

AFRICA MINIGRIDS PROGRAM

*Accelerating minigrid deployment across 21 countries
by breaking down barriers to commercial investment
and scaling what works.*



PROGRAM RATIONALE

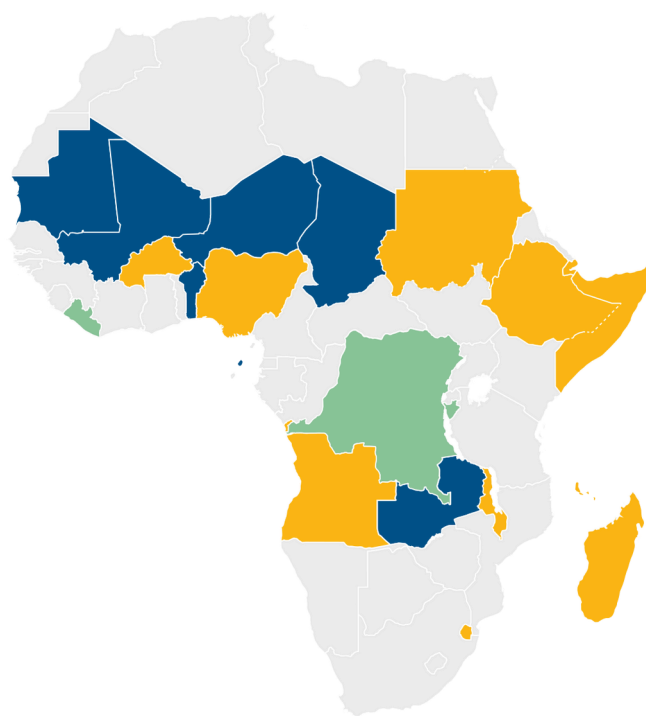
Renewable energy minigrids are increasingly recognized as the **most practical and cost-effective solution** for rural electrification, especially where grid extension is not viable in the near term.

Falling technology costs, improved energy efficiency, and digital innovation have enabled solar-battery minigrids to deliver reliable, high-quality electricity for households and productive uses—powering agriculture, small enterprises, health facilities, and schools. When strategically deployed, they also drive local development, enhance service delivery, and support climate-resilient livelihoods.

Yet limited private investment continues to hold back the sector. Most financing still relies on grants and concessional capital, as many projects fall short of commercial lenders' requirements due to affordability, bankability, and capacity gaps.

To scale minigrids at the pace required, large volumes of commercial finance—especially debt—must be mobilized. This calls for coordinated efforts to build investable project pipelines, improve regulation, and de-risk private capital.

With nearly 600 million people in Sub-Saharan Africa still without energy access, accelerating minigrid deployment is not just a technical fix—it's a development and financing imperative.



1st ROUND:
11 GEF Dec
2019

Angola**
Burkina Faso
Comoros
Djibouti
Eswatini
Ethiopia
Madagascar*
* Malawi
Nigeria
Somalia
Sudan

** (third-party-funded)

2nd ROUND: 7
GEF June
2021

Benin
Chad**
DRC
Niger
Mali
Liberia**
Mauritania**
Sao Tome e Principe
Zambia

3rd ROUND: 3
GEF June
2022

Burundi**
DRC
Liberia**

PROGRAM OVERVIEW

The **Africa Minigrids Program (AMP)** responds to the urgent need to unlock commercial finance for minigrids by tackling systemic barriers to scale, particularly the lack of bankable projects, affordability challenges, and capacity constraints among key stakeholders.

Active in 21 African countries, AMP is a country-driven technical assistance initiative led by UNDP, with core funding from the Global Environment Facility (GEF) and implementation support from RMI (founded as Rocky Mountain Institute) and the African Development Bank (AfDB). The programme collaborates with a wide range of public and private actors across the minigrid ecosystem.

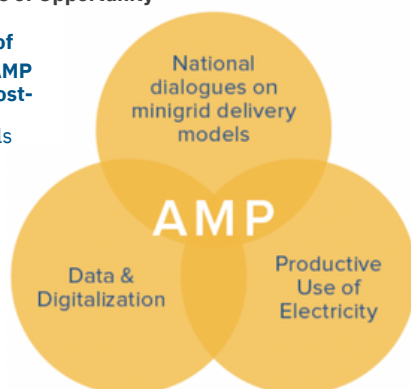
AMP focuses on three strategic areas to accelerate deployment: (1) supporting national dialogues to help governments define effective delivery models and clarify public-private roles; (2) promoting productive uses of electricity to strengthen minigrid economics and local impact; and (3) leveraging data and digital tools to reduce costs, enhance planning, and support more informed decision-making.

