



Frequently Used Energy Terms

A Reference Tool For Your Use

Demand Response: Actions that end users take to minimize their demand for energy. It includes curtailment of energy or the use of on-site generation of electricity at critical times. Typically applies to industrial users.

Distributed Energy Resources (DER): Small-scale electricity production that is on-site or close to the primary user and is interconnected to the utility distribution system.

Electric Vehicle (EV): A vehicle that uses one or more electric motors for propulsion. Typically, these vehicles, such as battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), are charged through an external source of electric power and are typically referred to as EVs.

Electric Vehicle Charging: Electric vehicle service equipment used to supply electric energy to recharge electric vehicles.

Electrification: The action or process of transitioning from a system traditionally powered with a fuel such as natural gas, oil, propane, or gasoline to one powered with electricity. An example is replacing or converting a building heating system powered by natural gas with a system powered by electricity.

Energy Efficiency (EE): Reducing wasted energy, or using less energy, to perform the same task. For example, a high-efficiency appliance will use less energy than a low-efficiency appliance. Alternatively, adding insulation to exterior walls will reduce building heat loss.

Energy Storage: The capturing and storing of energy for future use. Energy can be stored through electrochemical (batteries), thermal, and mechanical means, as well as through pumped hydropower and hydrogen. Depending on the technology used, energy storage can be used for a long or short duration.

Federal Energy Regulatory Commission (FERC): Federal agency with jurisdiction over the interstate sale and transmission of electricity and natural gas. Also regulates PJM. (See PJM, page 6.)

Fossil Fuel: A carbon-based fuel such as coal or natural gas, formed in the geological past from the remains of living organisms.

Fuel Cell: An electrochemical cell that converts the chemical energy of a fuel into electricity.

Fuel Cell Electric Vehicle (FCEV): A vehicle that uses a fuel cell to generate electricity for power as its primary method of propulsion and does not use a plug to recharge.

Gigawatt (GW): A unit of electrical capacity equal to 1,000,000,000 watts.

Gigawatt-hour (GWh): A unit of electrical energy equal to 1,000 MWh or 1 million kWh.

Kilowatt (kW): A unit of electrical capacity equal to 1,000 watts. It is estimated that a typical residential home (without electric heating) can have a peak load as high as 8 kW.

Kilowatt-hour (kWh): A unit of electrical energy equal to 1,000 watt-hours. According to the DOE, the average New Jersey residential home consumes almost 700 kWh/month.

Megawatt (MW): A unit of electrical capacity equal to 1,000 kilowatts or 1,000,000 watts.

Megawatt-hour (MWh): A unit of electrical energy equal to 1,000 kWh.

Microgrid: A group of interconnected loads and distributed energy resources (DERs) within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode.

Load: The amount of electricity on the grid at any given time, as it makes its journey from the power source to all the homes, businesses and industries within a utility's territory. (Source: <https://blog.directenergy.com/what-is-electricity-load/>.)

Frequently Used Utility Terms

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Operations and Maintenance Costs (O&M): The costs associated with the operations and maintenance of a component, resource or facility.

Peak Demand: The highest electrical power demand that has occurred over a specified time period.

PJM: The regional transmission organization (RTO) responsible for planning and operating the electric transmission grid across thirteen Mid-Atlantic and Midwestern states and the District of Columbia. PJM is also the independent system operator that administers the wholesale power markets in its territory to assure bulk (overall transmission) system reliability.

Renewable Portfolio Standard (RPS): A state requirement that mandates the increased production of energy from renewable energy sources, such as wind, solar, biomass, and geothermal, to meet a specified goal. Twenty-nine states and the District of Columbia have RPS requirements, including New Jersey.

Renewable Energy: Energy from a source that is naturally replenishing on a human time-scale or not depleted when used. Examples include solar, onshore and offshore wind, wave, tidal, geothermal, and hydropower.

Renewable Natural Gas: Renewable gas is natural gas or biomethane produced from renewable and sustainable biomass sources, such as animal waste, municipal waste landfills, crop and food waste. Once processed, it is interchangeable with traditional natural gas and can be transported via pipeline. (Modified from definition from the American Gas Association, aga.com.)

Regional Greenhouse Gas Initiative (RGGI): The Regional Greenhouse Gas Initiative (RGGI) is the first mandatory market-based program in the United States to reduce greenhouse gas emissions. RGGI is a cooperative effort among several states, including New Jersey, in the Northeast and Mid-Atlantic regions to cap and reduce CO₂ emissions.

Regional Transmission Organization (RTO): A Regional Transmission Organization, e.g. PJM, is an entity responsible for planning and operating regional electric transmission grids.



Rooftop Solar: Type of solar generating facility that is sited on the roof of a building or structure.

Solar PV (solar): Technology that utilizes solar radiation to generate electricity by means of solar photovoltaic panels.

Solar Thermal: Energy systems that utilize rooftop panels to provide water heating for residential, commercial and industrial buildings.

Therm: A unit of heat energy equal to 100,000 BTUs or approximately 100 cubic feet of natural gas. A measure of natural gas used converted from volume to energy at the meter.

Third-Party Supplier (TPS): An NJBPU-registered company that sells electricity or natural gas supplies directly to an energy user. Includes, but is not limited to, marketers, aggregators, and brokers.

Utility-Scale Solar: Large-scale solar generating facility which feeds directly into the electric grid.

Zero Emission Vehicle (ZEV): A vehicle that emits no tailpipe pollutants from the onboard source of power, such as particulates, hydrocarbons, carbon monoxide, ozone, lead, and various oxides of nitrogen. According to the Multi-State ZEV MOU to which New Jersey is a signatory, ZEVs include battery-electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and hydrogen fuel cell electric vehicles (FCEVs).

Zero Carbon: The World Green Building Council defines “net zero carbon” as when the amount of carbon dioxide emissions released on an annual basis is zero or negative. The Council’s definition for a net zero carbon building is a highly energy efficient building that is fully powered from on-site and/or off-site renewable energy sources and offsets.