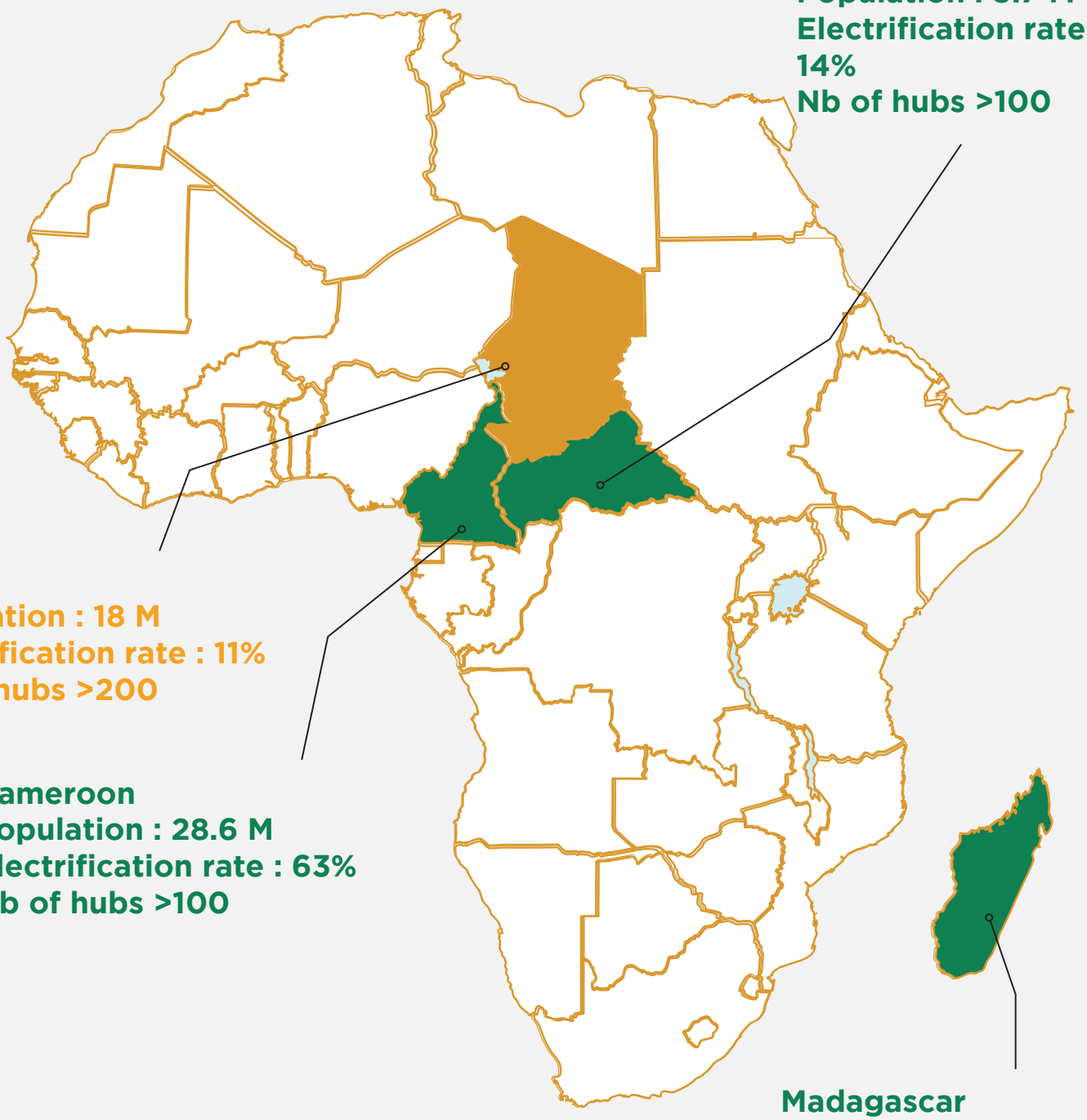
Energy for Africa

BATRICA

Batrica's Expension Potential

Batrica's solution is already available in Chad (orange), but we are currently looking at expansion into other countries (green).



