

TERMINAL EVALUATION

Project ID:	9337
Project Name:	Global Project to Leapfrog Markets to Energy Efficient Lighting, Appliances and Equipment
Countr(ies):	Global, Costa Rica, Kazakhstan, Sudan, Myanmar, Indonesia, South Africa, Tunisia, Chile
Implementing Agency:	UNEP

TABLE OF CONTENTS

I. OVERVIEW	3
A. Description	3
B. Key Dates	3
C. Disbursements	3
II. PROGRESS STATUS AND ISSUES	4
A. Main Terminal Evaluation Findings	4
B. Stakeholder Engagement	5
C. Gender Equality	5
D. Knowledge Management	6
III. CORE INDICATORS	6
IV: CO FINANCING	7
V: ENVIRONMENTAL AND SOCIAL SAFEGUARDS	9
VI. ANNEX	10

I. Overview

A. Description

Project name

Global Project to Leapfrog Markets to Energy Efficient Lighting, Appliances and Equipment

Country

Global, Costa Rica, Kazakhstan, Sudan, Myanmar, Indonesia, South Africa, Tunisia, Chile

GEF ID

9337

Implementing Agency

UNEP

Executing Entity

Trust Fund

GET

Project Type

FSP

Objective

To mitigate climate change by transforming national and regional markets to energy-efficient products.

B. Key Dates

CEO Endorsement/Approval

11/16/2017

Agency Approval

3/15/2018

Implementation Start

3/15/2018

First Disbursement

3/27/2018

Expected MTR

6/30/2021

MTR Submission

7/10/2026

Actual MTR

6/30/2021

Expected Completion

3/31/2023

Actual Completion

3/31/2023

Actual TE

6/3/2026

TE Submission

7/10/2026

Final Disbursement

C. Disbursements

Project Financing

3,379,000.00

Cumulative Disbursement

3,059,966.00

II. PROGRESS STATUS AND ISSUES

A. Main Terminal Evaluation Findings

The Global Coordinating Project (GCP) and the GEF 9083 programme demonstrate strong strategic alignment with UNEP's Medium Term Strategy (2015–2017) and Programme of Work, particularly in advancing resource efficiency, sustainable consumption and production, and climate change mitigation. By promoting market transformation through MEPS, regulatory frameworks, and energy-efficient technologies, it directly contributes to reducing energy demand and greenhouse gas emissions in line with SDG 7 and SDG 12 priorities.

All outputs of the GCP were successfully achieved, including:

The training packages were completed with MVE aspects, along with the national product registration prototype and the regional product registration system that were finalized during this reporting period.

The regional trainings to 147 countries were completed

Training to policy makers from energy-efficiency policy experts on in-depth steps to developing the integrated policy approach (MEPS, supporting policies, MVE, Environmental Sound Management, and financial mechanisms).

Updated design for the Country Savings Assessments showing the quantitative benefits of energy-efficient products and included in all U4E trainings. U4E published new updated Country Savings Assessments

32 case studies have been completed

The Regional Status Report on Energy-Efficient Appliances and Equipment in Latin America report has been completed and circulated to the regional body for inputs.

U4E developed a Technical Brief on 'Delivering Efficient Power Supply Networks for All in the Southern Africa Region', in support of the Global Climate & SDG Synergy Conference (Tokyo, 20th-21st July 2022).

The GCP effectively provided comprehensive and actionable guidance to countries and regions to implement market transformation projects at scale. Through the GEF 9337 global project, U4E developed an extensive and widely utilized knowledge base—including over 100 technical tools, model regulations, and policy guidelines—which has directly informed national project design and implementation. This guidance has translated into tangible policy uptake and regional alignment, with at least 10 countries adopting national energy efficiency policies, 14 SADC countries endorsing harmonized MEPS and labelling frameworks, all 10 ASEAN countries aligning air conditioner standards, and multiple countries advancing or completing GCF-supported readiness and investment projects. The programme's combination of global knowledge products and targeted technical support has enabled both national policy reforms and regional harmonization processes, demonstrating strong effectiveness in building institutional capacity and accelerating the transition to energy-efficient markets across diverse geographic contexts.

The GCP demonstrated strong and widespread progress in building institutional and technical capacities across participating countries. The U4E global project served as the central platform for capacity development, delivering extensive training, technical assistance, and knowledge exchange

through regional workshops, study tours, and targeted national interventions, reaching at least 34 countries—well beyond the original target of 15. These efforts have strengthened competencies across a broad range of stakeholders, including government officials, laboratories, regulators, and market actors, particularly in areas such as MEPS, labelling, MVE, public procurement, and environmentally sound management. While capacity gains are uneven across countries due to differing implementation stages, the programme has significantly enhanced the ability of national institutions to design, implement, and enforce energy efficiency policies and projects.

