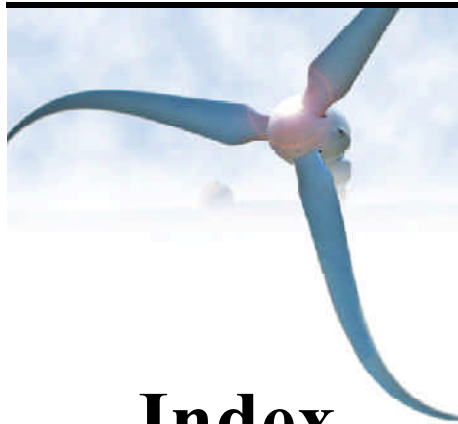


# Glossary of “Green” Terms

Definitions of words and phrases relating to energy and alternative energy.



## Index

<b>Air Pollution</b> .....	pg 2	<b>Energy Efficiency</b> .....	pg 3	<b>Net Metering</b> .....	pg 5
<b>Alternative Energy</b> .....	pg 2	<b>Energy Marketer</b> .....	pg 3	<b>“New” Renewables</b> .....	pg 5
<b>Alternative Fuels</b> .....	pg 2	<b>Environmentally Preferable</b> .....	pg 3	<b>On-Site Renewable Generation</b> .....	pg 5
<b>Annual Consumption</b> .....	pg 2	<b>Executive Order 13423</b> .....	pg 3	<b>Ozone Layer</b> .....	pg 5
<b>Biodegradable</b> .....	pg 2	<b>Fossil Fuels</b> .....	pg 3	<b>Peak Demand</b> .....	pg 5
<b>Blackwater</b> .....	pg 2	<b>Fuel Cell</b> .....	pg 3	<b>Photovoltaic Panels</b> .....	pg 5
<b>Carbon Dioxide</b> .....	pg 2	<b>Fuel Mix</b> .....	pg 4	<b>Post Consumer Waste</b> .....	pg 5
<b>Carbon Footprint</b> .....	pg 2	<b>Geothermal Energy</b> .....	pg 4	<b>Power Marketer</b> .....	pg 5
<b>Carbon Monoxide</b> .....	pg 2	<b>Generation</b> .....	pg 4	<b>Recycling</b> .....	pg 6
<b>Carbon Neutral</b> .....	pg 2	<b>Generation Company</b> .....	pg 4	<b>Renewable Energy Certificates</b> .....	pg 6
<b>Carbon Rationing</b> .....	pg 2	<b>Global Climate Change</b> .....	pg 4	<b>Renewable Energy Resources</b> ..	pg 6
<b>Carbon Sink</b> .....	pg 2	<b>Green Design</b> .....	pg 4	<b>Renewable Portfolio Standard</b> .	pg 6
<b>CFL</b> .....	pg 2	<b>Greenhouse Effect</b> .....	pg 4	<b>Solar Energy</b> .....	pg 6
<b>Chlorofluorocarbons</b> .....	pg 2	<b>Greenhouse Gases</b> .....	pg 4	<b>Sulfur Dioxide</b> .....	pg 6
<b>Climate Change</b> .....	pg 2	<b>Green Power</b> .....	pg 4	<b>Wind Power</b> .....	pg 6
<b>Commodity Electricity</b> .....	pg 2	<b>Green Power Product</b> .....	pg 4	<b>Wind Turbine</b> .....	pg 6
<b>Compact Fluorescent Lamp</b> .....	pg 2	<b>Green Pricing</b> .....	pg 4		
<b>Composting</b> .....	pg 2	<b>Green Power Purchasing</b> .....	pg 4		
<b>Conservation</b> .....	pg 2	<b>Green Tags</b> .....	pg 4		
<b>Conventional Power</b> .....	pg 2	<b>Greywater</b> .....	pg 4		
<b>Distributed Generation</b> .....	pg 3	<b>Grid</b> .....	pg 4		
<b>Buying Group</b> .....	pg 3	<b>Hydroelectric Energy</b> .....	pg 4		
<b>Default Power Service</b> .....	pg 3	<b>Hydro Power</b> .....	pg 4		
<b>Demand Side Management</b> ..	pg 3	<b>Hydrofluorocarbons</b> .....	pg 5		
<b>Disclosure</b> .....	pg 3	<b>Independent System Operator</b> .	pg 5		
<b>Distribution</b> .....	pg 3	<b>Kilowatt-hour</b> .....	pg 5		
<b>Eco-Assessment</b> .....	pg 3	<b>Landfill</b> .....	pg 5		
<b>Electric Distribution Company</b> ..	pg 3	<b>Leadership in Energy and Environmental Design (LEED)</b> ....	pg 5		
<b>Energy Star</b> .....	pg 3	<b>Life Cycle Assessment</b> .....	pg 5		
<b>Energy Supplier</b> .....	pg 3	<b>Megawatt-hour</b> .....	pg 5		
<b>Emissions Cap</b> .....	pg 3				

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**“Green” Terms**, *continued*

**Air Pollution** – contaminants or substances in the air that interfere with human health or produce other harmful environmental effects.