CAR
Population : 5.7 M
Electrification rate : 14%
Nb of hubs >100

Chad
Population : 18 M
Electrification rate : 11%
Nb of hubs >200

Cameroon
Population : 28.6 M
Electrification rate : 63%
Nb of hubs >100

Madagascar
Population : 32.7 M
Electrification rate : 36%
Nb of hubs >200

In Chad

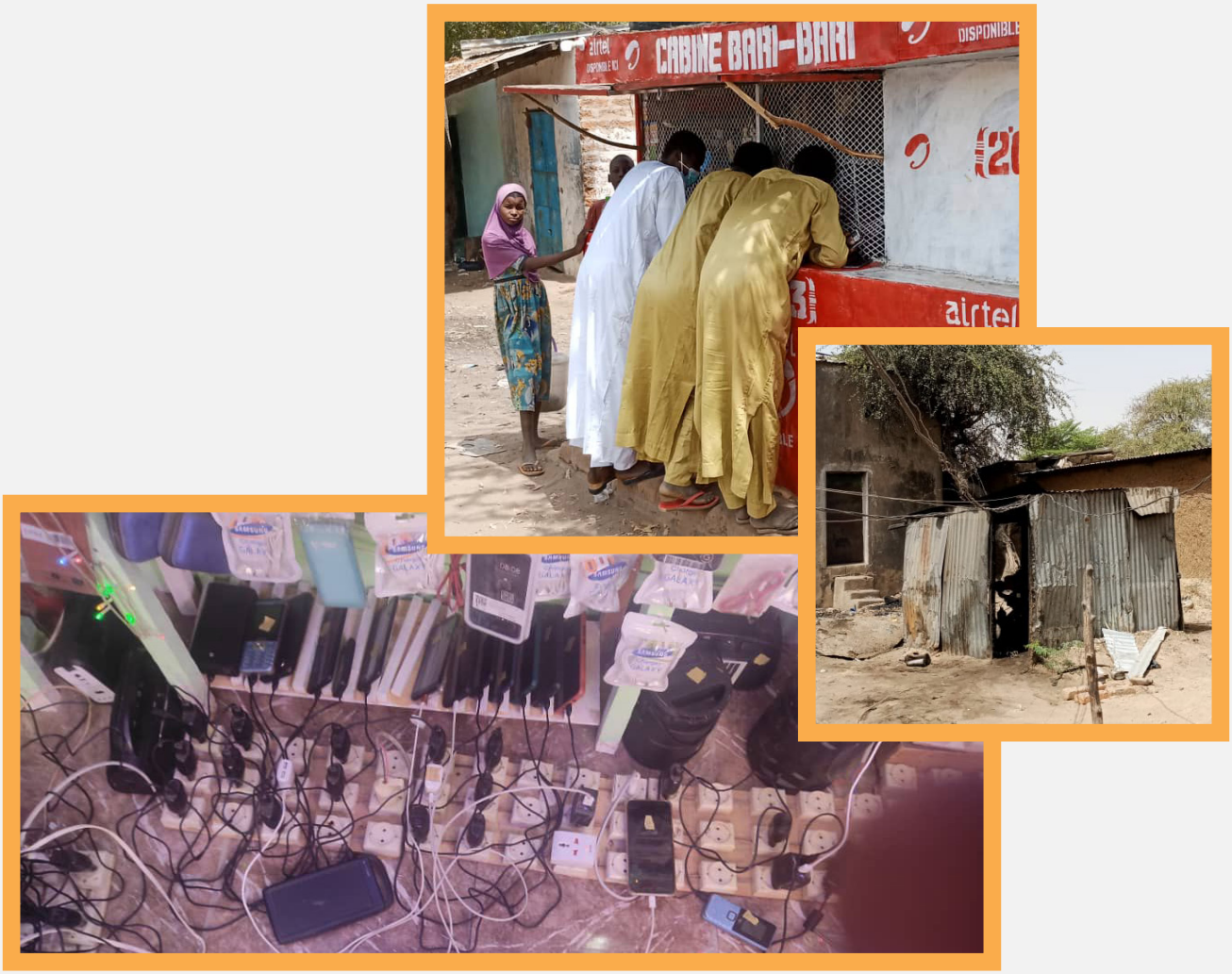
8.7 million mobile users
2% on electricity rate acces in rural areas
2/3 of the population living in rural areas

Problem

According to the United Nations, access to affordable, reliable and sustainable energy is essential to eradicate poverty. Around the world, 733 million people still do not have access to electricity, including around 570 million in sub-Saharan Africa[1].

Yet the mobile phone market continues to grow in Africa with the arrival of low-cost smartphones.

