

THE GREEN GLOSSARY

The Green Glossary provides an introduction to common environmental terms. Click on the links throughout the glossary for more information.

Alternative Energy- energy derived from sources that do not deplete natural resources, such as solar, wind and geothermal, and serve to replace or supplement traditional fossil fuel sources, as coal, oil, and natural gas.

Alternative Fuel Vehicles (AFV) - vehicles designed to run on non-petroleum or a blend of petroleum and non-petroleum fuel. Alternative fuel vehicles may utilize ethanol, biodiesel, electricity, hydrogen or natural gas as a substitute or in addition to petroleum an energy source.

Best Management Practice (BMP) - environmental protection practices applied to various fields to help ensure that development is conducted in an environmentally responsible manner. The term Best Management Practices is also sometimes specifically used to describe installations designed to minimize stormwater runoff.

Biodegradable- capable of being broken down quickly and safely by bacteria under natural conditions

Biofuel- fuel derived from renewable, biological materials, such as ethanol and biodiesel.

Blackwater- water containing animal, human or food waste and characterized by high levels of pathogens. Blackwater must be neutralized before the water can be safely reused for non-potable services such as flushing or irrigation.

Brownfield- abandoned, idled, or under-used industrial and commercial facilities/sites where expansion or redevelopment is complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Brownfields are especially common in urban areas. *(See photo at right).*



Cap and Trade - market-based policy tool for curbing carbon emissions. First, an environmental regulator sets an aggressive cap or maximum limit on carbon emission allowance. Then, emission sources are given the opportunity to design their own compliance strategy to meet the overall reduction requirement. This includes the sale or purchase of carbon credits, installation of pollution controls, and implementation of efficiency measures, among other options.

Carbon Credits- part of the cap and trade approach to reducing emissions. Credits serve as the units of carbon emissions that can be purchased and sold between participating sources (companies, countries, etc.) in order to meet the cap on carbon emissions allowance. Example: If Company A generates 100 tons of emissions over the cap and Company B generates 100 tons under the cap, Company A can buy credits from Company B in order to meet the cap.

Carbon Footprint- the impact that human activities have on the environment in terms of the amount of greenhouse gases produced through energy use, travel, food choices, etc., measured in tons of carbon dioxide. To calculate your individual carbon footprint, click [here](#).

Carbon Neutral- a product or process that does not add more carbon dioxide to the atmosphere over its life cycle. Neutrality can be achieved by balancing the amount of carbon released by purchasing an equal amount of carbon that is sequestered or offset.

Carbon Offset- mitigating greenhouse gas emissions by funding carbon reduction projects. Offset funding may go toward tree planting, renewable energy sources, methane capture or other projects. Carbon offsets are commonly purchased by individuals who are traveling by car or plane to offset the carbon that is released during their travel.

Carbon Sequestration- capture and long-term storage of carbon dioxide before it is emitted into the atmosphere. Typical sequestration methods include capturing carbon through plants, through the ocean, or pumping it into the ground.

Carbon Tax- a fixed-rate tax on the carbon content of fuels. As a policy tool, carbon taxes serve as a way for renewable energy sources to compete with the fossil fuels and curb carbon emissions.

Car Sharing- a way for urban residents to have access to a vehicle without actually owning one. Typically, car sharing programs involve a fleet of vehicles available to city residents that can be rented by the hour, such as [Zipcar](#). Car sharing is shown to cut down on the number of cars and the amount of driving in a given area.

Cistern- small tank or storage facility used to collect and store rainwater runoff from a rooftop or other catchment area. Cisterns serve to reduce stormwater runoff, conserve water use and reduce water use costs.

Combined Sewer Outflow (CSO) - part of a combined water drainage system that carries both sewage and stormwater through one set of sewer lines. Heavy rains cause environmental problems for combined systems because the high volumes result in an overflow event (a CSO), in which both sewage and stormwater are discharged into local water sources. CSO events affect Rock Creek, the Potomac River, and the Anacostia River. Approximately 1/3 of the District is served by a combined sewer system



Compact Fluorescent Light Bulb (CFL) - type of efficient light bulb that uses 2/3 less energy and lasts 10 times longer than incandescent lighting. A guide to choosing the right CFLs for different uses can be found [here](#).

Composting- the process of producing nutrient rich soil by mixing degradable material, such as food waste, with bacteria in soil. Composting is a way to reduce the amount of waste that reaches landfills.

Emissions Trading- see Cap and Trade

Energy Efficiency- ratio of energy output to energy input of a process or system.

Energy Star- program administered by the Environmental Protection Agency that evaluates, identifies and promotes products based on their energy efficiency. The Energy Star logo (pictured) is used to designate products that meet EPA efficiency guidelines. Products that may feature an Energy Star logo include appliances, computer equipment, light bulbs, and electronics.



Environmental Impact Statement (EIS) - document required of federal agencies by the National Environmental Policy Act for major projects or legislative proposals significantly affecting the environment. A tool for decision making, it describes the positive and negative effects of the project and presents a range of alternative actions.

