

Glossary

The following list provides definitions of selected terms that are commonly used in the electricity generating industry.

Advanced Metering Infrastructure (AMI)

Technology deployed at end user locations in conjunction with a smart grid, allowing for a new, dynamic rate structure for electricity prices.

Anadromous

Anadromous fish are those that ascend rivers from the sea for breeding.

Aquifer

An underground layer of water-bearing permeable rock or unconsolidated materials from which groundwater can be extracted using a water well.

Attainment area

Area in the country where National Ambient Air Quality Standards are being met.

Best Available Control Technology (BACT)

Level of pollution control required for sources that trigger PSD air quality requirements (see Prevention of Significant Deterioration, PSD).

Biomass

Biological material (such as wood, agricultural, and animal wastes) that can be used as fuel for transportation, steam heat, and electricity generation.

Black Liquor

Black liquor is a thick, dark liquid that is a byproduct of the process that transforms wood into pulp, which is then dried to make paper. One of the main ingredients in black liquor is lignin, which is the material in trees that binds wood fibers together and makes them rigid, and which must be removed from wood fibers to create paper.

BMPs

Best management practices.

Bottom ash

A coal combustion byproduct that is collected from the bottom of the furnace after combustion and is composed of coarse, angular, porous or glassy particles.

British thermal unit (Btu)

A unit of thermal energy equivalent to 252 calories; serves as the base unit for measuring the heat content of a fuel source.

Capacity

The capability to generate electrical power. The generating capacity of a power plant is the maximum amount of power it can instantaneously supply to the grid and is measured in megawatts (MW).

Carbon capture and storage (CCS)

A range of technologies used to prevent large quantities of CO₂ from being released into the atmosphere, mainly from large point sources such as fossil fuel-fired power plants.

Certificate of Public Convenience and Necessity (CPCN)

Issued by Maryland's Public Service Commission to an electric company planning to construct or modify a generation facility or transmission line; grants permission to construct the facility subject to certain conditions.

Class F Fly Ash

As classified by the American Society for Testing and Materials (ASTM), Class F fly ash is distinguished from Class C fly ash by having less than 10 percent calcium (expressed as CaO) by weight.

Closed-cycle cooling

Type of cooling that involves recirculating water in cooling towers.

Coal combustion byproducts (CCBs)

Solid byproducts consisting of components of coal not consumed during combustion, such as fly ash and bottom ash.

Conduit hydropower

Hydropower produced by water-carrying structures (tunnels, canals, pipelines, etc.) fitted with electric generating equipment without the use of a dam or reservoir.

Congestion

Describes a situation where power cannot be moved from where it is being produced to where it is needed because the transmission system does not have sufficient capability to carry the electricity.

Conservation

A conscious choice that a person makes to change behavior solely to use less energy (or other resources).

Consumptive water use

Use of water in such a way that it does not return to its source following use, such as water that evaporates from cooling towers at power plants.

Cross-State Air Pollution Rule (CSAPR)

EPA's cap-and-trade program that is designed to reduce interstate transport of PM_{2.5} and ozone.

Curtailed Service Providers (CSPs)

Grid members that act as demand response providers.

Demand

The amount of power that must be supplied to a customer (i.e., a load).

Demand response

Refers to shifting demand for electricity to nonpeak periods or reducing electricity use during periods of peak demand.

Distributed generation

Generating resources located close to or on the same site as the facility using the power.

Distribution

The process of delivering electricity received from transmission providers to local customers.

EJSCREEN

An environmental justice mapping and screening tool developed by EPA.

Electric company

The company that delivers electricity to a customer's home or business through its system of poles, power lines, and other equipment.

Electric cooperative

An electric company that is owned by, and operated for the benefit of, those using the system.

Electricity supplier

An entity that sells electricity to customers (and, in Maryland, is licensed to do so by PSC).

EmPOWER Maryland

A state energy initiative that began in 2008 designed to reduce Maryland's per capita energy consumption and peak demand by 15 percent by 2015.

Energy efficiency

Finding ways to accomplish the same amount of work using less energy.

Energy use

A measure of electrical power used over a period of time usually expressed in kilowatt-hours or megawatt-hours.

Federal Energy Regulatory Commission (FERC)

An independent commission responsible for regulating wholesale electric power transactions and interstate transmission and sale of natural gas for resale. FERC is the federal counterpart to state utility regulatory commissions.

