expected to be completed within 36 months from approval, that is by December 2029.

Policy-level activities

26. The MIT will periodically upgrade the MEPS regulations and labelling programmes following a five-year review cycle that has been adopted by the country in harmony with the EU regulations. The Government will also undertake activities to publicise the performance of this project and other energy-efficiency improvement benefits resulting from the conversion to stakeholders and comply with other conditions specified in decision 94/60 related to project performance and timely project completion.

SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

COMMENTS

Scope of the proposal

27. The initial estimation made by UNIDO in the project preparation phase identified around 29 enterprises as potential participants. However, during the preparation process it was noted that several enterprises were undertaking self-funded refrigerant conversions to meet the accelerated schedules in conformity with the EU dates. In some other cases, the level of the incentive provided to achieve more energy-efficient products was not seen as sufficient by some enterprises to participate. This significantly reduced the scope of the project in terms of the number of participating enterprises.

28. UNIDO confirmed that non-participating manufacturers were subject to compliance with current and future MEPS, which were equal to those in the ecodesign regulation. In the case of Arçelik, with a nearly 50 per cent share of the room AC market, information sharing on products performance demonstrating higher energy efficiency levels, and the Government's commitment to raise the MEPS, it is expected that the upgrade of its products will pull the market to adopt higher-energy-efficiency technologies, while the case of Diktaş is expected to be used to showcase a path towards cost-effective and sustainable energy-efficient technologies in SCCR applications.

Institutional, policy and regulatory framework

29. Arçelik's current products have SEER values above the applicable MEPS. Diktaş's current products have EEI values below the applicable MEPS, indicating higher efficiency in both cases. Furthermore, Diktaş's products already consume less energy than the highest-performance reference levels specified in table 2 of document UNEP/OzL.Pro/ExCom/94/61 (target energy performance levels for different equipment and additional component costs), used as reference for the calculation of additional component costs and the subsequent incentive.

30. UNIDO confirmed that, in line with decision 94/60(b)(i) and paragraph 37 of document UNEP/OzL.Pro/ExCom/94/61, the enterprises included in the project committed to manufacturing equipment for local and export sales with at least the target energy-efficiency performance levels after project completion, which is higher than the MEPS, and to make best efforts to continue to improve the energy efficiency of those products beyond the project duration, at their own cost.

Technical and cost-related issues

Arçelik

Eligibility of the previously converted manufacturing lines

31. At the 98th meeting, the Executive Committee discussed a project submitted pursuant to decision 94/60, in which the addressed enterprises converted from HCFC-22 to HFC-32 under stage I of the HPMP, approved at the 68th meeting and prior to the adoption of the Kigali Amendment. While the eligibility of the enterprises in that project was considered on an exceptional basis, the Executive Committee decided to request the Secretariat to prepare a brief document for the 99th meeting, providing information on the refrigeration and AC manufacturing lines that had completed conversion under HCFC phase-out or HFC phase-down projects approved under the Multilateral Fund (decision 98/23).

32. The conversion from R-410A to HFC-32 in Arçelik's manufacturing facility was completed in 2017 with the enterprise's own resources. Accordingly, the consideration of the project for Arçelik will be subject to the Executive Committee's consideration of the information on manufacturing lines that had completed conversions, contained in document UNEP/OzL.Pro/ExCom/99/81.

Cost calculation

33. The Secretariat noted that the additional capital and component costs and subsequent incentive for energy-efficiency improvements were calculated in line with the operational framework for energy efficiency (paragraphs 8 to 38 and annex II of document UNEP/OzL.Pro/ExCom/94/61). Therefore, no adjustments to the costs were discussed.

34. During the review, UNIDO confirmed that Arçelik's domestic sales accounted for 78 per cent of the enterprise's output, while international sales were at 22 per cent, including 18.96 per cent exported to non-Article 5 parties. Accordingly, in line with existing policies, the amount exported to non-Article 5 countries was deducted from the funding request. The adjusted cost including this deduction is presented in table 4.

Table 4. Funds agreed for the implementation of the project at Arçelik

Arçelik	Funds requested (US $)	
	As submitted	As adjusted
Additional capital costs	250,000	250,000
Additional component incentive	663,730	663,730
Total	*913,730*	*913,730*
Deduction for non-Article 5 ownership	50%	50%

Arçelik	Funds requested (US $)	
	As submitted	As adjusted
Deduction for exports to non-Article 5 countries		18.96%
Total deductions	(456,865)	(543,487)
Net funding after adjustments (US $)	**456,865**	**370,243**

Diktaş

Eligibility of selected alternative technologies

35. UNIDO confirmed that the remaining quantities of R-404A used at Diktaş in the manufacturing of products covered under the project would be phased out by the end of this project; therefore, the energy enhancement of the products manufactured by Diktaş will take place in the context of HFC phase-down.

36. Regarding the choice of technology for the 16 products, 12 consisting of display cases with larger refrigerant charges will be converting from R-404A to R-449A, while four products with smaller refrigerant charges will be converting from R-404A to R-290.

37. Noting that the operational framework[7] for refrigeration equipment indicated that the incentive could only be provided for conversion to refrigerants with low GWP, the 12 products being converted to R-449A are not eligible for an incentive, leaving only four products converting to R-290 to be included in the project.

Cost calculation of the four eligible products

38. The four eligible products included in the project were already being produced with better energy-efficiency levels than those included in the operational framework. UNIDO also confirmed that those products' efficiency-performance levels were better than the United for Efficiency (U4E) highest efficiency considered as reference for the operational framework for commercial refrigeration; however, there was still room for further improvements.

