



GLOBAL COOLING PLEDGE ASSEMBLY

SINGAPORE 15 - 18 SEPTEMBER 2026

Parallel Session: Regional Country & Partner Dialogues

Africa Dialogue: Heat Resilience and Cooling Action

13:30 – 14:30



Ministry of Sustainability
and the Environment
— SINGAPORE —



MC



Graeme Maidment

Professor, Heating and Cooling,
London South Bank University;
Executive Committee Member,
UNEP Cool Coalition



IGCC Workplan 2027-28

ACTION AREAS

#1 Flagship Initiative
– Heat Resilience
Roadmap for a
Warming World

#2 National and
multi-level cooling
action and
investment plans

#3 Market
Transformation and
deployment for
sustainable cooling

#4 Mobilizing Finance and
investment for Cooling
and Heat Resilience for
Pledge's implementation

#5 Scientific foundation, political coordination, and
advocacy on sustainable cooling and heat resilience

Regional Overview



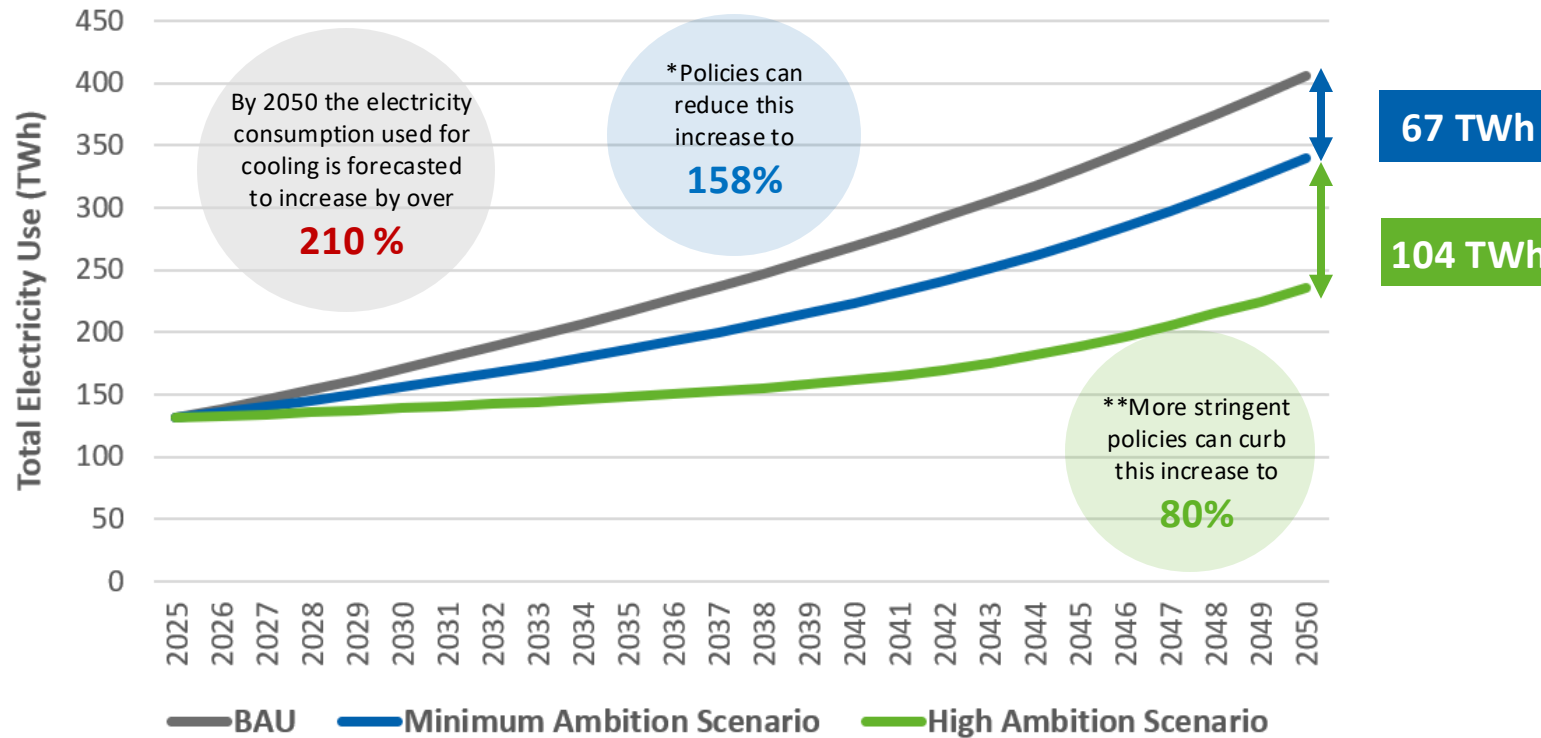
Patrick Blake

Programme Manager, United for
Efficiency, UNEP





Saving Opportunities in Africa from EE Cooling Appliances



6

3

\$ 490

~3



28

15

\$1,870

13



33

19

\$1,980

15

TWh

MtCO₂e

Million in electricity bill savings

Power stations [500 MW each]

Cumulative Savings by 2050

950 TWh
electricity savings



550 MtCO₂e
Indirect Emissions avoided



USD 64 billions
electricity bill savings



427 MtCO₂e
Direct Emissions savings



Source: [UNEP-U4E Country Savings Assessment](#)

UN
environment
programme

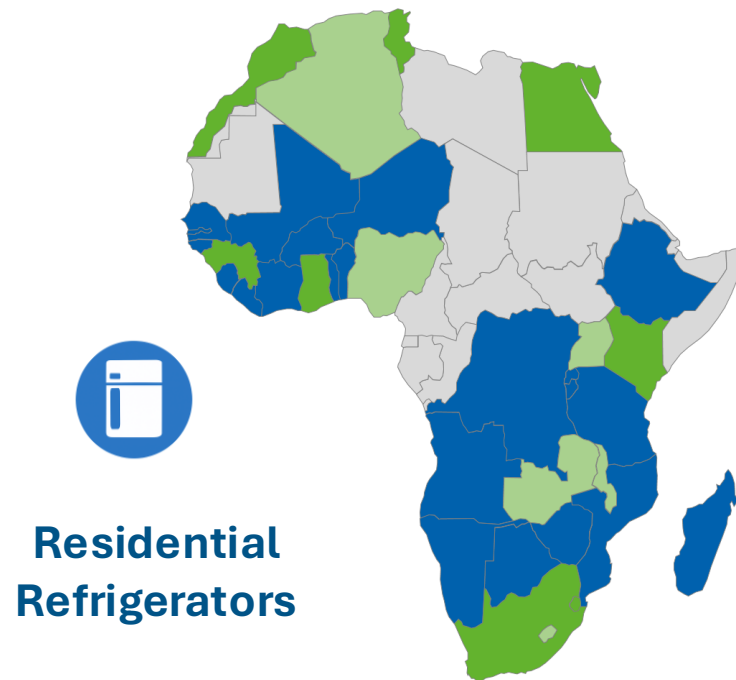
Cool
Coalition
a UNEP-convened initiative