AMP works to improve the financial viability of minigrid investments by reducing costs across the value chain—covering hardware, soft, and financing costs—while advancing enabling policies and innovative business models. These efforts help lower tariffs, enhance service sustainability, and boost investor confidence, creating the conditions for commercially viable minigrids to scale.



Figure 1: Key Areas of Opportunity

Three “Key Areas of Opportunity” for AMP to drive minigrid cost-reduction National dialogues on models



The programme aims to provide electricity access to 764,000 direct beneficiaries and prevent 1,045,000 tons of carbon dioxide equivalent (tCO₂eq). However, AMP’s broader value lies in **catalyzing private investment and commercial finance** by helping governments build an enabling environment and fostering a supportive ecosystem for minigrid development.

As a multi-country platform, AMP plays a catalytic and convening role in the broader energy access ecosystem. It contributes collective efforts to expand energy access, accelerate just energy transitions, and mobilize private sector investment in distributed renewable energy.

By bridging critical gaps across the sector, AMP is helping to shift minigrids from isolated pilots to a mainstream solution for rural electrification in Africa.

PROGRAMME DELIVERY FRAMEWORK

AMP operates through two main elements:

- **21 national projects**, each structured with common components covering policy, business model innovation, scaled-up financing, digitalization, and monitoring & evaluation.

- **A regional project**, functioning as a 'Knowledge Management' platform that offers knowledge tools, tailored technical and operational assistance, specialized regional Communities of Practice, and digitalization support.

Now past its midpoint, the AMP regional project and many national projects have transitioned from initiation to active implementation, setting the stage for tangible results and early lessons that shape the path forward.

In 2024, AMP also received an additional USD 1.7 million through a UNDP Funding Window supported by Denmark and Luxembourg, enabling the regional project to expand technical assistance, accelerate digital innovation, and enhance support to national projects.

PROGRESS TO DATE

At regional level

Knowledge tools

The AMP regional project is playing a **key role in strengthening the enabling environment** for minigrids across Africa. Through its **knowledge platform**, AMP has made global expertise more accessible by curating a growing library of resources, featuring 16 AMP-developed and 43 third-party resources such as TORs, toolkits and guidance notes, and supporting 12 national projects through a structured onboarding process. These efforts have helped national teams align with best practices and accelerate delivery.

Tailored technical and operational assistance

To address technical capacity gaps, AMP has built a **database of over 40 vetted international experts** and deployed nine of them to support national projects with **tailored assistance** in areas such as policy, finance, and digitalization.



AMP Comoros on site visit in Madagascar, May 2025.

This support is guided by regular engagement with national teams and enhanced through partnerships with leading organizations in the minigrid sector. **Gender inclusion and social and environmental safeguards** have also been prioritized across AMP, with dedicated experts supporting national projects to integrate these considerations into project design and implementation.

AMP Community of Practice

AMP's **Community of Practice (CoP)** is evolving into a **dynamic hub for peer learning, collaboration, and innovation** in the minigrid sector. It brings together practitioners, policymakers, and technical experts through a blend of webinars, in-person convenings – such as those held in Lagos and Kampala – and a dedicated online learning platform. Technical cohorts and peer-to-peer sessions encourage **practical exchange and shared problem-solving**.



AMP Malawi team in Lagos, Nigeria during EAIF, May 2024.

Driving Impact: AMP Rallies Partners Across Africa and Beyond to Accelerate Sustainable Electrification

At the heart of AMP's momentum are its **in-person Community of Practice workshops**, held so far alongside the Energy Access Investment Forum (EAIF) in Lagos (2024) and Kampala (2025). These gatherings created space for peer learning, solution sharing, and regional collaboration to advance sustainable, inclusive electrification across the AMP countries.

Beyond EAIF, AMP showcased its model at Africa Energy Forum (AEF 2024) in Barcelona, aligning rural electrification with global climate and development goals. At SADC Sustainable Energy Week in Gaborone and the 8th Mini Grid Action Learning Event in Lusaka, AMP partners spotlighted strategies for scale, including gender-inclusive planning, smart technologies, and enabling regulation. Together, these engagements reflect AMP's commitment to community-driven progress toward universal energy access.

AMP is also working with other communities of practice, including partners like CLUB-ER, to extend the reach of its knowledge products, co-host trainings and webinars, and collaborate at major sector events. Complementing this, AMP's broader communications strategy—including a dedicated website, active LinkedIn presence, and a featured series on the Energy Talk podcast—has significantly expanded the program's reach and visibility across Africa and beyond.

AMP-AMAP Joint Technical Advisory Committee

To strengthen coordination and technical alignment across Africa's technical assistance initiatives on minigrids, AMP and the African Development Bank's Africa Mini-Grid Market Acceleration Programme (AMAP) established a **Joint Technical Advisory Committee (JTAC)** in 2024.

