

## **Green Building Terminology**

*Provided by the Florida Green Building Coalition*

### **Alternative Energy**

All energy sources and technologies that minimize environmental impact, generally other than fossil or nuclear fuel.

### **Bioretention**

Is the process in which contaminants and sedimentation are removed from stormwater runoff. Stormwater is collected into the treatment area which consists of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants. Runoff passes first over or through a sand bed, which slows the runoff's velocity, distributes it evenly along the length of the ponding area, which consists of a surface organic layer and/or groundcover and the underlying planting soil. The ponding area is graded, its center depressed.

### **Bio Swales**

Are landscape elements designed to remove silt and pollution from surface runoff water. They consist of a low tract moist drainage course with gently sloped sides (less than six percent) and filled with vegetation, compost and/or rock. The water's flow path, along with the wide and shallow ditch, is designed to maximize the time water spends in the swale, which aids the trapping of pollutants and silt.

### **Borate-treated Wood**

Treatment of wood with borates to make it resistant to termites and moisture. Borate is a mineral product derived from borax and is benign compared with most other wood treatments

### **Building Envelops**

The outer shell, or the elements of a building, such as walls, floors, and ceilings, that enclose conditioned space.

### **Chlorofluorocarbons (CFCs)**

Any of a group of compounds that contain carbon, chlorine, fluorine, and sometimes hydrogen and have been used as refrigerants, cleaning solvents, aerosol propellants, and in the manufacture of plastic foams. CFCs have been linked to the destruction of the ozone layer and their use is being phased out because they destroy the planet's stratospheric ozone protection layer.

### **Cistern**

A tank to hold a supply of water, typically rainwater. May be above or below ground. A rain barrel is a smaller version of a cistern.

### **CRI– The Carpet and Rug Institute, Seal of Approval**

The seal identifies effective carpet cleaning solutions and equipment that clean carpet right the first time.

<http://www.carpet-rug.org/commercial-customers/cleaning-and-maintenance/seal-of-approval-products/index.cfm>

### **Daylighting**

Is the practice of placing windows or other openings and reflective surfaces so that during the day natural light provides effective internal lighting. Particular attention is given to daylighting while designing a building when the aim is to maximize visual comfort or to reduce energy use.

### EEM (Energy Efficient Mortgage)

Specifically, a home mortgage for which the borrower’s qualifying debt-to-income and housing expense-to-income ratios have been increased ("stretched") by 2% because the home meets or exceeds CABO’s 1992 version of the Model Energy Code (MEC). This so-called "stretch" mortgage is nationally underwritten by Fannie Mae, Freddie Mac and the Federal Housing Administration (FHA). This term is often used generically to refer to any home mortgage for which the underwriting guidelines have been relaxed specifically for energy efficiency features, or for which any form of financing incentive is given for energy efficiency.

### EER (Energy Efficiency Ratio)

EER is an abbreviation for Energy Efficiency Rating. The Air-Conditioning and Refrigeration Institute standardized this rating, which reports central air conditioning efficiency once it is up and running.

The SEER (Seasonal EER) rating is available for residential central air conditioners, and is generally considered a more reliable indicator of the overall energy efficiency of the unit than the EER.

### EF (Energy Factor)

A standardized measurement of the annual energy efficiency of water heating systems. It is the annual hot water energy delivered to a standard hot water load divided by the total annual purchased hot water energy input in consistent units. The resultant EF value is a percentage. EF is determined by a standardized U.S. Department of Energy (DOE) procedure.

### EnergyGuide Label

The EnergyGuide label is important for showing the estimated yearly operating cost and electricity usage, as well as showing if the appliance is ENERGY STAR® certified. EnergyGuide requires that the appliances meet the Appliance Standards Program set by the US Department of Energy (DOE). The label is on all clothes washers, dishwashers, refrigerators, freezers, water heaters, window air conditioners, central air conditioners, furnaces, boilers, heat pumps, and pool heaters.

<http://www.ftc.gov/bcp/edu/pubs/consumer/homes/rea14.shtm>



### Energy Recovery Ventilator (ERV)

An energy recovery ventilator (ERV) is an air to air heat exchanger or preconditioner, designed to reduce the energy required to heat or cool required outdoor air in mechanical ventilation systems by as much as 80%. These products exchange temperature and moisture properties from one airstream to another. The result is capturing the cooling or heating energy from the exhaust air before it leaves the building.