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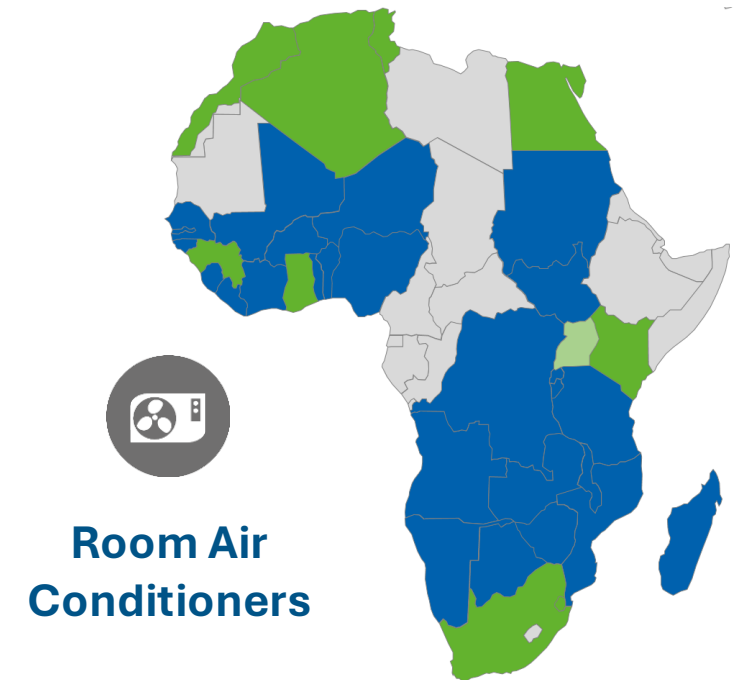
Note: Annual and Cumulative Savings (estimates) in Minimum ambition Scenario which assumes MEPS are employed in line with U4E Model regulation Guidelines for **commercial refrigeration equipment, residential refrigerators and room air conditioners** in all African countries in 2050



Status of MEPS for Cooling Appliances across Africa



The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries

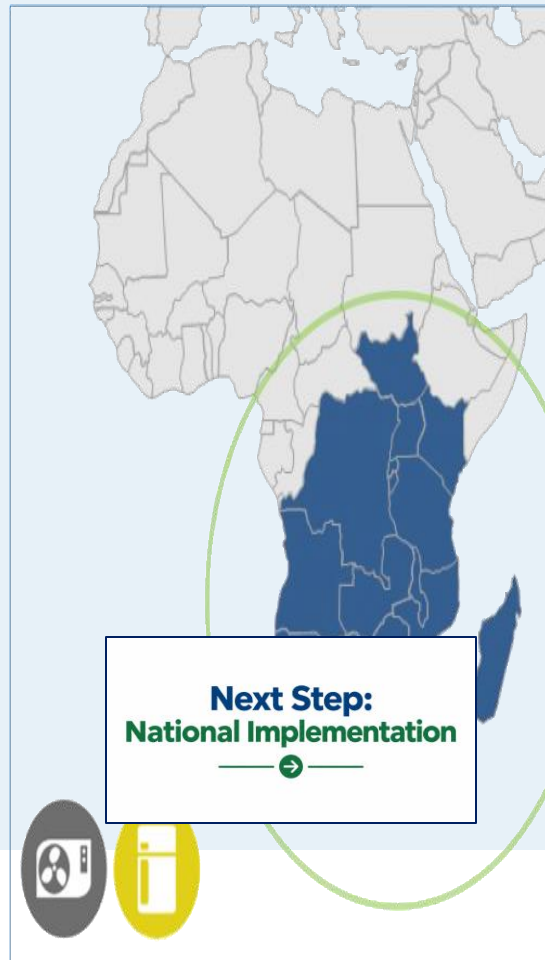


- Following the approval SADC & EAC MEPS, several countries have begun the national implementation of harmonised MEPS
- Dedicated MEPS for commercial refrigeration equipment are not yet established across Africa, although multiple countries are progressing toward future regulatory frameworks.



Regional Harmonisation of MEPS across Africa

EAC & SADC — approved, now implementing



- 21 countries covered — EAC (6) and SADC (16)
- Harmonised MEPS and refrigerant requirements, approved by both regions
- First African regions to pair efficiency levels with refrigerant limits



Room air
conditioners



Residential
refrigerators

SADC • approved 2023



EAC • approved 2025



ECCAS — harmonisation under way

- 11 Member States
- CEREEAC regional MEPS project launched 2025 — EU funded, UNIDO technical support
- Guided by the 2024 U4E-AFREC Regional Savings Assessment
- Open entry point for collaboration

ECOWAS — 2017 MEPS

- Voluntary MEPS for ACs no refrigerant requirement
- Ghana, Nigeria and The Gambia have moved ahead nationally
- ECREEE developing common test procedures for cooling and lighting