As a result, today, there are more people who have a mobile phone than people who have access to electricity.[2]



A typical phone charging station and genset in Chad

[1] The energy progress report 2022, The World Bank
[2] https://www.frandroid.com/editoid/254543_en-afrique-subsaharienne-revolution-mobile-en-marche

In Chad, users charge their phones at kiosks away from home.

These kiosks are powered by polluting generators, often broken down and expensive (150 to 200 FCFA - 0.23 to 0.31 euros - per mobile phone charge).

Moreover, this solution wastes a lot of users' time because they have to travel several kilometres and, if they are lucky enough to find a viable kiosk, wait there.

Other solutions exist to meet the priority needs such as lighting and phone charging, but they are not optimal.

Solar home systems
- limited end-of-life product management
- affordable only to the wealthiest
- difficult after-sale service

Mini grid
- bureaucracy
- oversize issue
- rare economic viability

Unfortunately, these solutions only cover part of the needs. Today, these are increasing and a general solution must be found.

Batrica solution

A quality, competitive and non-binding service to meet the needs of households and businesses

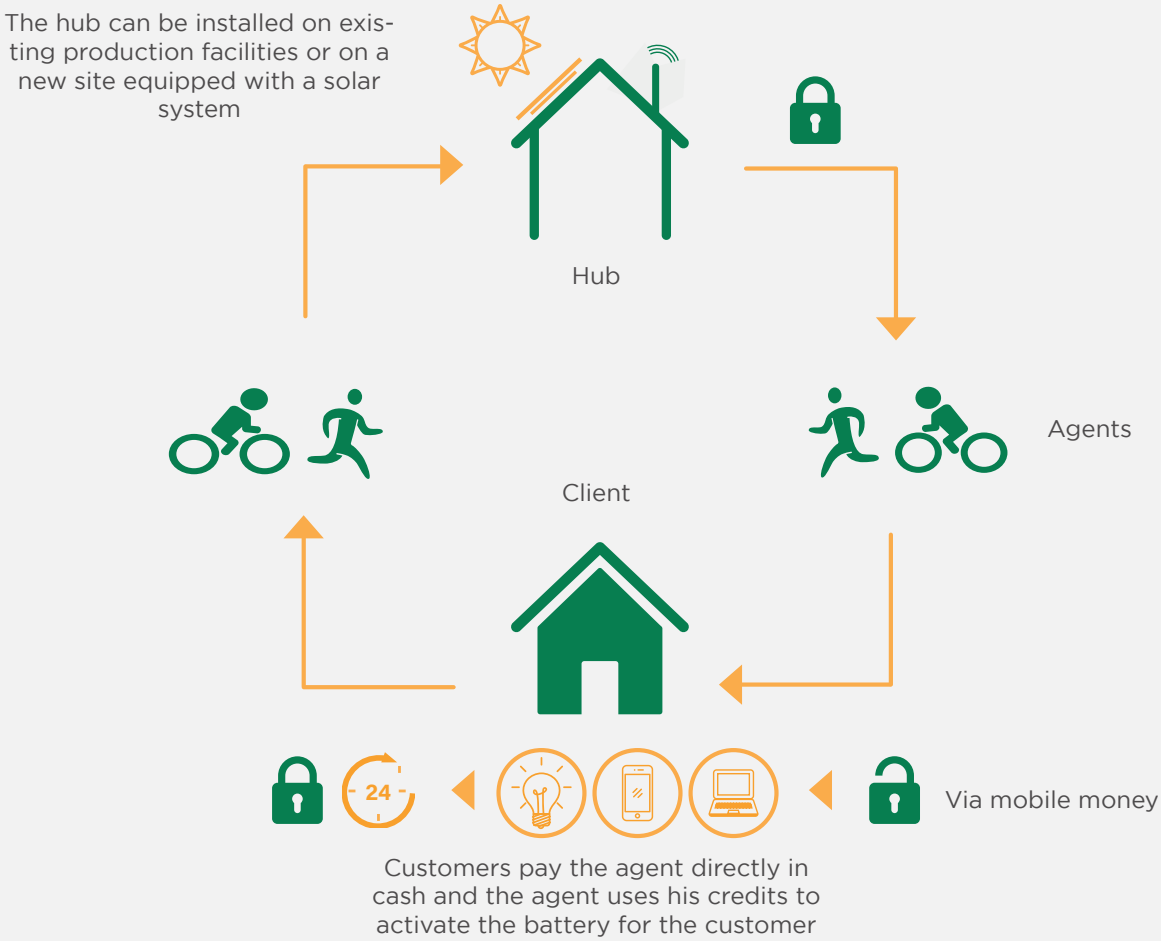
Batrica offers to install hubs providing an energy solution to populations that do not have access to electricity. Each hubs consists of **300 Lithium-Ion batteries** of 50 Wh each. The batteries are charged by solar energy and, once full, rented without obligation to users for **24 hours**. Batrica is responsible for investment, maintenance and distribution.

