

DEFINITIONS

Alternating current (AC): Electric current in which the direction of flow is reversed at frequent intervals. In the US, we sometimes refer to this as household current.

Ampere (A) or amp: The unit of measure for electric current.

Angle of Incidence: Angle which references the sun's radiation striking a surface a "normal" angle of incidence is a 90-degree angle.

Autonomous System: A stand alone PV (photovoltaic) system that has no back-up source. It may or may not include batteries (Off-Grid)

Azimuth: Angle between true south and the point directly beneath the sun. Measured in degrees east or west of true south in northern latitudes.

Battery: Two or more cells connected to store energy.

Building Integrated photovoltaics (BIPV): A term used to describe the integration of PV into a buildings envelope, generally as an alternative to common construction materials.

British thermal unit (Btu): A measure of heat energy (one Btu is approximately the energy released by one wooden match)

Capacity factor: The amount of energy that a system actually produces as a percentage of it's optimum capacity for the entire year.

Cell: The basic unit of a photovoltaic module, also used to describe the basic component of a battery.

Combined collector: A PV device that provides useful heat energy plus electricity.

Direct current (DC): Electric current that flows in one direction, the opposite of AC.

Design Month: The month having the combination of insolation and demand that requires an array to operate at maximum energy generation.

Energy Audit: A study that documents how much energy you consume in your home, apartment, business etc..

Glazing: Clear materials that allow sunlight to pass into solar collectors or buildings, windows are an example of this.

Grid connected (or tied): A PV system in which the PV array acts like a central generating plant when generating surplus power, this surplus goes back to the grid from your location.

Hybrid System: A PV system that includes other sources of generation, wind or fossil fuel generators.

Insolation: Sunlight from "incident solar radiation" Measured as watts per square meter. Do not confuse with insulation.

Insulation: Material that slows or reduces the rate of heat transfer.

Inverter: Device that converts DC power to AC power.

Kilowatt (kW): 1,000 watts, the general unit of measure on electric bills.

Life cycle cost: The cost of owning and operating a system for the period of its useful life expressed in present value.

NEC: The abbreviation for the National Electrical Code.

Orientation: Placement according to the compass direction, N S E W

Passive solar building: A structure that utilizes non mechanical means for heating, cooling or lighting.

Photovoltaic (PV): The direct conversion of sunlight into electricity.

Solar constant: The measure of the strength of sunlight, 1,353 watts/sq. meter in space and approx. 1,000 watts at sea level at the equator at noon.

Solar Energy: Energy from the sun, examples include built up heat in your car when the windows are raised.

Thermal Mass: Materials that store heat in a passive solar building, usually masonry.

Tilt angle: Angle of inclination of collector as measured in degrees from horizontal. Maximum performance of solar collection should be set as perpendicular to the sun.

Tracking Array: A PV array that follows the path of the sun across the sky to maximize generation.

Volt (V): A unit of measure of the "force" of electrons in a circuit.

Watt (W): The unit of electric power, or amount of work. One amp of current flowing at one volt produces one watt. Used to measure demands of appliances and lighting in your building.