### Energy Star

The ENERGY STAR® label certifies that a product meets energy efficiency requirements. ENERGY STAR® is backed by the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE). Products labeled with the ENERGY STAR® label use less energy and water than other products, save money on utility bills, and help protect the environment. Although energy-efficient models sometimes cost more to purchase initially, any extra up-front cost can often be made up with savings on your utility bill.

<http://www.energystar.gov/>

[http://www.energystar.gov/index.cfm?c=products.pr\\_how\\_earn](http://www.energystar.gov/index.cfm?c=products.pr_how_earn)

**Engineered Wood**

Reconstituted wood products that result in strength appropriate for a given use and consistent quality with less material. Engineered wood products are more resource efficient and thus reduce the impact on our timber resources.

**Fenestration (Windows)**

Architectural term for windows and their placement. The National Fenestration Rating Council (NFRC) administers the only uniform, independent rating and labeling system for the energy performance of windows, doors, skylights, and attachment products. When purchasing windows, always compare the NFRC rating labels for efficiency of the product. <http://nfdc.org/label.aspx>

	World's Best Window Co. Millennium 2000 <sup>+</sup> Vinyl Clad Wood Frame Double Glazing - Argon Fill - Low E Product Type: Vertical Slider	
<b>ENERGY PERFORMANCE RATINGS</b>		
U-Factor (U.S./F-P)	Solar Heat Gain Coefficient	
<b>0.35</b>	<b>0.32</b>	
<b>ADDITIONAL PERFORMANCE RATINGS</b>		
Visible Transmittance	Air Leakage (U.S./F-P)	
<b>0.51</b>	<b>0.2</b>	
Condensation Resistance		
<b>51</b>	<b>—</b>	
<small>Manufacture stipulates that these ratings conform to applicable NFRC standards for determining window product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product size. NFRC does not recommend any product and does not warrant the suitability of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>		

**Florida-Friendly Landscaping**

Florida-Friendly Landscaping™ ( FFL ) means using low-maintenance plants and environmentally sustainable practices. It has nine principles: Right plant, right place; Water efficiently; Fertilize appropriately; Mulch; Attract wildlife; manage yard pests responsibly; Recycle; Reduce stormwater runoff; Protect waterfronts from pollution. <http://fyn.ifas.ufl.edu/>

**FloorScore® Seal**

This seal tells you that the products have been independently certified by SCS to comply with the volatile organic compound emissions criteria of the California Section 01350 standard. Any product that has met these stringent standards is a product that will contribute to good indoor air quality. FloorScore® was developed by the Resilient Floor Covering Institute (RFCI) Flooring. [http://www.rfci.com/index.php?option=com\\_content&view=article&id=80&Itemid=79](http://www.rfci.com/index.php?option=com_content&view=article&id=80&Itemid=79)

**Florida Water Star<sup>SM</sup>**

Florida Water Star<sup>SM</sup> is a water conservation certification program for new and existing homes and commercial developments. Standards and guidelines for water efficiency are included for indoor fixtures and appliances, landscape design, and irrigation systems. <http://www.sjrwmd.com/floridawaterstar/>

**Formaldehyde**

A colorless, pungent-smelling material used as an adhering component of glues in many wood products, such as kitchen cabinets. It may cause respiratory problems, chemical sensitivity, and other health problems.

**Geothermal**

Geothermal (also known as GeoExchange) heat pump systems are really solar energy at its best. The sun keeps the soil below the frost level (4-6 feet deep) around 65 degrees Fahrenheit year-round in the Southeast. A system of loops are installed underground with minimal land disruption. Liquid circulates through the loops, absorbing the ground temperature, and passes through a geothermal heat pump that transfers the liquid temperature to the air. Because the system's fluid is already at 65 degrees, only a small amount of electricity is necessary to warm or cool indoor air a few more degrees to the desired temperature. A distribution system circulates the heated or cooled air. Geothermal heating and cooling systems heat and cool air and water without carbon monoxide and greenhouse gas emission risks associated with fossil fuel heating.

**Graywater**

Water that has been used for showering, clothes washing, and faucet uses. Kitchen sink and toilet water is excluded. This water can be reused in subsurface irrigation for yards. (Often spelled greywater)

### **Green Building**

Green building, also known as high-performance building or sustainable construction, is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. The components of green building include: Energy efficiency and renewable energy; water efficiency; environmentally preferable building materials and specifications; waste reduction; toxics reduction; improved indoor air quality; sustainable development.

