

SOLAR PV SYSTEM

INTRODUCTION TO SOLAR PV SYSTEM

- Solar Electricity systems capture the sun energy using photovoltaic PV cells and converts it into useful electrical energy.
- Solar PV System mainly consist of: PV modules, DC to AC inverter and in case of storage system Batteries are used.
- Temperature, dust, location and panels orientation affect the PV system performance and efficiency.
- The available area determines the maximum possible capacity of the system.



SOLAR PV SYSTEM

WHERE PV SYSTEM CAN BE INSTALLED

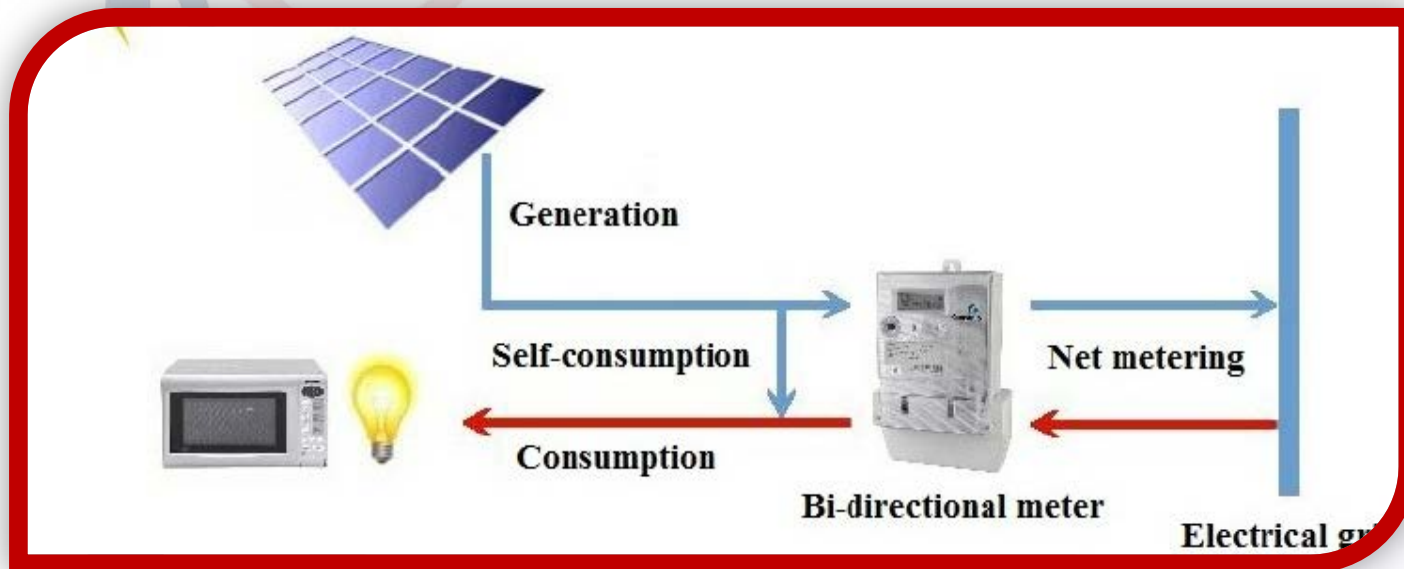
- Ground mounting.
- Roof mounting
- Dual mounting –east west mounting-
- Carport
- Solar poles
- Agricultural Pumps
- Solar Heaters



SOLAR PV SYSTEM TYPES

ON GRID PV SYSTEM

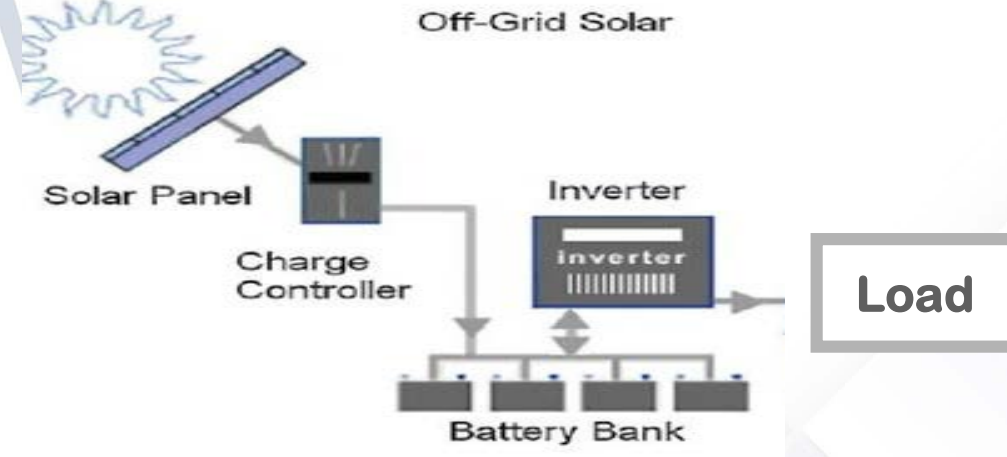
- The PV system is directly connected to the main grid through net meter.
- The Net Meter is a bidirectional metering that measures the current flow delivered from grid to consumer and the amount of electricity produced from pv system to the grid.
- The Net Metering: is a billing arrangement that allows individuals to generate their own electricity consumption and deliver unused energy to the local power grid and receive a credit for its retail price.



PV SOLAR SYSTEM TYPES

OFF GRID PV SYSTEM

- In this system, the PV system is not connected to the grid, consequently it requires storage system.
- The storage system sharply increases the PV system cost because of very high prices of batteries and their short lifespan.



PV SOLAR SYSTEM TYPES

HYBRID PV SYSTEM

- Hybrid system combines the PV system power with another power generating source.
- Typically, the other power source is used to fill in the gap between the PV system energy production and the actual energy consumption.
- Apart from fuel consumption equipment, wind tunnels can also be integrated in the system as a second power source.

