
POWER FOR ALL RESEARCH SUMMARY

A mini-grid market opportunity assessment of Cameroon

POWER FOR ALL

22 million

THE CURRENT POPULATION OF
CAMEROON

23%

THE CURRENT NATIONAL
ELECTRIFICATION RATE

\$144 million

THE CURRENT ANNUAL MINI-
GRID MARKET SIZE

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SEforAll Africa hub in conjunction with the African Development Bank¹ recently published a Mini-Grid Market Opportunity Assessment of Cameroon as part of the Green Mini-Grid Market Development Programme (GMG MDP) document series. Here we highlight the key messages:

Cameroon has a relatively good national grid coverage.

- » The Republic of Cameroon has a population of 22 million (7). National grid coverage is relatively broad, with 74% of the population living in a population centre connected to a power grid, and with about 86% of the population living within 15km of the power network (7).
- » To date, Cameroon possesses 1.3GW of installed power capacity, based on large-scale hydropower and hydrocarbon plants (26). The national utility ENEO dominates the generation market (968 MW production capacity) and holds a monopoly on distribution (25).
- » Cameroon has three main grids: the southern, the eastern and the northern grids – The three grids are independent of each other and operate in isolation (26/27).
- » Yet the national household electrification rate stands at only 23% (7). The north is far less electrified (7%) than the south (32%). This is because, the southern network is significantly larger and serves Cameroon's two largest cities, Douala and Yaounde (13/14).

The government's primary focus is to expand the national grid.

- » The Government of Cameroon's stated short-term energy objective (to 2020) is to increase electrification rates and ensure a reliable supply of electricity to meet increasing demand (7).
- » Identified priorities are the need to bolster generation and to rehabilitate and modernize existing transmission infrastructure (27). As such the government has prioritised new large-scale hydropower and thermal generation plants (26/27) and grid extension (8).
- » Significant renewable energy potential, notably in the form of hydro, solar and biomass exists. Cameroon has an estimated 20GW of hydropower potential, among the greatest in Africa. (13)
- » The Rural Electrification Master Plan sets out a roadmap to increase household electrification rates to 54% and plans to increase the number of population centres connected to the grid to 85% by 2035 (28).
- » The Plan foresees a small, important role for mini-grids in electrifying areas not connected to grid in the short or medium term (29). It aims to connect 20,000 homes through mini-grids by 2020 (8).

Mini-grids could have significant potential in Cameroon, especially in the north.

- » Based on current grid coverage, the report's geospatial analysis estimates that 14% of the population (3 million people) could be best served by mini-grid solutions, especially in the far north. The current annual market size is

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estimated at US\$144 million, based on an annual per capita energy expenditure of FCFA 28,606 (approximately US\$46) (8).

- » However taking into consideration the grid extension projects that have secured financing or are under development, market size falls to 1.7 million people, and US\$ 80 million (8). Considering planned grid extension to 2035, the market size is estimated at 100,000 people, US\$ 4 million (8).
- » While the legal framework in Cameroon allows for the development of independent mini-grids, the heavy policy focus on grid extension limits opportunity for green mini-grids.

While government has put in place some measures to assist green mini-grid development, there are still many challenges:

- » Currently, import duties and VAT incentives are the only existing renewable-specific support mechanisms (28).
- » There is currently no feed-in-tariff framework or revenue-based incentive mechanism for mini-grids (28). Public tariffs are reviewed every five years, which gives mini-grid operators good visibility, but the government subsidizes power through direct transfer to the utility, so tariffs are likely to remain low.
- » Independent power producers must obtain authorizations from the ARESL, the regulator, and these must be negotiated on a case-by-case basis. Authorizations are limited to distribution projects with an installed power capacity no bigger than 100 kW in general, and not bigger than 1 MW in rural electrification projects (32).
- » Furthermore, critical data is still needed, such as a comprehensive inventory of exploitable renewable energy sites (especially for solar, biomass and wind) (31/32).
- » Despite this a number of projects to rehabilitate small and micro-hydro plants are already under consideration or development (19). No commercial, independent green mini-grids exist today but at least one is expected to come online this year.

The Cameroonian government is very effective in expanding national grid coverage. There are areas, however, that the national grid may not reach. Join Power for All in sharing this message:

- » Mini-grids can play an important role in energy access in Cameroon where there national grid does not extend.
- » The government should create an enabling environment for mini-grid developers. This could involve reviewing the cap on the maximum distribution capacity allowed for mini-grids.
- » Increase resources for key rural electrification agencies and governmental departments are critical, including the Rural Electrification Agency and the Rural Energy Fund.

Sources:

1. [Mini-grid Market Opportunity Assessment: Cameroon. \(2017\). Green Mini-grid Market Development Programme.](#) Page numbers are cited in parentheses. This Research Summary was produced in partnership with the Strathmore Energy Research Center.