**Alternative Energy** – Usually environmentally friendly, this is energy from uncommon sources such as wind power or solar energy, not fossil fuels.

**Alternative Fuels** – similar to alternative energy. Not fossil fuels, but different transportation fuels like natural gas, methanol, bio fuels and electricity.

**Annual Consumption\*** – Annual consumption refers to the amount of electricity used by a consumer in one year and is typically measured in kilowatt-hours (kWh). This information is available on your electricity bill or by contacting your energy provider.

**Biodegradable** – Substances which, when left alone, break down and are absorbed into the eco-system.

**Blackwater** – the wastewater generated by toilets.

**Carbon Dioxide\*** – Carbon dioxide (CO<sub>2</sub>) is an atmospheric gas that is a major component of the carbon cycle. Although produced through natural processes, carbon dioxide is also released through human activities, such as the combustion of fossil fuels to produce electricity. Carbon dioxide is the predominate gas contributing to the greenhouse effect, and as such is know to contribute to climate change.

**Carbon Footprint** – A measure of the your impact on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.

**Carbon Monoxide** – A colorless, odorless, and highly toxic gas commonly created during combustion.

**Carbon Neutral** – A company, person, or action either not producing any carbon emissions or, if it does, having been offset elsewhere.

**Carbon Rationing** – Limiting the amount of carbon you introduce into the environment each year. Carbon rationing action groups (crag) help you reduce your carbon footprint.

**Carbon Sink** – Carbon dioxide is naturally absorbed by things such as oceans, forests, and peat bogs. These are called carbon sinks.

**CFL** – (*See Compact Fluorescent Lamp.*)

**Chlorofluorocarbons** – CFCs are man-made chemical compounds containing carbon, chlorine, fluorine, and sometimes hydrogen. Often used in older refrigerators and air conditioners, CFCs can damage the ozone layer.

**Climate Change** – A change in temperature and weather patterns due to human activity like burning fossil fuels.

**Commodity Electricity\*** – Physical electricity in the absence of the technological, environmental, social, and economic benefits associated with a specific generation source. These benefits are transferable over geographic distance through a tradable instrument called a renewable energy certificate (REC) and can be re-associated with the physical electricity at the point of use.

**Compact Fluorescent Lamp** — A compact fluorescent lamp (CFL), also known as a compact fluorescent light bulb is a type of fluorescent lamp designed to replace an incandescent lamp. Compared to incandescent lamps of the same luminous flux, CFLs use less energy and have a longer rated life. In the United States, a CFL can save over \$30 in electricity costs over the lamp’s lifetime compared to an incandescent lamp and save 2000 times their own weight in greenhouse gases.

**Composting** – A process whereby organic wastes, including food and paper, decompose naturally, resulting in a produce rich in minerals and ideal for gardening and farming as a soil conditioner, mulch, resurfacing material, or landfill cover.

**Conservation** – Preserving and renewing, when possible, human and natural resources.

**Conventional Power\*** – Power that is produced from non-renewable fuels, such as coal, oil, natural gas, and nuclear material. Conventional fuels are finite resources that cannot be replenished once they are extracted and used.

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**“Green” Terms**, *continued*

**Distributed Generation\*** – Small, modular, decentralized, grid-connected or off-grid energy systems located in or near the place where energy is used.

**Buying Group** — A group of customers who join together with an aggregator to buy electric energy in order to support a specific cause or to receive lower rates by buying their energy in bulk. May also be referred to as a cooperative.

**Default Power Service** — A safety net service designed to provide energy for short periods of time. However, there is no limit on the length of time you may remain on this service. Default power service will always be available to ensure that consumers receive uninterrupted power when they switch from one energy supplier to another. If for any reason consumers are temporarily without an energy supplier or, in some cases, if they choose not to choose an energy supplier, they will automatically receive default power service.

**Demand Side Management** — This term refers to energy conservation and efficiency programs developed for, and used by, residential and business consumers to reduce their use of electric energy.

**Disclosure** — A requirement placed on energy suppliers to provide information to customers on their prices, terms of service, power sources, air emissions and environmental impacts.

**Distribution** — The process of delivering electricity from the electric distribution system to a consumer’s home or business over local electric lines.

**Eco-Assessment** — an evaluation of your home or workplace with the aim of cutting your energy and water usage.

**Electric Distribution Company** — A regulated company that owns the poles and wires used to deliver power to a consumer. This company will continue to deliver electricity to homes and businesses and make repairs when the power goes out.