FIDS

Forest interior dwelling species.

Flue gas desulfurization (FGD)

Technology that introduces sorbent into the exhaust gas after combustion to remove sulfur compounds from power plant emissions, thereby reducing air pollution.

Fluidized bed combustion (FBC)

Technology that uses a heated bed of sand-like material suspended (or fluidized) within a rising column of air to burn many types and classes of fuel, including waste-type fuels. Typically has higher efficiency and lower emissions than conventional power plant combustion technologies.

Fly ash

A coal combustion byproduct made up of finely divided residue or ash that is transported from the furnace along with emission gases. Composed of very fine, and generally spherical, glassy particles.

Flywheel

A system that uses a large rotational mass to store energy and to provide regulation services to smooth output fluctuations from a local solar or wind facility.

Fuel cell

A device that converts the chemical energy from a fuel into electricity through a chemical reaction with oxygen or another oxidizing agent.

Generation

The process of producing electrical energy. Electricity generation is the amount of power supplied through time (energy) and is measured in megawatt-hours (MWh).

Generation Attribute Tracking System (GATS)

GATS is a database maintained by PJM that lists the generation attributes (e.g., time, facility, fuel type) for all MWh generated in the PJM territory and outside the PJM territory if the generator is eligible for a state's RPS and has registered as such with PJM.

Generation interconnection queue

New generation projects seeking to connect to the PJM grid must submit a generator interconnection request. PJM performs the requisite studies for generator interconnection in clusters grouped together based on a six-month queue cycle. The aggregate list of dated interconnection requests

Generating Station

“Qualifying generation station” is defined as a fossil fuel generator with nameplate capacity greater than 70 MW. Projects under 2 megawatts (MW) in capacity are excluded from the regulatory definition of a “generating station.”

Greenfield

Area of land that has not previously been developed.

Greenhouse gases (GHGs)

Gases that occur both naturally and from human activities that trap heat in the atmosphere, such as carbon dioxide and methane.

Hazardous air pollutants (HAPs)

List of pollutants identified by EPA as having the potential to cause an adverse impact to human health or the environment.

Independent Power Producer (IPP)

Private company that develops, owns, or operates an electric power plant.

Independent spent fuel storage installation (ISFSI)

Long-term storage facility for spent nuclear fuel located at a nuclear power plant site and regulated by the NRC.

Investor-owned utility

A for-profit company in the business of supplying electric power to end users.

Landfill gas (LFG)

Gas produced when organic solid wastes decompose in a landfill. LFG is a combination of methane and carbon dioxide.

Load

Kilowatt or megawatt demand placed on the electric system by consumers of power.

Locational Marginal Price (LMP)

Electricity price that varies by time and geographic location; provides the basis for the regional market for buying and selling electricity.

Maryland Healthy Air Act (HAA)

Requires substantial reductions in emissions of NO_x, SO₂ and mercury from coal-fired generating units in the state. Also requires Maryland to participate in the Regional Greenhouse Gas Initiative to reduce emissions of pollutants that contribute to climate change.

Maryland Public Service Commission (PSC)

Government agency that regulates public utilities and certain passenger transportation companies doing business in Maryland, including gas, electric, telecommunications, water, sewage disposal, passenger motor vehicle, railroad, and taxicab companies.

Maximum Achievable Control Technology (MACT)

An EPA standard designed to reduce emissions of HAPs, such as heavy metals, acid gases and organics, from coal- and oil-fired power plants.

Meter Collar Adapters

Electronic devices installed between a residential electric meter and the meter socket for the purpose of facilitating the deployment and interconnection of an onsite electricity generation source or for the purpose of isolating a customer's electrical load to enable the provision of backup power.

Municipal utility

An electric company owned and operated by a municipality serving residential, commercial and/or industrial customers usually within the boundaries of the municipality.

National Ambient Air Quality Standards (NAAQS)

Ambient air quality standards developed by EPA to represent the maximum pollutant concentrations that are allowable in ambient air.

Net metering

Method of compensating consumers with distributed generation capacity in periods when a customer produces more energy than they consume.

New Source Review (NSR)

A complex set of EPA regulations that govern the construction of new pollution sources and modifications or expansions of existing sources.

Nuclear Regulatory Commission (NRC)

The federal agency that regulates nuclear power plants in the United States, particularly focused on reactor safety, nuclear waste management and license renewal of existing plants.