Ethanol- a liquid produced by fermentation in which yeast metabolizes sugar, producing carbon dioxide and ethanol. In the U.S., ethanol is produced from corn, while in countries such as Brazil, ethanol is made from sugarcane.

Flex-fuel Vehicles- vehicles designed to run on gasoline or a gasoline/ethanol blend of up to 85% (E85).

Fossil Fuels- fuels found in the earth's strata that are derived from the fossilized remains of animal and plant matter over millions of years. Fossil fuels include coal, oil, and natural gas. Fossil fuels are considered to be non-renewable since they are consumed much faster than their natural production.

Fuel Cell- an electrochemical device in which hydrogen is combined with oxygen to produce electricity. This process produces by-products of heat and water vapor. Natural gas is often used as the source of hydrogen and air is a common source of oxygen.

Green Building- a building that minimizes impact on the environment through resource (energy, water, etc.) conservation and contributes to the health of its occupants.

DC Green Buildings Act of 2006- a law that mandates new building standards for both private and public projects in the District of Columbia. The standards apply to newly constructed or substantially improved District-owned buildings and for private construction projects of 50,000 square feet or more. Applicable standards include LEED and Green Communities, depending on the type of project. Washington is the first major U.S. city to require LEED compliance for private projects.



View of Sidwell Friends Middle School in NW DC. This is the first LEED Platinum certified building in the District.

Green Collar Jobs- jobs within both environmental and conventional industries that incorporate sustainable practices and materials. Green collar jobs contribute to environmental protection and restoration. Including renewable energy and clean technology, "green" is the fifth largest market sector in the United States. Mayor Fenty has formed a Green Collar Jobs Advisory Council in the District.

Greenhouse Effect- natural warming of the planet that has kept the earth's average surface temperature at approximately 60°F. Greenhouse gases in the earth's atmosphere permit solar radiation to pass through and prevent most of the reflected infrared radiation from escaping into outer space. Life on earth would not be possible without the natural greenhouse effect, but environmental scientists are concerned about the increased emissions of greenhouse gases from human activities, leading to climate change and its consequential adverse effects.

Greenhouse Gas (GHG) - any gas that absorbs infrared radiation in the earth's atmosphere. Common greenhouse gases include water vapor, carbon dioxide (CO₂), methane (CH₄), nitrogen oxides (NO_x), ozone (O₃), chlorofluorocarbons (CFCs), halogenated fluorocarbons (HCFCs), perfluorinated carbons (PFCs), hydrofluoro-carbons (HFCs) and Sulfur Hexafluoride (SF₆). Carbon dioxide has been identified as the most prominent greenhouse gas due to the rapid increase in its atmospheric concentration since the Industrial Revolution as a result of fossil fuel combustion.

Green Roof- contained green space on, or integrated with, a building roof. Green roofs maintain living plants in a growing medium on top of a membrane and drainage system. Green roofs have the capacity to reduce stormwater runoff from a site, modulate temperatures in and around the building, have thermal insulating properties, and provide habitat for wildlife and open space for humans. Green roofs are currently installed on District government buildings at the Reeves Center and Judiciary Square.



Green roof at the Reeves Center.

Greenwash- the act of misleading consumers regarding the environmental practices of a company or the environmental benefits of a product or service.

Greywater- non-industrial wastewater generated from domestic sinks, showers, kitchens, washers, etc. Greywater comprises 50-80% of residential wastewater. If treated properly, greywater can be stored and used for irrigation or can be reused inside the home for non-potable uses.

Healthy Housing-a comprehensive set of measures designed to reduce environmental hazards within homes. Potential hazards addressed as part of a Healthy Housing initiative include lead, asbestos, radon, mold and chemical toxins.

Heat Island Effect- a phenomenon that occurs in developed areas where the replacement of natural land cover with paving, buildings, roads, and parking lots, results in an increase in outdoor temperatures. The heat island effect can be mitigated by vegetation, green roofs and light colored materials that reflect heat. Urban heat islands can be as much as 10°F hotter than surrounding undeveloped areas.

Household Hazardous Waste- hazardous products used and disposed of by residential consumers. Includes paints, stains, varnishes, solvents, pesticides, and other materials or products containing volatile chemicals that can catch fire, react or explode, or that are corrosive or toxic. In addition, household hazardous waste encompasses computers and other electronic equipment that may contain high amounts of toxic materials, such as lead or mercury. The District, through the Department of Public Works, has a [program](#) for accepting household hazardous waste.

Hybrid Vehicle- a vehicle that uses two or more distinct power sources to propel the vehicle, such as an internal combustion engine and an electric battery powered motor.

Impervious Surface- surface that cannot be penetrated by precipitation, which can lead to excessive stormwater runoff and limit the amount of stormwater that remains on site or recharges local aquifers. Common impervious surfaces include roadways, rooftops and parking lots.

Incandescent Light Bulbs- a light source that generates light through a thin filament wire (usually of tungsten) heated to white heat by an electric current passing through it. Incandescent bulbs are not energy efficient, losing 98% of their energy as heat.

