



# Solar PV Glossary

## Solar System Components

**Watt** - A measure of *power*, often written a W. Indicates how much power is produced by a PV module or PV system. A kilowatt is 1000 watts, often written as kW.

**Kilowatt Hour** - A measure of *energy*. Indicates the amount a PV system produces or what is used over a period of time. Often written as kWh.

**Grid** - The utility grid is a network of wires that distribute electricity.

**Module** – A complete, environmentally protected unit consisting of solar cells designed to generate DC power when exposed to sunlight.

**Array** – A complete power-generating unit consisting of electrically and mechanically integrated PV modules with structural supports and components.

**Inverter** – An electronic device that converts DC power from a PV array to AC power that is used in the home.

**Balance of system (BOS)** – Includes all components of a photovoltaic system other than the photovoltaic panels and mounting equipment.

**Fixed tilt array** – A photovoltaic array set in at a fixed angle with respect to horizontal.

**Adjustable tilt array** – A variation of a fixed-tilt photovoltaic array that permits manual adjustment of the tilt to increase the array output for seasonal adjustment.

**Tracking array** – A photovoltaic array that follows the path of the sun to maximize the solar radiation incident on the PV surface.

## Photovoltaic (PV) Systems Types

**Utility interactive photovoltaic system (Grid tied)** – A photovoltaic (PV) system with no storage that is connected to the utility grid and uses PV energy as a supplemental source of power.

**Stand-alone photovoltaic system** – A photovoltaic system that supplies power independently of the utility grid and can include storage.

**Bimodal photovoltaic system** – A photovoltaic system that can either operate in utility-

interactive or stand-alone mode and uses storage.

Distributed generation – Electricity that is produced at or near the point where it is used.

**Interconnection agreement** – A contract between a distributed generation power producer and the local electric utility that establishes the terms and conditions for the interconnection.

**Net metering** – A metering arrangement where any excess solar energy exported to the utility is subtracted from the amount of energy imported from the utility.

## Incentives and Rebates

**Renewable Portfolio Standards (RPS)** - Legislation developed by most states that specifies how much electrical generation must come from renewable energy sources. The RPS most often indicates deadlines for compliance.

**Sales tax incentives** – Provide an exemption from, or refund of, the state sales tax for the purchase of a renewable energy system or energy-efficiency measures.

**Property tax incentives** – Provide that the added value of a renewable energy system is excluded from the valuation of the property for taxation purposes.

**Performance-based incentives** – Provide cash payments based on the number of kilowatt-hours generated by a renewable energy system.

**Rebate programs** – States, utilities and a few local governments offer rebates to promote the installation of renewable energy and energy efficiency projects.

**Grant programs** – States offer a variety of grant programs to encourage the use and development of renewables and energy efficiency.

**Federal renewable energy tax credit** – A taxpayer may claim a credit of 30% of qualified expenditures for a system that serves a dwelling unit located in the United States that is owned and used as a residence by the taxpayer. Current available through December 2016.

**Solar renewable energy credits (RECS)** – Tradable commodities from energy generated by solar. One REC is generated every time one megawatt-hour (MWh) of clean, renewable electricity is produced.

**Property-assessed clean energy (PACE) financing** – Allows property owners to borrow money to pay for renewable energy and/or energy-efficiency improvements.

**Internal rate of return** – The annualized effective compounded rate of return earned on the invested capital.