The JTAC serves as a **technical platform for strategic guidance, harmonization of approaches, and collaboration across initiatives**. The JTAC complements broader coordination platforms like the Minigrid Partnership and Minigrids Funders Group. It offers a focused space for peer exchange and joint action to accelerate minigrid deployment across the continent - including, where relevant, in support of broader efforts such as Mission 300, a joint initiative led by the World Bank and African Development Bank to connect 300 million people in Sub-Saharan Africa by 2030.

The JTAC includes representatives from the African Development Bank (AfDB/SEFA), UNDP, African Forum for Utility Regulators (AFUR), Africa Minigrid Developers Association (AMDA), Energy Sector Management Assistance Program (ESMAP), Global Energy Alliance for People and Planet (GEAPP), GIZ / GET.Transform, International Finance Corporation (IFC), RMI, Sustainable Energy for All (SEforALL), ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), Regional Center for Renewable Energy and Energy Efficiency (RCREEE), and the SADC Centre for Renewable Energy and Energy Efficiency (SACREEE).

The JTAC complements bilateral engagements with most of these partners, reinforcing AMP's collaborative approach to sector-wide transformation.

Data and digital tools

Digitalization remains a cornerstone of AMP's strategy. The regional project is rolling out a **Quality Assurance and Monitoring Framework (QAMF)** to standardize data collection, and a **Data Privacy and Consumer Protection Framework** to ensure responsible data use and safeguard user information across all national projects. Support is also provided to the AMP countries conducting a **Digital Readiness Assessment (DRA)**, helping them evaluate their current digital capabilities, identify gaps, and develop tailored strategies to integrate digital tools into minigrid planning and operations. A major milestone was the adoption of Prospect, an open-source platform that will serve as the backbone for AMP's digital infrastructure - enabling real-time data, advanced analytics, and long-term sustainability.

At national level

As of mid-2025, **12 national AMP projects are under active implementation**, including Angola (implemented by AfDB), Burkina Faso, Comoros, Djibouti, Eswatini, Ethiopia, Madagascar, Malawi, Mauritania, Nigeria, Somalia, and Sudan.

Burundi and Chad have completed their AMP third-party funded national projects and are preparing a second phase of minigrid implementation, building on the learnings from these projects.

An additional five national projects (Benin, Democratic Republic of the Congo, Mali, Niger, Sao Tome and Principe) are in the early implementation stage and expected to reach their first milestones in 2025.

In Liberia and Zambia, recent evolutions in the country and minigrid sector have led to reconsider the activities proposed in their AMP national projects. This process is currently ongoing, with national stakeholders and UNDP reviewing project viability and scope to ensure alignment with the evolving energy access landscape and national priorities.

Policy and regulatory progress

A wide range of policy and regulatory measures are being implemented across AMP countries to create more enabling environments for minigrid development.

Among these, **national dialogues have been launched** in countries like Burkina Faso, Djibouti, Eswatini, Ethiopia, Malawi, and Somalia, bringing together public and private stakeholders to define delivery models and clarify roles.

In Djibouti, the dialogue led to a consensus on transitioning from a government-operated model to a public-private partnership approach such as an ESCO model, with a revision of the tariff setting methodology. Malawi's discussions resulted in a communiqué addressing key regulatory barriers and proposed solutions, including the rapid development of a rural electrification masterplan with clear minigrid development roadmap.

Complementing these efforts, **Derisking Renewable Energy Investment (DREI) studies** are underway or completed in most AMP countries to help governments identify investment risks and design targeted policy and financial derisking instruments to unlock private sector participation.

Pilot implementation

AMP-supported pilot projects are beginning to deliver results. By mid-2025, **14 minigrids were operational in Burundi, Chad, and Mauritania, providing clean electricity to over 22,500 people**. Madagascar is finalizing two pilot sites, while Nigeria is progressing with the installation of 23 PV-battery minigrids. Construction is also underway for seven additional sites in Mauritania and two in Djibouti.