### **Green Roof**

Is a roof of a building that is partially or completely covered with vegetation, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.

### **GREENGUARD Indoor Air Quality Certified® Mark**

The mark certifies that the product meets strict chemical emissions limits. GREENGUARD Indoor Air Quality Certification is backed by a third-party organization and applies to building materials, finishes, interior furnishings, furniture, cleaning products, and electronic equipment.

<http://www.greenguard.org/en/index.aspx>

### **Greenhouse Gas Emissions (GHG)**

Gases that trap heat in the atmosphere are often called greenhouse gases.

The primary greenhouse gases in the Earth's atmosphere are carbon dioxide, methane, nitrous oxide, ozone, and fluorinated carbons.

### **Green Infrastructure**

Generally refers to systems and practices that use or mimic natural processes to infiltrate, evapotranspire (the return of water to the atmosphere either through evaporation or by plants), or reuse stormwater or runoff on the site where it is generated. Green infrastructure can be used at a wide range of landscape scales in place of, or in addition to, more traditional stormwater control elements to support the principles of LID.

### **Green Label and Green Label Plus**

Certifies that carpet, carpet backings, cushions, and adhesives have low-VOC (volatile organic compound) emissions.

[www.carpet-rug.org/residential-customers/selecting-the-right-carpet-or-rug/green-label.cfm](http://www.carpet-rug.org/residential-customers/selecting-the-right-carpet-or-rug/green-label.cfm)

### **Green Seal**

The seal certifies that the products, services, and companies meet the criteria for life cycle-based sustainability standards.

<http://www.greenseal.org/FindGreenSealProductsAndServices.aspx>

### **Greenwashing**

Greenwashing describes the practice of deceptively marketing products as green when they are not. Some companies seek to capitalize on the trend towards being green, but they actually spend more money on their advertising budgets than they do creating products in an eco-friendly manner. The Federal Trade Commission publishes guidelines governing companies' claims on green products.

### **Hardscape**

Is the paved areas like streets and sidewalks, large business complexes and housing developments, and other industrial areas.

## HVAC

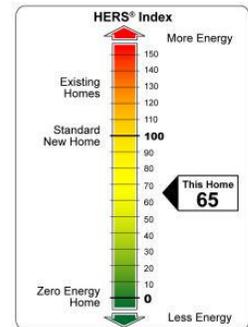
Heating, ventilation and air conditioning (cooling) system

## Heat Island/ Heat Island Effect

As urban areas develop, changes occur in their landscape. Asphalt and concrete in roads, buildings, and other structures absorb solar heat, causing surface temperatures and overall ambient temperatures to rise. These changes cause urban regions to become warmer than their rural surroundings, forming an "island" of higher temperatures in the landscape. Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality.

## HERS

The HERS Index or HERS rating is a scoring system for the energy efficiency of a home. The lower a home's score, the more energy efficient it is in comparison to the HERS Reference Home. Each 1-point decrease in the HERS Index corresponds to a 1% reduction in energy consumption compared to the HERS Reference Home. Thus a home with a HERS Index of 85 is 15% more energy efficient than the HERS Reference Home and a home with a HERS Index of 80 is 20% more energy efficient. A home that scores "0" (zero) produces all its own energy and is referred to as a "Net Zero" home. A home energy rating can qualify a home owner or home buyer for an energy efficient mortgage (EEM) or an energy improvement mortgage (EIM).



## Impervious Paver

A paver system that does not allow water to pass through it to the soil below. Many jurisdictions have restrictions on the amount of impervious cover allowed on a building site, in order to reduce stormwater runoff and resulting non-point source pollution. The green alternative is "pervious paver" which allows water to pass through it.

## Indoor Air Quality (IAQ)

Indoor Air Quality (IAQ) is a term referring to the air quality within and around buildings and structures, especially as it relates to the health and comfort of building occupants. IAQ seeks to reduce volatile organic compounds, or VOCs, and other air impurities such as microbial contaminants. Buildings rely on a properly designed ventilation system (passively/naturally- or mechanically-powered) to provide adequate ventilation of cleaner air from outdoors or recirculated, filtered air. VOCs are emitted by a wide array of products, such as paints, adhesives (for cabinets, furniture, wood flooring), carpeting, and some building materials.