The GCP demonstrated substantial progress in expanding global commitment to energy efficiency. The programme has successfully catalyzed engagement from approximately 80 countries, supported by a combination of national, regional, and global initiatives, including GCF Readiness projects, regional cooling initiatives, and strategic partnerships. High-level institutional commitments—such as the African Union’s continent-wide energy efficiency programme and regional collaboration through ASEAN and OLADE—have significantly amplified reach and policy momentum. This broad-based uptake reflects the programme’s effectiveness in mobilizing political will and fostering coordinated action across diverse regions, laying a strong foundation for future market transformation efforts.

Outcomes were significantly constrained by political instability in several participating countries, particularly Myanmar and Sudan. Prolonged governance disruption in both contexts led to the suspension of activities, halting implementation and delaying planned outputs. These interruptions affected policy development, stakeholder engagement, and institutional coordination—core prerequisites for advancing energy efficiency market transformation. Beyond operational delays, instability also resulted in the de-prioritisation of energy efficiency at national level. In crisis settings, government attention and resources shifted toward urgent political, security, and humanitarian needs, reducing institutional capacity and policy space to advance reforms such as the development, approval, and enforcement of minimum energy performance standards.

The long-term sustainability of the U4E initiative, including its role as a centre of excellence, remains partly dependent on continued project-based and donor funding. Although U4E has successfully diversified its resource base beyond the GEF period—securing support from bilateral donors, philanthropic foundations, and national governments—its financial model is not yet fully institutionalised or shielded from shifts in donor priorities. Emerging approaches, such as the Rwanda Cooling Centre of Excellence, which is moving toward service-based revenue generation through fee-based training, testing, and convening functions, offer a potential pathway to greater financial resilience. However, until such models are scaled and embedded, U4E’s long-term institutional sustainability remains promising but not fully secured.

B. Stakeholder Engagement

The global coordination project implemented a broad, inclusive, and strategically effective stakeholder engagement approach that extended beyond formal programme participants to include additional countries and global actors engaged in aligned energy efficiency initiatives. Participating countries consistently viewed engagement with the global programme as technically valuable and strategically important, particularly for access to standardized tools, policy templates, and capacity-building support that accelerated national progress on MEPS, labelling, and MVE systems. The global project functioned effectively as a technical backbone and coordination platform, enhancing coherence, reducing duplication, and facilitating cross-country learning. Moreover, U4E’s diplomatic convening capacity, characterized by neutrality, credibility, and responsiveness, was widely recognized as a critical asset, enabling constructive dialogue among governments, regional bodies, industry, and international organizations on complex and politically sensitive regulatory reforms.

C. Gender Equality

At programme design stage, no dedicated analysis was undertaken to explicitly address gender equality, human rights, or their intersection, and responsibility for integrating these dimensions was largely deferred to national child projects. Consequently, programme-level objectives, indicators, and results frameworks did not systematically articulate differentiated impacts on women or vulnerable groups, nor establish a common analytical methodology across the portfolio. While the programme’s focus on energy efficiency in high-consumption sectors may generate indirect social benefits—such as improved affordability and expanded energy access—the absence of explicit gender-responsive design

limited the ability to intentionally track and demonstrate such outcomes. U4E developed a generic Gender Mainstreaming Implementation Plan emphasizing equal participation in trainings, inclusive consultations, gender-sensitive communications, and collection of sex-disaggregated data; however, implementation depth depended largely on country-level execution. At national level, gender integration was primarily process-oriented—focused on balanced participation in workshops and consultations—rather than embedded within core market instruments such as financing schemes, procurement systems, or regulatory incentives. As a result, structural barriers affecting women’s access to finance, participation in EE value chains, or decision-making influence were insufficiently addressed. Aggregate reporting indicates that women represent approximately 35% of total beneficiaries, below the programme’s parity ambition, reflecting both limited structural gender integration and the indirect nature of many programme benefits.

D. Knowledge Management

The programme made a deliberate and strategically significant investment in closing the knowledge management gap in developing countries with respect to EE policy and regulatory frameworks. It successfully delivered an extensive portfolio of high-quality, policy-relevant global public goods, including updated model regulations, technical guidance, procurement tools, case studies, and online training materials, while institutionalizing cross-country learning through peer networks, study tours, and technical exchanges.

The programme’s multi-channel dissemination strategy, anchored in a centralized knowledge platform and reinforced through newsletters, social media, and structured stakeholder consultations, has ensured broad reach and responsiveness to country needs. However, monitoring of knowledge uptake remains largely output-focused, relying on participation metrics and download statistics, with limited evidence of systematic tracking of how tools are applied in national policy processes. Strengthening engagement analytics, user feedback mechanisms, and outcome-oriented monitoring would enhance the ability to demonstrate real-world utilization and influence, thereby reinforcing the programme’s adaptive management and long-term impact.