39. On this basis, the Secretariat undertook a calculation of the additional component cost incentive through a relative ratio of performance of the products to the target MEPS levels compared to the E-Low to the E-Medium level in table 2 of document UNEP/OzL.Pro/ExCom/94/61. Based on this, the resulting final cost of the project was US $105,200 (US $100,000 for additional capital costs and US $5,200 for the additional component cost incentive). However, during the project review process, it was also confirmed that Diktaş exported 45.3 per cent of its products to non-Article 5 countries. By applying the corresponding deduction, the final amount resulted in US $57,500.

40. Upon consultation with the NOU and the enterprise, UNIDO reported that the enterprise withdrew the proposal.

41. The Secretariat notes that, while Diktaş withdrew the proposal, the enterprise remains eligible for future consideration of projects to convert to low-GWP technologies and enhance the energy efficiency of its products converted to low-GWP alternatives if it wishes to submit a project in the future, subject to the applicable funding policies.

Project monitoring and technical assessment

42. In explaining how the project monitoring and technical assessment proposed at US $60,000 would be undertaken for the project, UNIDO explained that it would include facility-level technical monitoring, verification and reporting throughout the three-year implementation period, followed by continued

[7] Paragraph 35 of document UNEP/OzL.Pro/ExCom/94/61

follow-up and reporting for another two years after project completion, until 2031. The monitoring function will ensure technical integrity of investments, track implementation against the agreed energy-efficiency performance benchmarks, and verify the achievement and sustainability of project results. Experts will be engaged to provide hands-on technical support, including site visits, capacity-building, and documentation of outcomes to support replication by other Turkish RAC manufacturers.

43. In line with the nature of the activities under this component, preceding projects, and the removal of one of the two enterprises from the project, the Secretariat recommended US $15,000, on the understanding that this budget line would also include relevant consultations with the energy-efficiency authorities on energy-performance monitoring of equipment.

Cost of the project as agreed

44. The agreed cost of the project to enhance energy efficiency at Arçelik amounts to US $385,243, including US $370,243 for the enterprise as described in table 4 above, and US $15,000 for the monitoring, verification and consultation with energy-efficiency authorities.

Energy-efficiency enhancements

45. Based on the baseline energy consumption per model, target energy efficiency, and number of units of each model manufactured by Arçelik, the cumulative energy savings amount to 60.31 million kWh/year. The project supports national energy-efficiency priorities, strengthens compliance with relevant standards, and complements the KIP through capacity-building, technology upgrades and raising awareness of sustainable cooling practices.

Sustainability, replicability and assessment of risks

46. A potential risk to the sustainability of sales of energy-efficient products included in the project is that if MEPS are set too low, Arçelik would need to compete with imported air conditioners with lower energy efficiency and potential lower cost. The fact that the enterprise represents 50 per cent of the market, and that the Government is committed to periodically upgrade MEPS regulations based on ecodesign requirements and to implement regulations, will mitigate this risk.

47. The MEPS control and inspection is carried out by the Directorate General of Metrology and Industrial Product Safety under the MIT under Law No. 7223, which provides for penalties if the legal requirements are not met. Sustainability will be further reinforced through continued monitoring beyond the three-year implementation period.

48. UNIDO further confirmed the commitment of the Government of Türkiye to ensure timely implementation of both the project and stage I of the KIP in accordance with the agreed timelines, policies and regulatory frameworks; and to submit to the Executive Committee within six months of the date of completion of the project a detailed report on its implementation, including the additional capital and component costs incurred for the models covered in the project, the energy-efficiency gains accrued and the challenges faced.

RECOMMENDATION

49. Subject to Executive Committee's consideration of the information on manufacturing lines that had completed conversions, the Executive Committee may wish to consider approving the project to enhance energy efficiency in the residential air-conditioning manufacturing sector at the enterprise Arçelik in the context of HFC phase-down in Türkiye, in the amount of US $385,243, plus agency support costs of US $26,967, for UNIDO, noting:

(a) The commitment of Arçelik to implement the project and achieve the targeted energy-performance levels as agreed by the end of December 2029, and to continue its efforts to increase the energy performance of the project beyond the project's timeline;

(b) That the Government of Türkiye, through the national ozone unit (NOU), 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 NOU and UNIDO, through appropriate mechanisms;

(iii) In line with paragraph 38 of document UNEP/OzL.Pro/ExCom/94/61, to periodically upgrading the minimum energy performance standards regulations, labelling programmes and awareness and information outreach activities to ensure that information on the target energy-efficiency levels for the equipment under the project is publicized among stakeholders, and to take steps to implement, within three years of the date of completion of the project, the regulations to ensure that the manufacturing, import and sale of the equipment achieved at least the target energy-efficiency performance levels;

(iv) To ensure timely implementation of both the projects under stage I of the KIP and of the proposed energy-efficiency initiatives, in accordance with the agreed timelines, policies and regulatory frameworks;

(v) To submit to the Executive Committee, within six months of the date of completion of the project, a detailed report on its implementation, including the additional capital and component costs incurred for the models covered in the project, the energy-efficiency gains accrued and the challenges faced;

(c) That, should the Government Türkiye, through the NOU, not comply with the conditions specified in subparagraphs (b)(i) to (v) above, the Executive Committee would take that into account when considering future projects submitted by Türkiye that are unrelated to compliance; and

(d) That, subject to the applicable funding policies, the enterprise Diktaş producing self-contained commercial refrigeration appliances will be allowed to submit projects to convert to technologies with low global-warming potential and to enhance the energy efficiency of those converted products, if it wishes to do so in the future.