## Infill Development

infill development involves building and developing in vacant areas in city centers or urban settings. This promotes the betterment of these city centers and leaves rural areas and open spaces undeveloped. Advocates state that infill development can reduce traffic congestion, save open space, and create more livable communities.

## Integrated Design

A holistic process that considers the many disparate parts of a building project, and examines the interaction between design, construction, and operations, to optimize the energy and environmental performance of the project. The strength of this process is that all relevant issues are considered simultaneously in order to "solve for pattern" or solve many problems with one solution. The goal of integrated design is developments that have

the potential to heal damaged environments and become net producers of energy, healthy food, clean water and air, and healthy human and biological communities.

### **Life-Cycle**

The consecutive, interlinked stages of a product, beginning with raw materials acquisition and manufacture and continuing with its fabrication, manufacture, construction and use, and concluding with a variety of recovery, recycling, or waste management options.

### **Life Cycle Assessment**

A process to evaluate all costs of a product or process through its entire existence, including extracting and processing of raw materials, manufacturing, transportation, distribution, use, maintenance, recycling, reuse, and disposal.

### **Low-Emissivity Windows**

Glazing that has special coatings to permit most of the sun's light radiation to enter the building, but prevents heat radiation from passing through.

### **Low Impact Development (LID)**

LID is a site design strategy with a goal of maintaining or replicating the predevelopment hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic landscape. Hydrologic functions of storage, infiltration, and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale stormwater retention and detention areas, reduction of impervious surfaces, and the lengthening of flow paths and runoff time

### **LRV - Light Reflectance Value**

LRV runs on a scale of 0 to 100, with 0 being pure black, and 100 pure white. The measurement indicates how much light and heat a color reflects, or conversely, absorbs. Dark colors absorb more heat from sunlight; in contrast, light-colored surfaces have been shown to reduce cooling costs.

The more the exterior color reflects, the more economical it will be to cool your home.

### **Manual J**

The Air Conditioning Contractors Association (ACCA) Manual J Calculation is performed to size heating and cooling systems. The calculation determines the heating load for a residence or small commercial building. The calculation includes site-specific characteristics such as regional weather data, building framing materials, building insulation levels, building air infiltration levels and window area.

### **MaP – Maximum Performance**

Toilets are tested and receive MaP ratings from 250 to 1,000, with a higher rating indicating a stronger flushing power. WaterSense® toilets are required to have a MaP rating of at least 350. <http://www.map-testing.com/>

### **MERV (Filters)**

MERV, or Minimum Efficiency Reporting Value, is a number from 1 to 16 that is relative to an air filter's efficiency. The higher the MERV, the more efficient the air filter is at removing particles. At the lower end of the efficiency spectrum a fiberglass panel filter may have a MERV of 4 or 5. At the higher end, a MERV 14 filter is typically the filter of choice for critical areas of a hospital (to prevent transfer of bacteria and infectious diseases). Higher MERV filters are also capable of removing higher quantities of extremely small contaminant (particles as small as 1/300 the diameter of a human hair). A higher MERV creates more resistance to airflow because the filter media becomes denser as efficiency increases. For the cleanest air, a user should select the highest MERV filter that their unit is capable of forcing air through based on the limit of the unit's fan power.

### **Off-gassing**

Offgassing refers to the release of chemicals from various substances under normal conditions of temperature and pressure. You can probably think of a few examples of offgassing. For example, when an area is painted, varnished, or stained, a strange scent often lingers for a few days. This is offgassing, and the strange scent is caused by volatile organic compounds (VOCs), some of which are potentially hazardous. Many plastics also offgas. Inhaling these chemicals or absorbing them through the skin and mucus membranes can be very harmful. Offgassing can continue for years after the products are installed, which means you continue to breathe these chemicals as you work, sleep and relax in your home or office.

### **Passive Design**

Passive house design responds to local climate and site conditions to minimize energy use. It achieves this by using free, renewable sources of energy such as sun and wind to provide household heating, cooling, ventilation and lighting, thereby reducing the need for mechanical heating or cooling. Using passive design can reduce temperature fluctuations, improve indoor air quality and make a home drier and more enjoyable to live in. The key elements of passive design are: building location and orientation on the site; building layout; window design; insulation (including window insulation); thermal mass; shading; and ventilation. Each of these elements works with others to achieve comfortable temperatures and good indoor air quality.