Battery design used

There are many advantages:

- Meets a multiple need: mobile phone charging, lighting and supply of various consumption items
- Flexibility
- Local job creation
- Pay-per-use only
- No commitment
- Competitive price
- End-of life product management
- Proximity: the battery is delivered at home
- Ease of Deployment: 3 months from development to operational implementation.
- Batrica does not require any license for energy production or battery rental, making it easy and fast to deploy.

HOW DOES IT WORK?



1. The batteries are charged at the hub and powered by solar energy.

2. Charged batteries are distributed by agents, locally or via a network of distribution agents.

3. Customers pay the agent in cash or mobile payment

4. Customers use the battery during the rental period (24h). After this time, the battery locks and stops providing power.

5. An agent collects the battery to recharge it and resume a cycle of use.

Equivalence

A battery (50 Wh) can:

16 to 24 hours of light

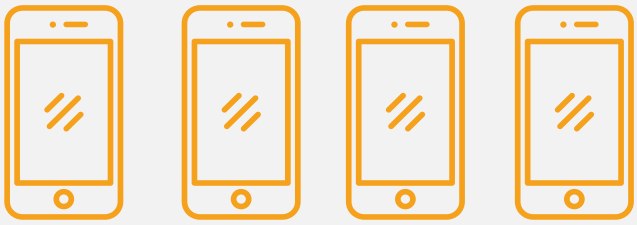
OR

up to 7 hours of movie watching

OR

charging 5 to 6 mobile phones

OR



chargin 3 to 4 smartphones

Batrica Cost Saving

Empowering local agents

In a country where the average person lives on approximately €2 per day (World Bank), Batrica provides a meaningful income opportunity through its battery rental model.

Acyl, an agent in Klessoum, rents 50 batteries/day and earns €6.10/day (254%)

Reducing energy expenses for households

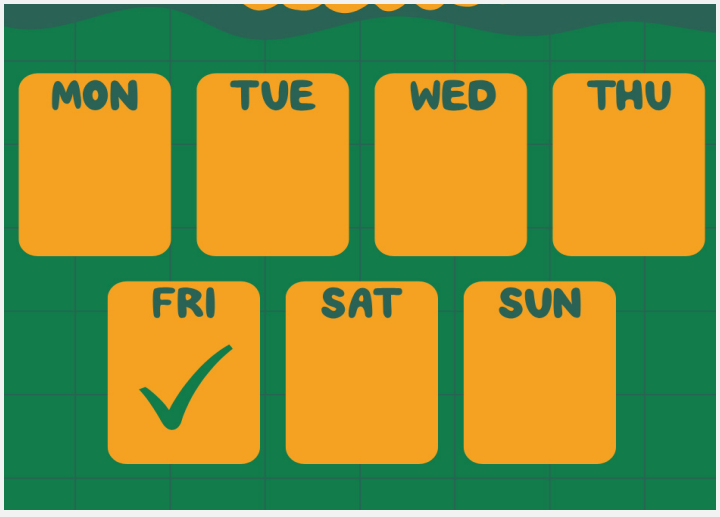
→ The traditional energy cost is €18.80–€29.20/month per household

→ Batrica's monthly cost is : €7.80

For every €1 spent with Batrica, households can save up to €4/ month

Client Habits & Market Fit

Customer behavior: 75–80% rent on a weekly basis



Some figures

Number of batteries

800,000 BATTERIES

since 1st installation

Number of clients

25,000 CLIENTS

Number of agents

100 AGENTS

Number of hubs

25 HUBS
(in 24 villages)

100,000 people electrified (based on 5.4 people per household)

In June 2024, the consulting firm leonardo. impact conducted a survey on behalf of Batrica, polling 258 households to assess the level of satisfaction with the service.

