Fact Sheet

Containerized Solar PV Solutions from STEAG Energy Services India

The world is not progressing fast enough to reach its universal electricity access goal by 2030. A substantial acceleration of efforts and investments is needed to achieve this objective. As of today the true potential of millions of people is still being stunted by the lack of access to reliable and affordable energy. While nearly 1 billion people in Sub-Saharan Africa alone may gain electricity access by 2040, an estimated 530 million will still not have electricity access due to different reasons. The African Development Bank estimates that Africa's power outages sap up to four percent of its GDP growth from its economy every year.

According to a Forbes article dated May 7, 2018 only 1,417 of India's 18,452 villages, or 7.3% of the total, have 100% household connectivity, and about 31 million homes are still in the dark.

The poor and marginalised people living in rural interior parts are denied basic amenities in spite of dedicated schemes and budgetary allocations. Still there are many villages where basic amenities are a day dream.

Keeping the above in mind, STEAG Energy Services has developed containerized Hybrid Solar PV solutions that can provide electricity 24 h a day without grid connection. Power capacity ranges from 4 to 8 kWp.

This container based solutions can be quickly set up and put into operation on remote sites that have no grid or very poor grid availability. The idea is that the container initially serves as a transport container, with which the entire equipment is delivered. At the destination, container will serve as housing for the system and is placed on prepared platform/blocks, earthed & equipped with the PV solar modules. With connection to the grid (if available) the power is available - plug and play!

Developed with German engineering standards and manufactured in India, the product can be made available in any part of the world where such decentralized plug & play units are required. The solution is already deployed by STEAG in India.

Built on a 20 feet standard marine container, the system can work as a grid-tied system where power is available and it can act as an off-grid system where grid is not available. The system can carry solar panels from 4 to 8 kWp (depending upon the requirement) and a battery that can provide a backup for many hours (depending upon the load). The panels are fitted on the top of the container and they also provide shade to the container thus helping in temperature control inside.

Such solutions can provide stable power for the basic needs of life and improve the living conditions.

The social impact of providing such stand alone power generation systems can dramatically transform the quality of life in rural and remote areas. The container solution can either act as a power source to some of the facilities or for small applications the container can itself act as the facility because around 8 sqm inside the container is free and can be used to place important equipment for such facilities.

Some examples of its use are:

- Doctor's clinic
- Health screening by para medics
- Cold storage of milk, vegetables and fish before collection
- Vaccination centre
- Centre for disaster management
- Water purification systems

Technical Specifications

Container size	Standard 20' marine container: 6 m x 2.45 m
Free area available	~ 8 square meter
Solar panels	4 to 8 kWp
Inverter rating	6 to 12 kVA Hybrid Power Conditioning Unit
Battery backup	3 to 4 hours at 60% load (no solar & no grid)
Battery type	Tubular gel
Interior walls and roof	Insulated with Poly Urethene Foam
Air circulation	Forced circulation in electrical plant and natural circulation in office area
Wind speed tolerance	150 km per hour

The system will be marketed by STEAG Energy Services in association with The Energy and Resources Institute (TERI).

Your Contact Person:
V. S. Sharma
Phone +91 120 462 50 43
Mobile +91 981 000 77 67
Office centre +91 120 46 25 000
Fax +91 120 46 25 100
vs.sharma@steag.in
info@steag.in

STEAG Energy Services India Pvt. Ltd.
A – 29, Sector – 16
Noida – 201 301
India
www.steag.in

N.K. Ram (Fellow)
Phone +91 11 24682100 Extn: 2140
Mobile +91 9891443681
nkram@teri.res.in

The Energy and Resources Institute (TERI)
Renewable Energy Technologies Division
Darbari Seth Block, Core 6C
India Habitat Centre, Lodhi Road
New Delhi - 110 003 - India
www.teriin.org

steag
ENERGY SERVICES