

Glossary

Active solar production – using the sun’s energy to produce electricity (see Photovoltaics).

Anemometer – an instrument used to measure wind speed.

Biomass (also referred to as bioenergy) – the process of converting forestry and agricultural crops, crop processing wastes and residues, animal manures, and landfill methane gas into electricity or thermal energy in processing plants.

BTU (British Thermal Unit) – a measure of the heat content of a substance that is burned to produce energy; equivalent to the burning of one match stick.

Capacity factor – the value of the average power output of a generating system compared to the capacity rating of the system over a specified period of time.

Co-firing – using more than one fuel source to produce electricity in a power plant. Common combinations include biomass and coal, biomass and natural gas, or natural gas and coal.

Concentrating solar power – technologies that capture solar energy by converting the sun’s light into heat by concentrating direct radiation onto a receiver, where it is absorbed into a fluid. The heat in the fluid is transported to a heat engine that converts the thermal energy into electricity.

District heating system – local system that provides thermal energy through steam or hot water piped to buildings within a specific geographic area. Used for space heating, water heating, cooling, and industrial processes. A common application of geothermal resources.

Distributed generation – small power plants sited at many locations, which can be used to reduce burden on a transmission system by generating electricity close to areas of customer need, thereby reducing the need for transmitting electricity during peak times.

Energy crop – a plant grown with the express purpose to be used in biomass electricity or thermal generation.

Geothermal – heat, in the form of hot water, steam, or rocks, near the surface of the earth’s crust used for direct heating and cooling, or for electricity generation.

Geothermal heat pump – device which circulates geothermally heated fluid through sealed pipes to transfer heat from one area to another to cool or heat an interior space.

Installed capacity – amount of power that could be generated by an energy source if operated at its maximum capacity. Expressed in wattage, usually kilowatts (kW) or Megawatts (MW).

kW (kilowatt) – 1000 watts (see W).

kWh (kilowatt-hour) – unit of energy equivalent to one kilowatt (kW) of power expended for one hour of time; common measurement of electricity.

Landfill gas – naturally occurring methane produced in landfills; can be burned in a gas turbine to produce electricity.

Large-scale – see *Utility-scale*.

Load – amount of electricity required to meet customer demand at any given time.

Load growth – increase in the amount of consumer demand for electricity

MW (Megawatt) – 1,000,000 watts, or 1,000 kilowatts.

MWh (Megawatt-hour) – 1,000 kWh.

Passive solar design – construction of a building to maximize solar heat gain in the winter and minimize it in the summer, thereby reducing the use of mechanical heating and cooling systems.

Peak load – the amount of electricity required to meet customer demand at its highest.

Photovoltaics (PV) – devices that convert sunlight directly into electricity using semiconductor materials. Most commonly found on a fixed or movable panel; also called solar panels.

Policy Definitions –

Green Power Program – an option offered to customers by a utility to pay a premium for a “green” power source (frequently wind or solar). Usually designed to support the development of new renewable energy facilities above regulatory requirements.

Net Metering – policy allowing customers with their own generating units to sell excess power back to the grid, enabling the flow of electricity to and from the customer through a single, bi-directional meter. Net metering laws typically include a limit on the size of generating units, ranging from 1 kW to more than 1,000 kW. Some utilities require use of dual meters and sale of power to the utility at avoided energy costs, termed “net billing.”

“Other” – rebates, loans or grant programs offered by the state or a utility to assist in financing renewable energy projects.

Property tax exemption – an exemption, exclusion or credit against property taxes.

Renewable Portfolio Standard – a requirement that a certain percentage of a utility’s overall capacity of electricity sales be derived from renewable resources.

Sales tax exemption – an exemption from state sales tax for the cost of renewable energy equipment.

System Benefits Charge – fee implemented to assure financial support for renewable energy, energy efficiency and/or low-income support programs. Typically a small charge to all customers on the basis of electricity consumption.

Tax incentives (personal/corporate) – income tax credits or deductions for the purchase and/or installation of renewable energy equipment.

Power production potential – amount of electricity that could be generated from an energy resource.

Small-scale or residential-scale – a generating facility designed to output enough electricity to offset the needs of a residence, farm or small group of farms; generally 250 kW or smaller.

Solar easement – right expressed as an easement, restriction, covenant or condition obtained by the landowner for the purpose of exposure of an active or passive solar energy system to the direct rays of the sun.

Renewable resource – energy sources which are continuously replenished by natural processes: wind, solar, biomass and geothermal.

Transmission grid – the network of power lines and associated equipment required to deliver electricity from generating facilities to consumers.

Transmission constraints – areas within the transmission system where problems with delivering electricity from generator to customer develop, including power lines with too little capacity for the amount of electricity to be moved.

Utility-scale (commercial-scale) – a power generating facility designed to output enough electricity for purchase by a utility.

W (watt) – instantaneous measure of power, equivalent to just less than one thousandth of a horse power and just over three thousandths of a BTU.

Watts per square meter of the blade swept area – unit used to measure wind power density.

Wind power – measured in watts per square meter.

Wind speed – measured in meters per second.