

## FAQs

### 1. List few advantages of photovoltaic generation

- **No need for fuel:** Inexhaustible sunlight is used as the source of electrical energy.
- **Clean energy:** No emission of environmental pollutants, such as NO<sub>x</sub> and CO<sub>2</sub>
- **No need for troublesome operations:** System operation is automatic.
- **Simple system configuration, easy maintenance.** Since the system has no movable parts, maintenance is easy.

### 2. How does an photovoltaic cell work? How is electricity produced?

- A photovoltaic cell comprises P-type and N-type semiconductors with different electrical properties, joined together. The joint between these two semiconductors is called the "P-N junction."
- Sunlight striking the photovoltaic cell is absorbed by the cell. The energy of the absorbed light generates particles with positive or negative charge (holes and electrons), which move about or shift freely in all directions within the cell.
- The electrons (-) tend to collect in the N-type semiconductor, and the holes (+) in the P-type semiconductor. Therefore, when an external load, such as an electric bulb or an electric motor, is connected between the front and back electrodes, electricity flows in the cell.

### 3. Define sensible heat storage and Latent heat storage

- **Sensible heat storage:**

A heat storage system that uses a heat storage medium, and where the additional or removal of heat results in a change in temperature ( $Q=mc\Delta T$ ).

- **Latent heat storage:**

A heat storage system that uses the energy absorbed or released during a change in phase, without a change in temperature (isothermal).

#### **4. What are the dependency factors for storage capacity in a solar system?**

Storage capacity of solar system depends on:

- The availability of solar radiation
- The nature of the thermal process
- The economic assessment of solar vs. Auxiliary energy
- Physical and chemical properties of the storage medium employed

#### **5. Name few commonly recovered construction materials?**

- Asphalt Paving
- Land Clearing Residuals
- Wood
- Gypsum Wallboard
- Buildings
- Metals
- Concrete
- Roofing(non-asphalt shingles)
- Brick