BP Solar – The Right Time for the Right Energy Mix

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After 30 years of development, the solar industry has now scaled to be a major contributor to the global energy sector. While the major focus today is oriented towards grid connected solar power plants, a significant number of photovoltaic (PV) solar companies are still playing an active role where it all started – in the rural off-grid regions. Recently, a new market has opened with the deployment of solar solutions to power off-grid GSM networks.

The basic ingredients of a successful solar solution – accurate system sizing and use of high quality PV modules remain the key requirements for a reliable energy infrastructure. Sizing calculations are well understood and many quality sizing software packages are available on the market. However, best practice in weather database selection and sizing methodologies still need to be heavily promoted as a pre-requisite to ensure every solar deployment delivers optimum performance.

By deploying massive production capacity, Apex BP Solar is able to promote off-grid solar solutions at a cost that is economically attractive. After decades of local capacity building from the private sector, the solar industry benefits from the availability of skilled labour and spare parts at an affordable price and that are easily accessible in most emerging markets. This ensures operation and maintenance costs are minimised.

For many years, the solar industry and mobile operators have worked collaboratively to implement solar power solutions for network infrastructure. Thousands of solar systems are now powering GSM networks in off-grid areas with no interruption of service. On the technical side, most PV only solutions can power base station site loads under 2kW. Solar / diesel hybrid solutions are deployed at sites over 2kW of load.



Case Study:
Telma Mobile, Madagascar

Key input parameters:
Site power requirement: outdoor base station, transceiver configuration 2+2+2, 0.6kW peak load
Insolation (sunlight availability): 4.5kW/m²/day

Site design overview:
100% PV solar powered
Solar PV modules total 4.7kW (48V DC)
Two battery banks of 985Ah (48V) in parallel, totalling 1970Ah (48V)
Battery autonomy: 5.4 days without sun

More than 50 sites installed in one year, by two teams from Electricité De Madagascar (Ocean Trade Group)

Lessons learnt:
- Technical team leader fully capable of installation and commissioning after a three day training session at Apex BP Solar factory
- High reliability and light maintenance allows local resources to maintain equipment even in very remote areas
- Use of various multiple meteorology databases helps find the optimum solution design

Solar companies such as Apex BP Solar offer a number of services – system design engineering, site planning, and modular, cost effective solutions including specific structures, anti-theft options, remote monitoring, as well as deployment support.

From the various initiatives within both the energy and telecommunications sectors today, there is no doubt that commitment to green power is a reality. With this in mind, now may be the right time to produce the right energy mix.

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