Particulate matter (PM)

Dust, soil and liquid droplets that form during the combustion of fossil fuels or in the atmosphere by chemical transformation and condensation of liquid droplets. Defined by particle size: PM₁₀ = particles smaller than 10 microns in diameter and PM_{2.5} = particles smaller than 2.5 microns.

Peak demand

The maximum demand on an electric system in a designated period of time (e.g., over a year, a month, or a season).

Peaking plants

Power plants that operate for a relatively small number of hours, usually during peak demand periods. Such plants usually have high operating costs and low capital costs.

PJM Interconnection, LLC (PJM)

A regional transmission organization that coordinates the movement of wholesale electricity in all or parts of 13 states, including Maryland, and the District of Columbia.

Power Plant Research Program (PPRP)

A subdivision of the Maryland Department of Natural Resources, PPRP functions to ensure that Maryland meets its electricity demands at reasonable costs while protecting the state's valuable natural resources. It provides a continuing program for evaluating electric generation issues and recommending responsible, long-term solutions.

Pozzolan

A type of material that, when added in the process of mixing cement, improves the strength of the resulting solid. Fly ash, a coal combustion byproduct, has pozzolanic properties making it suitable for beneficial use in certain cement industry applications.

Prevention of Significant Deterioration (PSD)

In attainment areas, EPA's New Source Review program is referred as PSD.

Prime farmland

Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses.

Processed refuse fuel (PRF)

Fuel derived from residential, commercial and nonhazardous industrial waste, which can be burned to produce energy.

Radionuclides

Naturally occurring or manmade atoms with an unstable nucleus that undergoes radioactive decay, emitting gamma rays or subatomic particles.

Reconductoring

The process of replacing the current-carrying conductors in a transmission line.

Regional Greenhouse Gas Initiative (RGGI)

The first cap-and-trade regulatory program to reduce greenhouse gas emissions in the United States.

Reliability councils

Regional organizations formed by the electric utilities to coordinate utilities' generation and transmission systems and monitor the availability of electric services.

Renewable energy

Sources of energy that are continually being replaced such as energy from the sun (solar), wind, geothermal and hydroelectric.

Renewable Portfolio Standard (RPS)

A standard adopted in Maryland requiring that a portion of the electricity supply comes from renewable resources.

Retail competition

Permitting end-use customers to contract directly with suppliers for their electric or gas service, while transmission and distribution companies provide for delivery of the service.

Reserve margin

Total system generating capacity minus annual system peak demand, divided by the annual system peak demand, expressed as a percent.

Right-of-way

A defined pathway owned or legally established for the use of utilities, vehicles or pedestrians, such as for transmission lines or roadways.

Self-generator

A generating facility that consumes most or all of the electricity it produces to meet onsite power demand.

Shale gas

Natural gas trapped in deep, fine-grained rock formations; recovered using horizontal drilling and hydraulic fracturing methods.

Smart grid

A type of electrical grid system that attempts to predict and intelligently respond to the behavior of electric power users connected to it in order to supply reliable and economically viable electricity.

Soil Compaction

Physical consolidation of the soil that destroys structure, reduces porosity, limits water and air infiltration, and increases resistance to root penetration, usually resulting in reduced crop yield.

Solar photovoltaic (solar PV)

Type of renewable energy created by converting solar radiation into electricity using semiconductors.

Standard offer service (SOS)

Electricity service that is provided to customers who do not choose an electricity supplier. Maryland's SOS service is based on competitive wholesale market rates.

Time of use rates

A utility rate structure that charges higher rates during peak hours of the day to shift peak period demand to off-peak hours.

Transmission

The process of delivering electricity from generation plants to entities that serve loads.

Volt

A unit of electrical pressure; 1 kilovolt (kV) = 1,000 volts.

Waste-to-energy (WTE)

An electricity generating facility that combusts municipal solid waste in order to heat boilers and create high pressure steam.

Watt

The electrical unit of power or rate of doing work; 1 kilowatt (kW) = 1,000W; 1 megawatt (MW) = 1,000,000 watts; 1 gigawatt (GW) = 1,000,000,000 watts.

Watt-hour

An electric energy unit of measure that is equal to 1 watt of power supplied or taken steadily from an electric circuit for 1 hour; 1 kW-hour (kWh) = 1,000 watt-hours.

Wetlands

Areas of land that form the interface between terrestrial and aquatic ecosystems.