**Energy Star** — A joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices. (<http://www.energystar.gov/>)

**Energy Supplier** – A Company that sells energy to consumers in a competitive market. Energy suppliers may generate the power, themselves, or re-sell power generated by someone else. They may also be referred to as competitive energy suppliers, energy service providers, generation companies, power marketers, and power brokers.

**Emissions Cap** – A limit placed on companies regarding the amount of greenhouse gases it can emit.

**Energy Efficiency\*** – Refers to products or systems using less energy to do the same or better job than conventional products or systems. Energy efficiency saves energy, saves money on utility bills, and helps protect the environment by reducing the demand for electricity.

**Energy Marketer\*** – See *Energy Supplier*.

**Environmentally Preferable** – products or services that have a lesser or reduced effect on the environment.

**Executive Order 13423: Strengthening Federal Environmental, Energy and Transportation Management\*** – Executive Order 13423 calls for federal agencies to set goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation.

**Fossil Fuels\*** – Fossil fuels are the nation’s principal source of electricity. The popularity of these fuels is largely due to their low costs. Fossil fuels come in three major forms—coal, oil, and natural gas. Because fossil fuels are a finite resource and cannot be replenished once they are extracted and burned, they are not considered renewable.

**Fuel Cell** – A technology that uses an electrochemical process to convert energy into electrical power. Often powered by natural gas, fuel cell power is cleaner than grid-connected power sources. In addition, hot water is produced as a by-product.

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**“Green” Terms**, *continued*

**Fuel Mix** — The proportions of each fuel type (nuclear, coal, solar, oil, wind, hydro, etc.) used to generate electricity. Also referred to as the resource mix.

**Geothermal Energy** – Heat that comes from the earth.

**Generation** — The process of making electricity. The term may also refer to energy supply.

**Generation Company** — A company that owns and/or operates and maintains power generation plants. May also be referred to as a power company.

**Global Climate Change\*** – Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from:

- Natural factors, such as changes in the sun’s intensity or slow changes in the Earth’s orbit around the sun;
- Natural processes within the climate system (e.g. changes in ocean circulation);
- Human activities that change the atmosphere’s composition (e.g. through burning fossil fuels) and the land surface (e.g. deforestation, reforestation, urbanization, desertification, etc.)

**Green Design** – A design, usually architectural, which conforms to environmentally sound principles of building, material and energy use. A green building, for example, might make use of solar panels, skylights,

and recycled building materials. (*See Leadership in Energy and Environmental Design*)

**Greenhouse Effect** – The process that raises the temperature of air in the lower atmosphere due to heat trapped by greenhouse gases, such as carbon dioxide, chlorofluorocarbons, and ozone.

**Greenhouse Gases\*** (GHG) – Gases in the Earth’s atmosphere that produce the greenhouse effect. Changes in the concentration of certain greenhouse gases, due to human activity such as fossil fuel burning, increase the risk of global climate change. Greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, halogenated fluorocarbons, ozone, perfluorinated carbons, and hydrofluorocarbons.

**Green Power\*** – Renewable energy resources such as solar, wind, geothermal, biogas, biomass and low-impact hydro generate green power. A green power resource produces electricity with zero anthropogenic (caused by humans) emissions, has a superior environmental profile to conventional power generation, and must have been built after the beginning of the voluntary market (1/1/1997).

**Green Power Product\*** – Electricity products supplied from renewable energy resources that provide the highest environmental benefit. Green power sold by regulated utilities is called green pricing, and when sold in competitive electric markets green power is called green marketing.

**Green Pricing\*** – Allows customers to pay a small premium in exchange for electricity generated from green power resources. The premium covers the increased costs incurred by the power provider (i.e. electric utility) when adding green power to its power generation mix.

**Green Power Purchasing\*** – Green power can be purchased nationwide from several sources. Green power marketers offer green power products to consumers in deregulated markets—such as New Jersey, Pennsylvania, and New England. All customers nationwide have the opportunity to buy green power and stimulate the development of renewable generation sources through renewable energy certificates. Finally, customers can choose to install on-site generation, such as solar panels.

**Green Tags** – (*See Renewable Energy Certificates.*)

**Greywater** – Waste water that does not contain sewage or fecal contamination (such as from the shower) and can be reused for irrigation after filtration.

**Grid** — The network of wires and cables that transport electricity from a power plant to your home or business.

**Hydroelectric Energy** – Electric energy produced by moving water. (*See Hydro Power.*)

**Hydro Power** — Electricity generated by the flow of falling water, usually controlled by dams. (*See Hydroelectric Energy.*)

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**“Green” Terms**, *continued*

**Hydrofluorocarbons** - Used as solvents and cleaners in the semiconductor industry, among others; experts say that they possess global warming potentials that are thousands of times greater than CO<sub>2</sub>.