### **Photovoltaic (PV) System**

A photovoltaic system (or PV system) is a system which uses one or more solar panels to convert sunlight into electricity. It consists of multiple components, including the photovoltaic modules, mechanical and electrical connections and mountings and means of regulating or modifying the electrical output.

### **R-Value**

Measures conductivity and resistance to heat loss. R-value is used for floors, walls, and roofs. The average R-value is between 3 and 3.5 per inch thickness of installed insulation. Increasing insulation (R-value) reduces the amount of heat gain from the outside and the amount of conditioned air that escapes from the house.

### **Radon**

Radon is an invisible, radioactive atomic gas that results from the decay of radium, which may be found in rock formations beneath buildings or in certain building materials themselves. Radon is probably the most pervasive serious hazard for indoor air in the United States. Radon mitigation is an important aspect of green building.

### **Rainwater Harvesting**

With an average rainfall of 54 inches/year in the state of Florida (compared to the national average of 27 inches/year), harvested rainwater is an excellent source of water for landscape irrigation. Rain barrels and cisterns are used for collecting rainfall from roofs

### **Renewable Energy**

Renewable energy technologies produce sustainable, clean energy from sources such as solar, wind, water, biomass, geothermal, and hydrogen.

### **SEER Rating**

SEER (Seasonal Energy Efficiency Rating) is the rating and performance standard that has been developed by the U.S. government and equipment manufacturer's to produce an energy consumption rating that is easy to understand by consumers. It has a universal formula and conditioning that can be applied to all units and compensates for varying weather conditions. The higher the SEER rating, the more efficient the product.

### **SHGC - Solar Heat Gain Coefficient**

Measures how well a product blocks heat caused by sunlight. Windows are rated from 0 to 1, with a lower SHGC score indicating less solar heat transmission.

### **Sustainable Community**

A sustainable community reflects the interdependence of economic, environmental, and social issues by growing and prospering without diminishing the land, water, air, natural and cultural resources on which communities depend. Housing, transportation and resource conservation are managed in ways that protect economic, ecological and scenic values.

### **U-Factor/U-Value**

Measures how well a product prevents heat from escaping. U-factor measures rate of heat transfer and is the inverse of the R-value. Windows are generally rated within 0.20 and 1.20, with a lower U-factor indicating greater resistance to heat flow and better insulation.

<http://www.nfrc.org/label.aspx>

[http://www.energystar.gov/index.cfm?c=windows\\_doors.pr\\_anat\\_window](http://www.energystar.gov/index.cfm?c=windows_doors.pr_anat_window)

### **Volatile Organic Compounds (VOCs)**

VOCs are emitted by a wide array of products numbering in the thousands and contribute to poor indoor air quality, resulting in health problems. Examples of VOCs include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions.

<http://www.epa.gov/iaq/voc.html>

### **WaterSense® label**

The label certifies that products meet EPA criteria for water efficiency and performance by following testing and certification protocols specific to each product. Generally, WaterSense® labeled products are about 20 percent more water-efficient.

[http://www.epa.gov/WaterSense/about\\_us/product\\_certification\\_labeling.html](http://www.epa.gov/WaterSense/about_us/product_certification_labeling.html)

### **WF – Water Factor**

Measures the efficiency of a clothes washer based on the total weighted per-cycle water consumption divided by the capacity of the washer. The lower the WF, the more efficient the clothes washer is. ENERGY STAR® certified clothes washers include the WF in the product information.

[http://www.energystar.gov/index.cfm?c=clotheswash.pr\\_crit\\_clothes\\_washers](http://www.energystar.gov/index.cfm?c=clotheswash.pr_crit_clothes_washers)

### **Whole-House Systems Approach**

A whole-house systems approach considers the interaction between you, your building site, your climate, and these other elements or components of your home: Insulation and air sealing; lighting and daylighting; heating and cooling system; water heating; windows, doors, and skylights; appliances and home electronics. The impact of whole-house systems approach can be explain in this example: Ensuring that the building envelope of your home is air-tight, along with the use of efficient windows and increased insulation will reduce the size (tonnage) of the HVAC system needed. If you oversize your HVAC system, it could result in a damp, uncomfortable indoor atmosphere plus mold and moisture problems.