AFRICA ENERGY EFFICIENCY PROGRAMME (AFREC)



- African Ministers responsible for Energy and transport endorsed the implementation of the **African Energy Efficiency Programme** under AFREC (2019).
- **Priority Sectors:** Industry, Transport, Agriculture, Buildings, Electricity and Appliances
- AFREC together with UNEP U4E conducted **regional and continental savings assessments (2024)**
- **AFREC MS** adopted the African Energy Efficiency Strategy and Action Plan (AfEES) – (2025)
 - ✓ All Sectors Target: 50% increase in energy productivity by 2050 and 70% by 2063.
- Current Energy Efficiency priorities:
 - ✓ MEPS
 - ✓ Distribution Transformer Losses
 - ✓ M&E of Energy Efficiency Instruments



AfEEF Key Targets

-  **USD 3 billion** for energy efficiency by 2030
-  **energy productivity** 12% (2030), 50% (2050), 70% (2063)
-  **1 million** energy-efficiency jobs by 2040
-  **300M+ tonnes** of CO₂ emissions by 2040

- AfEEF is a **flagship legacy** of South Africa's G20 Presidency Launched in October 2025 by the **African Union Commission (AUC)** and South African Government
- AfEEF hosted by **AFREC** as a **continental mechanism to**
 - ✓ **Mobilise financing** for energy efficiency projects across Africa,
 - ✓ **Harmonize regional & national policies** scale up energy efficiency projects aligned alignment with **AU Agenda 2063** and national climate goals

Country presentations: Role of regional cooperation for sustainable cooling



Michael Ivenso

Director - Energy, Transportation &
Infrastructure
National Council on Climate Change,
Nigeria



Hubert Nsoh Zan

Manager, Energy Efficiency Regulation
Energy Commission
Ghana



Elie Mansour

Project Manager at Lebanon's National
Ozone Unit, Lebanon



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AFRICA REGIONAL DIALOGUE

Mobilizing Financing and Investment for implementation

Elie Mansour

Project Manager, NOU Lebanon



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Lebanon Cooling Action Plan



Key Outcomes

- National Cooling Action Plan updated in 2026
- Supports Kigali Amendment implementation
- Supports NDC 3.0 and LT-LEDS
- Cooling is central to:
 - Energy security
 - Climate action
 - Economic recovery
 - Public health

Cooling is no longer a sectoral issue. In Lebanon it sits at the intersection of climate resilience, energy reform, food security and economic recovery.



Why Cooling Matters in Lebanon



2024 Snapshot

- 6,012 GWh consumed by stationary cooling
- Approximately 9,000 GWh including MAC
- Cooling responsible for over 8 Mt CO₂e emissions
- Rising temperatures and growing cooling demand
- Electricity supply constraints increase urgency for efficiency

Priority Areas

- Residential AC
- Commercial AC & chillers
- Commercial refrigeration
- Cold chain & transport refrigeration
- RAC servicing sector
- Solar-powered and efficient cooling



Cooling and food security are increasingly linked

Progress Achieved



Montreal Protocol Achievements

- HCFC consumption reduced by 65% versus baseline
- HPMP Stage III approved
- KIP Stage I approved
- USD 5.99 million secured from MLF
- Kigali implementation framework established

Next Milestones

- 15% HFC reduction by 2029
- 40% reduction by 2032



Policy and Regulatory Progress



Progress

- NCAP updated
- MEPS roadmap developed
- Energy labeling roadmap prepared
- Kigali implementation framework underway
- National Cooling Coordination Committee proposed

Priorities

- MEPS enforcement
- Market surveillance
- Testing infrastructure
- Refrigerant transition



Market Transformation Priorities



Focus Areas

- Efficient air conditioners
- Efficient refrigerators
- Low-GWP refrigerants
- Technician certification
- Solar cooling integration

Expected Outcomes

- 1,220 GWh annual energy savings by 2035
- 0.81 Mt CO₂e annual avoided emissions

