



## Sustainable Energy & Health Centers in Chhattisgarh



“ CREDA received the International Ashden Award 2018 for Sustainable Energy and Health Sector.

**Chhattisgarh State Renewable Energy Development Agency (CREDA)**

(Department of Energy, Govt. of Chhattisgarh)

# Health Care with Solar in Chhattisgarh

Health Centers are the foundation of health care in India. Although the quality of health care improves with access to electricity, one in two health centers in India is either un-electrified or suffers from irregular power supply. Before CREDA decided to tackle this, the situation in Chhattisgarh state was no different. Most Health centers had no reliable source of power, partly because the state is heavily forested, and this makes grid extension difficult. Health centres were finding it hard to provide care at night; women were giving birth in the dark and staff carried candles with them in case of power cuts.

CREDA is managing the entire process including the system design and stakeholder engagement, the tendering process for equipment and installation and the training, operation and maintenance services. Initially CREDA selected off-grid health centers but now the systems are being installed in grid-connected locations also to provide security of supply during frequent power outages.

A PV system is designed and installed at each health centre following an energy audit and the installation of energy efficient appliances. Energy efficient equipment includes LED lighting, freezers, vaccine refrigerators, computers, centrifuges (for blood analysis), baby warmers, fans and microscopes. Systems are sized between 2 and 10 KWp depending on the size and need of the health centre. Operation is simple; the solar system is connected to the load with changeover system, so load can be shifted to the grid (where and when available), ensuring 100% energy security.

CREDA has installed, operate and maintain solar PV systems in 906 health centers across the State, improving health outcomes, by which 80,000 patients are being benefitted per day. Also a number of 84 Solar Drinking water pumps have installed in health centers for providing clean water for drinking and sanitation purpose.

The programme is seen as an exemplar of best practice and of interdepartmental collaboration. This is part of a much larger solar PV electrification Programme across the State.

## Details of Solar Electrification in Health Centers by CREDA

Health Centres	Nos. of Health Centres as per Govt. of C.G.	Health Centres Energized through SPVPP by CREDA
1. District Hospital	27	20
2. Community Health Centre	173	143
3. Primary Health Centre	793	624
4. Sub Health Centre	5144	98
<b>TOTAL</b>	<b>6137</b>	<b>906</b>

### Other Solar System Installed in Health Centres by CREDA

- No. of SPV Drinking Water Pumps installed - 84 Nos
- Solar High Mast - 4 Nos.
- Solar Water Purification System - 3 Nos.



Deep Freezer running through solar power

## Key facts

 906 health centres with reliable PV Power

 3 MW cumulative installed capacity

 Approximate 80,000 patients benefitted in Health Centres per day.

Estimated  
Maintenance Cost  
Till Date  
**19%**

**GHG  
SAVINGS  
9159 MT**

**“ CREDA has installed a further 6.7 MW of solar generation in a wide variety of settings, including schools, government buildings and household as well as solar PV for agriculture, drinking water and cold storage. ”**



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