



ELECTRIFICATION RURAL IN EMERGING COUNTRIES

**By 2020,
850 million
people worldwide
still do not have access
to electricity.**

This affects more than **10% of the world's population**, mainly in rural areas of sub-Saharan Africa and South Asia.

More than 80% of households still use traditional fuels for cooking (wood, charcoal) and the business remains highly dependent on Diesel generators.

Access to electricity is vital to ensure **the basic needs of populations, such as education and health**, but also for **the development of local economy** that help create jobs and prevent rural depopulation.

To address this energy divide, it is crucial to accelerate the electrification of off-grid areas in emerging countries by relying on two key vectors :

- **renewable energy** on the one hand, whose potential, particularly solar, is huge and sustainable
- **the deployment of mini-grid solutions** on the other hand, without which the high cost and complexities of extending traditional electricity networks hinder the prospects for electrification in many regions.

**Electricity is
a key factor in
socio-economic
development.**

CMR CMR HAS BEEN INNOVATING FOR MORE THAN 60 YEARS FOR SUSTAINABLE ENERGY

CMR Group is a French ETI, a **recognized global player** in instrumentation, automation and electrical engineering, present in the fields of energy, industry and marine. The Group has **700 employees** and about ten subsidiaries worldwide. It achieves an annual turnover of **60 million euros, 95% of which internationally**.

With its pioneering spirit and its **capacity for innovation**, the company has been taking an active part in the **energy transition** for several years with solutions in offshore wind energy, hydroelectricity and photovoltaics.

CMR Group has a strong presence in Africa with its subsidiary GreenElec specializing in hybrid and solar systems and present in Tunisia and Nigeria but also through its multiple partnerships with local companies enabling the creation of value and finally by a strong portfolio of projects in sub-Saharan Africa especially in Chad, Ghana and Burundi for electrification projects in rural areas.



Our ambition:

Sustainably electrifying

rural areas.



This is essential to secure the operation of hospitals, to allow pupils to do their homework at night and local businesses to develop.

CMR Group strives to create value in the countries in which it operates, by working with local companies. The Group has mobilized its resources and expertise in renewable energy to work out and develop, with its partners in Africa, an innovative solution of "turnkey" mobile and off-grid solar mini power plant: Hylios.



The containerized "plug & power" solution produces photovoltaic energy, allows its storage and has a remote energy mix piloting the system.

It can be associated with a thermal group, thus securing the energy supply. As a French-designed solution produced with local partners, Hylios benefits from CMR Group's technological innovations, while being **robust and sustainable**, designed to respond to harsh weather conditions.

Mobile and flexible, it is deployed and operational in less than a day and folds quickly if necessary. As an "off-grid" mini power plant, Hylios is economical thanks to optimized transport (all the equipment of the plant is in a container), a low-cost civil engineering and manpower installation, **and reduced maintenance and operational costs**.



A SOLUTION FOR ESSENTIAL NEEDS

Hylios meets the **temporary or permanent, urgent or evolving needs** for electrification in areas not covered by electricity networks, in Africa, Asia, South America, the islands...

Plug & Power: the mini power plant is ready to connect to the electrical grid of a hospital, an university, a village, a NGO, an industrial or agricultural facility... and thus contributes to **improving the living conditions of local communities and the economic development** of these regions.

It ensures a reliable continuous supply of energy and avoids power cuts and their consequences (loss of production, poor conservation of medicines, difficulties in monitoring pupils, etc.)



Enabling economic and social development

- Small businesses and local businesses
- Industries, cement plants
- Major works and worksites
- Mines and mining explorations
- Agriculture and agroindustry
- Life bases



Improving access to essential services

- Health sector:**
- Care centres
 - Dispensaries
 - Hospitals (operations, storage of vaccines)
- Education sector:**
- Schools
 - Universities
 - Campus



Making life easier for households in villages

- Power supply to villages not connected to the public grid
- Decrease in genset use
- Socioeconomic development



HYLIOS' STRENGTHS



Easy and fast

Deployed and operational during the day. Folds in less than 1 hour



Plug & Power

The solution connects easily to the existing power grid



Stable and secure

An innovative ground anchoring that provides a strong hold and stability. Easy and simple to deploy on all types of ground



Flexible and economical

Transportation, installation and maintenance are optimized



Strong and sustainable

Hylios is designed with robust materials and components to withstand heavy use



Powerful

The 40-foot solution is the most powerful on the market with 184KWP, equivalent to the needs of a village of about 1,000 inhabitants

THE HYLIOS RANGE

	20' container Pure solar	40' container Pure solar
Power	72 KWp	184 KWp
Number of photovoltaic panels	200	400
Footprint	200 m ²	400 m ²
Remote piloting		yes
On-site deployment		1 day
Service life	More than 20 years	

2 options :

Pure solar :

Solar power plant in container ranging from 35kWp to 184kWp, which can hybridize with existing Diesel generators

Solar & storage :

35kWp to 110kWp modular solar power plant, incorporating energy storage with Li-ion batteries for 30kWh up to 250kWh

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