Table 8.5: Scenario Comparison Summary

Indicator	2030 BAU	2030 KIP	2035 BAU	2035 KIP
Indicator	2030 BAU	2030 KIP	2035 BAU	2035 KIP
Energy (GWh)	5,726	5,445	8,269	7,050
Savings (%)	—	4.9%	—	14.8%

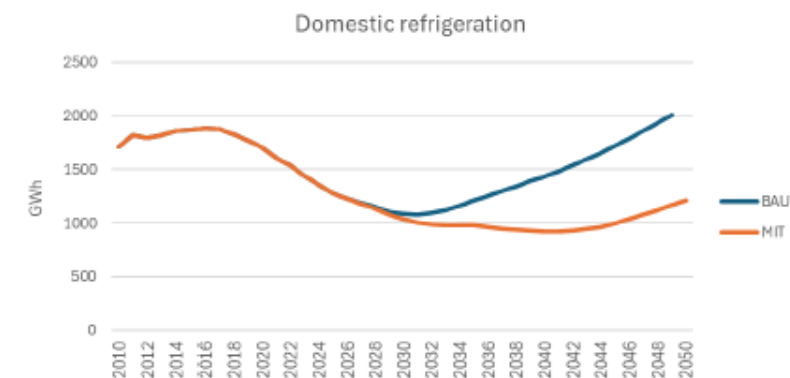


Figure 17: Domestic Refrigeration Energy Consumption (2015-2035)

Financing and Investment



What We Have

- ✓ NCAP roadmap
- ✓ Policy framework
- ✓ MLF funding
- ✓ Defined project pipeline

What We Need

- Blended finance
- Credit guarantees
- Concessional lending
- Cooling investment facility
- Project preparation support



Figure 23: Lebanon NCAP Implementation Milestones

Financing Mechanisms

Levy & Incentives

Feebate system for domestic financing

Revenue projections

NCAP implementation budget + disbursement schedule

Sources of funding + Private sector engagement

Regional Lessons and Priorities



Lessons Learned

- Cooling must be linked to energy, health and development agendas.
- Kigali implementation and energy efficiency must advance together.
- Private capital must be mobilized.
- Cooling plans should evolve toward cooling investment plans.

Regional Priority

Establish mechanisms that convert NCAP priorities into bankable projects and scalable investments.

Our ask is to: Support countries in moving from planning to financing, and from financing to implementation.



Panel: Mobilising support for cooling action



**Anderson Moreira
do Vale Alves**

Senior Technical Advisor on Cooling
UNDP



**Matilda
Lenartowicz**

Senior Officer
Sustainable Cooling and Energy Efficiency
SEForALL



**Somayyah
Alyammahi**

Director of Productivity and Demand
Department
United Arab Emirates



Alain Wilmart

Directorate-General Environment
Ozone Layer and Fluor Gases Policy
Climate Change Department
Belgium



Sarah Robinson

International Innovation Lead – Buildings
and Cooling, Department for Energy
Security and Net Zero, UK



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Coffee Break

14:30-15:00



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15:00 – 16:30



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Breakout Group Discussion

15:00 – 16:00

1. National and Multi-level Cooling Action
2. Market Transformation: Scaling passive and transforming markets for efficient, climate-friendly cooling
3. Mobilizing finance and investment for implementation



Panel: Report Back



Andreas Hermelink

Director,
Cool Up Programme,
Guidehouse



Patrick Blake

Programme Manager,
United for Efficiency, UNEP



Matilda
Lenartowicz

Senior Officer
Sustainable Cooling & Energy Efficiency
SEForALL



Sarah Robinson

International Innovation Lead – Buildings
and Cooling, Department for Energy
Security and Net Zero, UK



Jonathan Coony

Global Lead for Green Competitiveness,
Finance, Competitiveness & Innovation
World Bank Group



Closing Remarks and announcements



Patrick Blake

Programme Manager
UNEP-U4E

Site Visit

17:00 – 18:15

1. Heat Resilience & Performance Centre (HRPC), Yong Loo Lin School of Medicine, National University of Singapore
2. BCA Braddell Campus

