

POWER DISTRIBUTION 101:

KNOW YOUR SOLAR PV

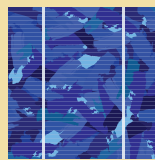
01 WHAT IS SOLAR PV?

Solar photovoltaic (PV) technologies **convert sunlight into usable electricity** (“photo” meaning light and “voltaic” meaning electricity). They are applied in several ways:

+ Solar panels: A solar panel consists of multiple **PV cells**, which are manufactured from **semi-conductive materials** like silicon. These devices are **mounted** on rooftops, building facades, or the ground to maximize solar energy production. The **modularity** of PV technology allows it to operate at different scales and in different contexts.

+ Solar inverter: A solar inverter transforms the raw, **direct current (DC)** electricity from PV panels into usable, **alternating current (AC)** electricity. Some models come with additional features like **remote energy monitoring** and **battery storage** to optimize energy consumption and stabilize system performance.

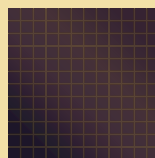
02 TYPES OF PV CELLS



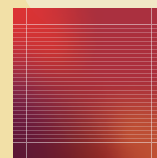
Silicon



Thin-film



III-V



Next-generation

03 WHY SOLAR PV?

Pros

- + Enables **energy independence**
- + Various **solar financing** options available
- + Eligible for **federal solar tax credits**
- + **Excess solar energy** powers the main grid
- + Increases **property value**

Cons

- + **High upfront cost**
- + **Intermittent energy source**
- + **Manufacturing solar panels** has environmental impacts
- + Takes up **space**