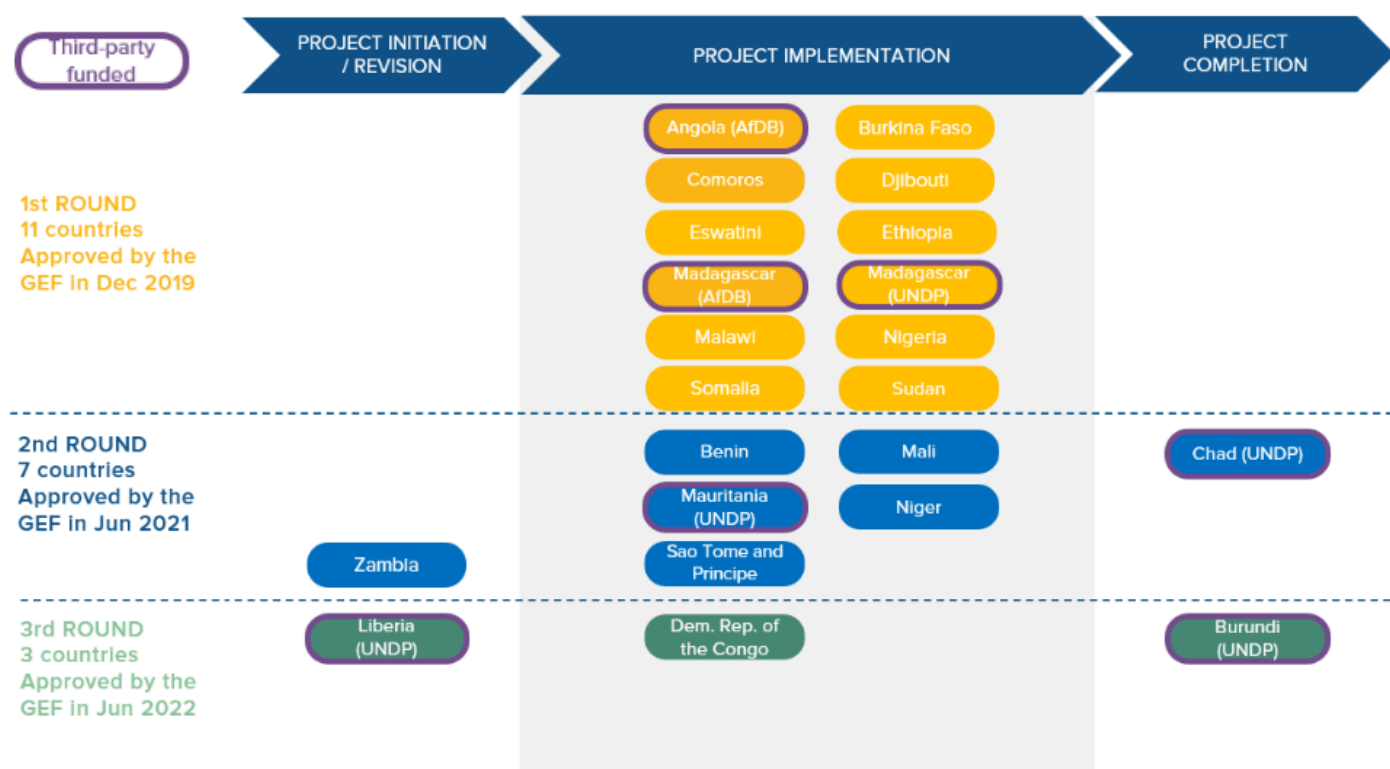
Meanwhile, Burkina Faso, Comoros, Eswatini, Ethiopia, and Somalia are preparing tenders, and Malawi is expanding existing minigrids with productive use overlays and appliance financing.

These pilots are testing innovative models and informing national strategies. A dedicated Minigrid Pilot Plan Toolkit and tailored technical support from the regional project are helping countries streamline implementation and prepare for scale-up.



AMP Mauritania on a site visit, 2024.

AMP STATUS – ALL ROUNDS



Data and digital readiness

AMP countries are advancing in digital readiness to support data-informed, more cost-effective minigrid deployment. **Digital Readiness Assessments (DRAs)** have been completed or are underway in Burkina Faso, Comoros, Eswatini, Ethiopia, Somalia. These assessments are helping governments identify gaps and define tailored digital strategies. AMP countries are also preparing to **deploy digital platforms to manage pilot data**. For example, Nigeria has begun integrating smart meters compatible with Prospect across their 23 pilot sites, while other countries are aligning their digital systems to enable real-time monitoring and analytics tailored to their local contexts.

Building on Derisking Renewable Energy Investment (DREI) studies, several national projects are working with governments and financial institutions to develop facilities that can support both minigrid developers and productive use entrepreneurs. Training for the local financial sector is also underway to strengthen their capacity to finance minigrids.

CONTACT

For more information, please contact: amp@undp.org

Scaled-up financing

AMP is helping countries unlock new sources of investment by supporting the **design of financing instruments and risk mitigation tools** tailored to minigrid development.



Visit the Website



Follow AMP on
LinkedIn!

As of June 2025

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

Copyright © UNDP 2025. All rights reserved.
One United Nations Plaza, New York, NY10017, USA

AFRICA
MINIGRIDS
PROGRAM

Supported
by:



Led by:



In partnership with:

