

# In remote villages, power majors see light

## Micro/mini-grids emerging big opportunities

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Inhabitants of Jawhar, a sub-district of Palghar, Maharashtra, about 100 km from Mumbai, have been living in darkness for ages. Extending the power-grid to hundreds of these tribal settlements is not economically viable.

The lives of those in several villages in Jawhar, however, changed dramatically after solar-powered micro-grids and decentralised generation and distribution systems were installed by Gram Oorja, a Pune-based company powering up remote locations in India.

Ranging from six to 10 kWt, such micro-grids can provide electricity for 20-40 houses in a village, with each house getting to use three or four lights and two charging points. The mini-grid also powers street-lights and water pumps in the village.

If these numbers seem too small, imagine 200 people suddenly getting access to mobile phones and TV sets, children being able to study

or play outside after sunset, and women getting water near their homes instead of having to trudge over an hour up or down the hill to fetch water from a well or a river.

An average household pays around ₹40 for electricity (₹10 per unit) while earlier it would spend ₹140 for purchasing kerosene.

### Encouraging policy

While a national policy remains in the draft stage, companies designing and installing micro- and mini-grids across India have mushroomed since 2012.

Rohit Chandra, Vice-Chairman and Executive Director, OMC Power, told *BusinessLine* that “UP has a policy since 2016, and Bihar has just finalised one this month”. Jharkhand, Odisha and Assam, he added, are working on similar policies that not only set guidelines, but provide confidence to investors and grid developers.

With an estimated demand of 20,000-30,000 mini-grids in India, the market potential, Chandra says, could be in the 300-500 MWt range. And, considering the



Micro-grids can power 20-40 houses in a village AFP

average cost at ₹10 crore for 1 MWt installation, it translates into a ₹5,000-crore opportunity for global power companies. “A lot of large global power companies are now entering this market,” Chandra added.

Last week, the Swiss-Swedish engineering major ABB announced it had developed a micro-grid solution combining solar power and enabling battery storage that can be used to power remote areas.

### Micro to mini

Companies like Gram Oorja and Rajasthan-based Gram Power that focus on micro-grids to solve the basic power needs of villages, rely on CSR funds to execute

their projects. “In remote places you cannot think of attaching any commercial load, there is not even telecom infrastructure in those places,” Sameer Nair, Co-founder of Gram Oorja, told *BusinessLine*.

Gram Oorja has already designed and installed 30 micro- and mini-grids of various capacities that are powering households in Jharkhand, Maharashtra, and Karnataka. This year, it plans to install 30 more grids. A 10 kWt system installed in a remote location can cost around ₹25 lakh, Nair estimates.

Companies such as OMC Power operate in a different space — they install mini-grids that are larger and costlier (around ₹1 crore for a 100 kWt installation) in areas where grid may be available but the connection is unstable.

Such mini-grids have an anchor tenant — a telecom tower, bank, hospital or a college — and small enterprises and rural households connected to them. OMC Power has so far built 75 mini-grids in UP, with a cumulative capacity of 2.5 MWt.