Indoor Air Quality (IAQ) – A component of environmental health issues. Indoor pollution sources that release gases or particles into the air are the primary cause of indoor air quality problems in homes. Inadequate ventilation can increase indoor pollutant levels by not bringing in enough outdoor air to dilute emissions from indoor sources and by not carrying indoor air pollutants out of the home. High temperature and humidity levels can also increase concentrations of some pollutants.

Invasive Species- a species that does not naturally occur in a specific area and whose introduction does or is likely to cause harm to the economy, environment or human health.

Kyoto Protocol- an agreement signed at the United Nations Framework Convention on Climate Change. The Convention was held in December 1997 in Kyoto, Japan and was attended by delegates from 160 countries. A legally binding agreement, industrialized nations agreed to reduce their greenhouse gas emissions by an average of 5.2 percent below 1990 emissions levels by 2010. The U.S. has not signed the Kyoto Protocol.

Light Emitting Diode (LED)- a type of bulb that uses less energy and has a longer life span than both incandescent and compact fluorescent light bulbs. LEDs are more expensive, less bright and are limited to emitting only a direct field of light.

LEED- a green building rating system developed by the U.S. Green Building Council. LEED™ stands for Leadership in Energy and Environmental Design, and evaluates a building from a systems perspective. By achieving points in different areas of environmental performance, based on self-assessment, a building achieves a level of "certification" under the system.

Low-Impact Development (LID) - a land planning and engineering design approach that focuses on minimizing the adverse impacts of development on water quality. This approach is implemented by replicating the pre-development state of watersheds through infiltrating, filtering, storing, evaporating, and detaining stormwater runoff close to its source.

Mayor's Climate Protection Agreement- an agreement signed by over 500 U.S. mayors to reduce their cities' carbon emissions by the levels outlined in the Kyoto Protocol. In addition, the agreement calls upon state and federal officials to enact similar carbon reduction commitments. Mayor Fenty signed this agreement in January, 2007.

Non-point Source Pollution- pollution caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and underground sources of drinking water.

Off-gassing- release of volatile chemicals from a product or assembly. Many chemicals released from materials impact indoor air quality and occupant health and comfort. Off-gassing can be reduced by specifying materials that are low- or no-VOC and by avoiding certain chemicals entirely. Controlling indoor moisture and specifying pre-finished materials can also reduce off-gas potential.

Organic - in the United States, organic food is produced according to legally regulated standards. For crops, organic means they were grown without the use of conventional pesticides, artificial fertilizers or sewage sludge, and that they were processed without ionizing radiation or food additives. For animals, it means they were reared without the routine use of antibiotics and without the use of growth hormones. At all levels, organic food is produced without the use of genetically modified organisms



Photovoltaic Cells (PV) - device that converts sunlight directly into electricity. Photovoltaic cells are silicon-based semiconductors and are often referred to as solar cells. PV cells were developed in the mid-1950's and have become cost effective where it is difficult to extend conventional power lines.

Point Source Pollution- pollution that originates from specific, known sources such as municipal and industrial facilities, bypasses and overflows from municipal sewage systems, non-permitted and illegal dischargers, and water that is generated through oil and gas operations.

Post-Consumer Waste- materials that have already been used and returned through a recycling program and are then reclaimed for use in another product.

Potable Water- water that is suitable and safe to drink. Non-potable water is unsafe for drinking.

Pre-Consumer Waste- materials generated in manufacturing and converting processes, such as manufacturing scraps, that are used to produce recycled products.

Rain Garden- landscaping features adapted to absorb and provide on-site treatment of stormwater runoff from impervious surfaces. Rain gardens reduce runoff flow, water pollution, erosion, flooding and groundwater contamination.



Rain garden installed on Capitol Hill.

Recycling- the collection and reprocessing of materials into new products as a way to reduce resource use and the amount of waste that enters landfills.

Renewable Energy Sources- energy sources that replenish themselves naturally within a short period of time and generally have a minimal impact on the natural environment. Sources of renewable energy include solar energy, hydroelectric power, geothermal energy, wind power, ocean thermal energy, wave power, wind power and fuel wood.

Solar Power- the conversion of the sun's radiation to generate heat, electricity and even provide energy for cooling systems. **Passive Solar** uses natural heat transfer processes to collect, distribute, and store useable heat without the help of mechanical devices. **Active Solar** uses mechanical devices such as pumps and fans to move heat between collectors, storage, and use. Solar panels that collect solar energy and convert it to electricity are considered an active solar design. (See Photovoltaic cells)

Stormwater Runoff- precipitation from rain or snowmelt that flows over impervious surfaces such as parking lots, rooftops, and street instead of naturally soaking into the ground. Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water.

Stormwater Management- mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of land use changes on watersheds.

Sustainability-According to the U.S. Environmental Protection Agency, sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Volatile Organic Compounds (VOC) - organic compounds that evaporate at room temperatures and are often hazardous to human health, causing poor indoor air quality. Many materials commonly used in building construction, such as carpets, furniture and paints, emit VOC's.