

SOLAR PHOTOVOLTAIC

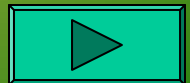
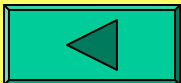
**– KEY ISSUES RELATED TO SYSTEM
INSTALLATION & MAINTENANCE.**

Dr. S. P. Gon Chaudhuri
India.



PHOTOVOLTAIC POWER SYSTEM TYPES

- **Stand Alone.**
- **Hybrid.**
- **Grid Connected.**

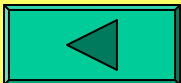


Stand Alone Systems



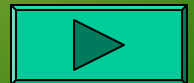
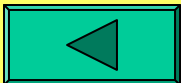
The stand alone systems generally involve batteries in addition to PV arrays. A hybrid system includes a PV array, one or more auxiliary power sources and battery bank. The grid connected type normally do not include batteries. The function of Inverter is very important in grid connect system.

All type of Photovoltaic Power Systems could be seen in India, including recently commissioned MW level Solar Power Plant.



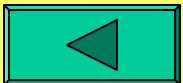


**India's first MW level Solar PV Grid Connected Power Plant
(commissioned in August, 2009)**



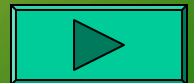
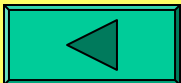
Some key areas in regard to smooth functioning of a stand alone Solar PV System including small power plant.

- ❖ **Long life and light weight storage system which are most appropriate for remote Indian Villages.**
- ❖ **Energy Management System for a limited generation source (PV) vis-à-vis variable demand of consumers and load growth.**
- ❖ **Monitoring of power drawal by an individual consumers from a remote location and disconnection of the same in case of over drawal.**
- ❖ **High sensitive low ampere load limiter cum protection system development.**



Some key areas in regard to operation and maintenance of grid connected large PV System.

- ❖ **Daily power generation prediction from a Solar PV Power Plant based on weather forecast.**
- ❖ **Low cost module cleaning system.**
- ❖ **Ensure stable performance of Inverter working at an ambient temp of 45° - 47°C during day time and 12°C during night time.**
- ❖ **High Power Inverter testing facility.**



Thank You

