

Nigerian universities go off-grid with solar PV, storage mini-grids

Four of Nigeria's federal universities and university teaching hospitals across the country have signed EPC contracts to develop mini-grid solutions, which will power their facilities and disconnect them from the main electricity grid. A total of 9.3 MW of PV and 5,760 battery cells will be deployed.

APRIL 23, 2018 **ILIAS TSAGAS**

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The agreement was signed with the Federal Government of Nigeria.

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Metka Power West Africa, a subsidiary of Greece-based Mytilineos has signed an engineering, procurement and construction (EPC) agreement with the Federal Government of Nigeria, for the installation of power generation plants, street lighting and training centers at four universities. Operation and maintenance services will also be provided.

"All four universities will be powered by hybrid power plants utilizing renewable energy sources integrated with energy storage and diesel generation as back-up, enabling reliable power supply for the universities totally autonomously from the grid. In total, 7.5 MW of off-grid hybrid power will be installed," said Metka in a statement released.

The project

Dimitrios Triantafyllopoulos, project director for off-grid and hybrid solutions at Mytilineos told **pv magazine** that the installed capacity of 7.5 MW is the required AC output.

"In order to achieve this," he said, "the project will consist of 9.3 MW of solar PV [capacity], 5,760 battery cells (1,200 Ah each) and 7.5 MW of installed diesel generators." Diesel generators will be used for back-up power.

As indicated in the statement, the project has three main components: to generate power for the universities; to provide street lighting within the university campuses; and to build training centers at each university, to be used for their energy courses.

Triantafyllopoulos confirmed that all four universities' renewable energy mini grids will be totally autonomous, and will operate off the main Nigerian electricity grid. This was a decision made by the Nigerian Government, he added, citing grid instability and operational problems at the distribution level, as the main reasons for this decision.

Financing

Nigeria's Federal Government is financing the project, confirmed Triantafyllopoulos. "Offer was based on NAFEX [the Nigerian Autonomous Foreign Exchange Rate Fixing methodology] rate at the time of the offer. Any deviations, fluctuations will be treated within the contractual provisions," he said.

The latter is a crucial element of the agreement, given that Nigeria's currency troubles have often scared off foreign investors.

Nevertheless, all four university projects are expected to start building in May and the time schedule for completion is set by the universities at seven, 10, 10 and 13 months after May 2018, respectively.

Upon completion of the projects, they will be owned by the Federal Government of Nigeria, while Metka Power West Africa will be responsible for the first year of operation and maintenance (O&M). Following the first year, the universities' authorities will take over the O&M, said Triantafyllopoulos.

Significantly, the project is the first phase of the Energizing Education program, an initiative developed by Nigeria's Federal Ministry of Power, Works and Housing and implemented by the country's Rural Electrification Agency, aimed at providing uninterrupted power to a number of federal universities and university teaching hospitals across Nigeria.

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Greek-born Ilias has written for pv magazine since 2012, reporting on renewable energy news, electricity market developments and energy policy. His geographic area of expertise includes Europe and the MENA region.

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