1 MW OFF-GRID PV SYSTEM IN AFGHANISTAN INSTALLED
Off-Grid PV system brings power to Bamyan

The SMA Sunny Island

One of the world’s biggest off-grid PV systems has gone into operation in Afghanistan. The 1 MW solar project brings reliable and sustainable energy to 2,500 homes, businesses and government buildings in the Bamyan province.

So far, people in this area either relied on small diesel generators or domestic solar panels for their electricity supply or they had no access to electricity at all. For the first time the Baymam Renewable Energy Programme brings an electrical system with cost-efficient electricity 24 hours a day to the province. The PV generator of the system is supplemented with a diesel generator and batteries for periods of poor weather.

The 118 SMA Sunny Island 5048 inverters control the off-grid system. 55 SMA Sunny Tripower inverters convert direct current produced by the photovoltaic panels into alternating current necessary for electrical appliances.

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**Plant Size**
- Installed PV power: 1 MW
- Nominal power in kWp: 1,050 kWp
  - 3 x 275 kVA
- Nominal power of diesel generator: 3 x 275 kVA
- Battery Capacity in kWh: 38 strings at 4,500 AH 48 VDC

**Information on the Plant**
- Province of Bamyan, Afghanistan
- Operator: Da Afghanistan Breshna Sherkat (DABS)
- Planning and realization: Sustainable Energy Services International (SESI) and NETcon International Limited
- Date of commissioning: January 2014
- Annual Output: 1,400,000 kWh

**PV System Technology**
- 118 x SMA Sunny Island 5048
- 55 x SMA Sunny Tripower 17000
- 4 x SMA Multicluster boxes
- 79 x SMA Sunny Island Chargers