III. Core Indicators

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)		30644000	29633164	44293559
Expected metric tons of CO₂e (indirect)				

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)		30,644,000	29,633,164	44,293,559
Expected metric tons of CO₂e (indirect)		0	0	0
Anticipated start year of accounting		2020	2020	2026
Duration of accounting		10	10	10

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)		153,861,087,866	148,390,648,848	148,658,236,848

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)
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Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		7,600,060		104,232
Male		7,600,140		187,245
Total	0	15,200,200	0	291,477

IV: Co Financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Anticipated at CEO(\$)	Materialized at MTR(\$)	Materialized at TE(\$)
Private Sector	Global Climate Partnership Fund	Loan		9,000,000.00		
Private Sector	International Copper Association (ICA)	In-kind	Recurrent expenditures	1,800,000.00	1,423,600.00	2,048,600.00
Private Sector	Philips Lighting BV	In-kind	Recurrent expenditures	1,200,000.00	2,839,084.00	2,839,084.00
Private Sector	Osram	In-kind		400,000.00		
Other	CLASP	In-kind	Recurrent expenditures	700,000.00	293,000.00	503,000.00

Private Sector	National Lighting Test Center (NLTC, China)	In-kind		700,000.00		
Private Sector	BSH Hausgeräte GmbH	In-kind	Recurrent expenditures	636,000.00	99,200.00	99,200.00
Other	Carbon Trust	In-kind	Recurrent expenditures	536,000.00	347,637.00	347,637.00
Private Sector	Mabe	In-kind	Recurrent expenditures	500,000.00	395,868.00	395,868.00
Other	Copenhagen Centre of Energy Efficiency (C2E2)	In-kind	Recurrent expenditures	500,000.00	113,232.00	113,232.00
Private Sector	ABB	In-kind		400,000.00	15,000.00	15,000.00
Other	IEA-4E – Solid State Lighting Annex	In-kind		350,000.00		
GEF Agency	UNDP	In-kind		300,000.00		
Private Sector	Arcelik A.S.	In-kind	Recurrent expenditures	300,000.00	16,000.00	16,000.00
GEF Agency	UN Environment	In-kind		300,000.00		
Other	IIEC	In-kind	Recurrent expenditures	230,000.00	97,823.00	97,823.00
Other	GIZ	In-kind	Recurrent expenditures	200,000.00	45,000.00	45,000.00
Other	Energy Efficiency Services Limited (EESL)	In-kind		200,000.00		
Private Sector	Neonlite	In-kind		150,000.00		
Private Sector	Whirlpool Corporation	In-kind	Recurrent expenditures	100,000.00	7,410.00	7,410.00

Other	Natural Resources Defense Council (NRDC)	In-kind	Recurrent expenditures	75,000.00	55,000.00	55,000.00
Other	Topten	In-kind	Recurrent expenditures	50,000.00	13,096.00	13,096.00
Other	BASE – Basel Agency for Sustainable Energy	In-kind	Recurrent expenditures	50,000.00	53,819.00	53,819.00
Private Sector	Electrolux	In-kind	Recurrent expenditures		30,918.00	30,918.00
Other	Kigali Cooling Efficiency Program (K-CEP)	Other	Investment mobilized		5,807,660.00	7,783,160.00
Donor Agency	UK DEFRA	Other	Investment mobilized			5,724,085.00
Total Co-financing				18,677,000.00	5,967,903.00	13,667,488.00

Comments

V: ENVIRONMENTAL AND SOCIAL SAFEGUARDS

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
		Medium/Moderate	Not available at this stage

Measures to address identified risks and impacts

Environmental and social safeguards were primarily addressed at the level of individual child projects rather than through a unified programme-level framework. Each project incorporated safeguards tailored to the specific technologies targeted—such as lighting, refrigeration, and air conditioning—addressing risks related to production, use, and end-of-life management in alignment with national regulations and relevant international standards. Environmental sustainability was embedded within the programme's Integrated Policy Approach, particularly through the systematic inclusion of environmentally sound management (ESM) measures. By promoting proper collection, recycling, and disposal of obsolete and potentially hazardous equipment containing substances such as mercury or persistent organic pollutants, the programme helped mitigate environmental and health risks. This integration ensured

that energy efficiency gains were not undermined by adverse lifecycle impacts, thereby reinforcing the environmental integrity of the programme's climate mitigation objectives.

VI. ANNEX

Uploaded Document

Document Category	Prefix	Title
M and E Document	Terminal Evaluation (TE)	Terminal Evaluation Report