51 %

of respondents believe that Batrica has had a positive impact on education

87 %

of respondents consider that Batrica has had a positive impact on cities and communities

98 %

of respondents consider that Batrica has had a positive impact on quality of life

82 %

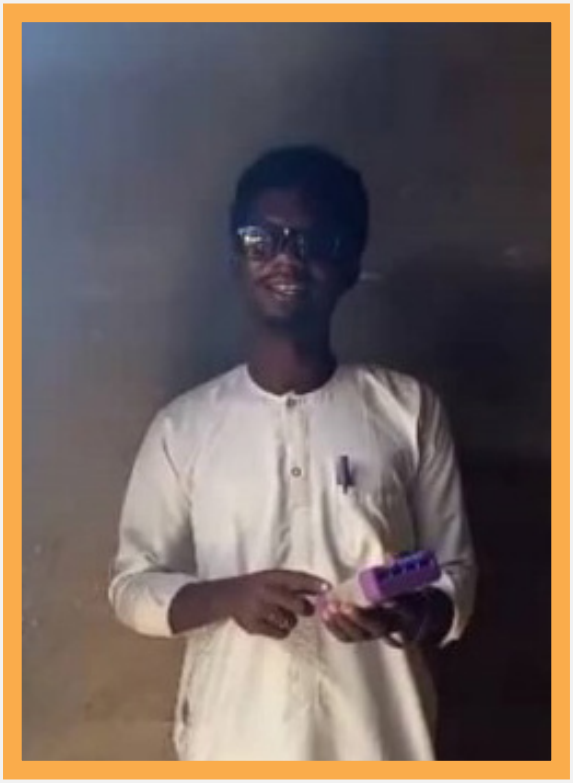
of respondents believe that the improvements observed are directly linked to Batrica's solutions, with no equivalent alternative.

98 %

of respondents consider that Batrica has had a positive impact on access to sustainable, reliable, and affordable electricity

Our realisations

Testimonials



Renting your batteries allows me to stay active, remain independent, and no longer bother my neighbors to charge my phone. Additionally, my children are very happy to be able to continue studying after nightfall.

Tahir, Klessoum

Working with Batrica is truly amazing! It has helped me improve my life and that of my family. Thanks to this job, I've been able to earn enough to meet our needs and even save for future projects. The training and support we receive are fantastic—they've allowed me to do my job better and become more independent. Today, I'm proud to contribute to providing energy to my community, and it brings me a great deal of satisfaction. Thank you, Batrica!

Abbo Dogochi

Our partners

We would like to thank our partners for their trust and commitment to our side: our technology provider, Mobile Power, our technical partner, InnoVent, our academic partners, ESME and the University of Lille, our CSR partner, ESSOR and our financial partner, GET Invest.

We also thank the Hauts-de-France Region for its call for projects **Acteurs de l'énergie pour l'Afrique** (Energy actors for Africa) of which we are the winners 2022. The aim of this programme is to provide financial support for sustainable energy access projects on the African continent.

Specifications

The batteries provide energy to homes and businesses and are pre-charged at hubs. The battery is designed so that it can only be charged at hubs.
The battery contains lithium-ion cells and has 4 USB ports to power any USB device.
In addition, 2 DC jacks can power some more energy-consuming appliances.
The battery also incorporates an adjustable intensity lamp of up to 500 lumens.

Parameter	Value	Unit
Dimensions	37x83x147	mm
Weight	519	g
Inputs	2 x 7.4mm DC Jack	
Outputs	4 x USB A, 2 x 7.4mm DC jack (bi-directional)	
Nominal voltage	7.2	V
Rated capacity (Ah)	7.8	Ah
Rated capacity	56.16	Wh
Rated client capacity	45	Wh
Life cycle	70% of customer's nominal capacity remaining at 1,000 cycles	
Maximum direct load current	7.8	A
Terminal charge current	0.3	A
End-of-charge voltage	8.4	V
Maximum discharge current on USB	3A per port pair, 6A total	A
Maximum discharge current (total)	12.5	A
Discharge current on 7.4 mm DC jacks (each)	10	A
Termination voltage	6	V
Total power dissipation per 7.4 mm DC jacks	60-80	W
Light	500	Lumens
Dimmer	5 steps	
Communication mechanism	NFC or barrel jacks	

Next steps


Copyright Mobile Power

In order to be deployed, hubs must be able to cover a sufficient number of households. We are therefore looking for areas with:

- More than 1,000 households without access to electricity
- A phone network coverage
- A local administrative will
- Develop this system with larger capacity batteries

About us

Batrica is a company created to respond to isolated populations' problems of access to energy, and support them in their digital transformation. Batrica relies on strong partners, such as InnoVent, a French wind and solar farms developer with a strong presence in Africa.

Your contact

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