**Independent System Operator (ISO)** — The organization responsible for matching the electricity dispatched within the regional electric grid to the customer demand for electricity, to ensure customers receive uninterrupted power. The ISO operates on a regional basis, serving the New England states.

**Kilowatt-hour\*** – A kilowatt-hour (kWh) is a standard metric unit of measurement for electricity. The average home in the United States uses approximately 900 kWh/month or 10.8 MWh/year of electricity.

- One kilowatt-hour (kW) is equal to 1,000 watt-hours (Wh).
- One megawatt-hour (MWh) is equal to 1,000 kilowatt-hours.
- A watt-hour is the amount of energy delivered at a rate of one watt (W) for a period of one hour.
- One watt is the amount of power rate of one joule of work per second of time.
- Example: A 100 watt light bulb in use for 10 hours uses 1000 watt-hours, or 1 kilowatt of electricity. (100 watts x 10 hours = 1000 watt-hours = 1 kWh)

**Landfill** – An area where waste is dumped and eventually covered with dirt and topsoil.

**Leadership in Energy and Environmental Design (LEED)** — The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings’ performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

**Life Cycle Assessment** – A methodology developed to assess a product’s full environmental costs, from raw material to final disposal.

**Megawatt-hour\*** – A megawatt-hour (MWh) is equal to 1,000 kWh.

**Net Metering\*** – A method of crediting customers for electricity that they generate on site in excess of their own electricity consumption. Customers with their own generation offset the electricity they would have purchased from their utility. If such customers generate more than they use in a billing period, their electric meter turns backwards to indicate their net excess generation.

**“New” Renewables\*** – The voluntary green power market came into existence in the late 1990’s. January 1, 1997 is considered a definitive point in time when green power facilities could be adequately identified as having been developed to serve the

green power marketplace. Green power facilities placed into service after January 1, 1997 are said to produce “new” renewable energy. The “new” criterion gets at the additional requirement for the voluntary market.

**On-Site Renewable Generation\*** – Electricity generated by renewable resources using a system or device located at the site where the power is used. On-site generation is a form of distributed energy generation. For more information about distributed energy technologies that are renewable and non-renewable, visit the Department of Energy’s Distributed Energy Resources Web site.

**Ozone Layer** – In the upper atmosphere about 15 miles above sea level, it forms a protective layer which shields the earth from excessive ultraviolet radiation and occurs naturally.

**Peak Demand** — The maximum power consumption for a facility, measured over a short time period such as 15 minutes or an hour.

**Photovoltaic Panels** – Solar panels that convert sunlight into electricity. Power is produced when sunlight strikes the semiconductor material and creates an electrical current.

**Post Consumer Waste** – Waste collected after the consumer has used and disposed of it.

**Power Marketer** — An entity that buys and sells power generated by others. A green power marketer is an electricity supplier that offers a green power product.

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**“Green” Terms**, *continued*

**Recycling** – the process of collecting, sorting, and reprocessing old material into usable raw materials.

**Renewable Energy Certificates\*** – Also known as RECs, green tags, green energy certificates, or tradable renewable certificates, certificates represent the technology and environmental attributes of electricity generated from renewable sources. Renewable energy credits are usually sold in 1 megawatt-hour (MWh) units. A certificate can be sold separately from the mega-watt hour of generic electricity it is associated with. This flexibility enables customers to offset a percentage of their annual electricity use with certificates generated elsewhere.

**Renewable Energy Resources\*** – Energy sources that can keep producing energy indefinitely without being used up. To be considered renewable energy, a resource must rely on naturally existing energy flows such as sunshine, wind and water flowing. The energy source, or “fuel”, must be replaced by natural processes at a rate that is equal to, or faster than, the rate at which the energy source is consumed.

**Renewable Portfolio Standard\*** – The requirement that an electric power provider generate or purchase a specified percentage of the power it supplies/sells from renewable energy resources, and thereby guarantee a market for electricity generated from renewable energy resources.

**Solar Energy** – Energy from the sun.

**Sulfur Dioxide** – SO<sub>2</sub> is a heavy, smelly gas which can be condensed into a clear liquid. It is used to make sulfuric acid, bleaching agents, preservatives and refrigerants and is a major source of air pollution.

**Wind Power** – Energy generated from large propellers that when spun by the wind, drive turbines that power generators and create electricity.

**Wind Turbine** — A machine that captures the energy of the wind and transfers the motion to an electric generator shaft for the creation of electricity.

*\* Source: Environmental Protection Agency at <http://www.epa.gov/greenpower/whatis/glossary.htm>*