# Green Energy[1]

***The scope of this piece is limited to design and construction.***

### What is Green Energy?

"Green" energy, also known as "green power," is the practice of using energy-efficient methods that are environmentally friendly and often result in cost savings. Renewable energy includes power sources such as wind, solar, geothermal, hydroelectric, and biomass energy. These energy sources are the most abundant alternatives to non-renewable resources such as oil, coal, natural gas, and nuclear power. Non-renewable resources currently provide 98 percent of power consumption in the United States. These resources are proven to have a negative impact on the earth's environment and will continue to become more expensive as the finite supplies diminish.

### What Is Energy Conservation?

While the mass use of "green" energy is seen as the most viable source of power for a sustained environment, energy efficiency and conservation can greatly reduce the demand and need for power of any kind. By selecting efficient, energy-saving products, such as low energy-consuming appliances and lights and higher SEER (seasonal energy efficiency rating) air conditioning units, homeowners and businesses can qualify for incentive programs offered by local, state, and federal governments. Further, consumers can conserve energy through better management of energy use with strategies such as turning up temperature settings on thermostats or turning off lights and fans when not in a room.

### "Green" Myths – Impact on the Economy

There are many myths about "green" energy that steer the public away from using "greener" options. A common misconception is that "green" energy methods, such as solar power, will soak up subsidies and have a negative effect on the job market (loss of jobs, etc.). This is not accurate. Germany has proven that investing in solar energy can strengthen the job market by as much as 35,000-40,000 new jobs. Energy research also reveals that the United States is in danger of falling behind internationally in comparison to countries such as Spain, which has established 25-year production incentives designed to spur a competitive solar industry.

### Options

One of the most cost-effective types of "green" energy supply in Florida is solar hot water. Systems that absorb the sun's energy to heat water can deliver 70 percent of that energy to offset conventionally fueled hot water. These systems are supported by conventional fuel sources in the event of many consecutive days without sunshine. Large water users such as hotels, motels, restaurants, dormitories, and prisons should consider using solar water heaters. Residences that have good exposure to the sun, particularly those that have three or more residents, should consider solar water heating. Anyone heating a pool should consider supplying that heat with solar collectors.

Another source of "green" energy are solar electric systems known as photovoltaics. A photovoltaic system converts the sun's energy to electricity and reduces the amount of energy purchased from a utility entity. Floridians with systems up to 2 megawatts that produce more electricity than they use will receive the retail price of electricity back from the utility – up to the amount of energy used for that year. Solar electric systems have high initial costs, but some of the cost may be offset by state rebates or federal tax credits. Some utilities allow customers to purchase "green" energy. Consumers should check with their utility provider to learn about

these programs and what the utility considers "green." Some utilities may develop local "green" energy from the sun; others may be purchasing electricity generated by wind from a thousand or more miles away. Owners of "green" energy systems can obtain Renewable Energy Certificates (RECs) that are also known as "tradable renewable certificates," "renewable energy credits," "green energy certificates," or "green tags." Companies that want to offset environmental impact from manufacturing, production, or other activities purchase these certificates.

### Energy Cost Reduction Steps

Promoting green energy and conservation starts at the point of design or planning for the construction or renovation of the residence or commercial structure and should be a collaborative effort between the owner, building designer, contractor, and local building department. Given the cost and environmental benefits of incorporating renewable energy sources and saving components, property owners will likely choose to invest in "going green."

Incorporating "green" energy and energy conservation products and procedures such as a solar water heater, high efficiency SEER air-conditioning system, light colored exterior surfaces (such as roofs and walls), and low energy-use appliances and lighting can save the building owner money immediately through government incentive programs and over the long-term through lower energy consumption costs.

**NOTE**: The 2008 Florida Legislature passed House Bill 7135, chapter 2008-227, Laws of Florida, relating to energy, that, among other things:

-- Transfers powers and duties to a newly created Florida Energy and Climate Commission in the Executive Office of the Governor

-- Requires the Florida Department of Management Services to develop the Florida Climate-Friendly Preferred Products List

New information, including websites and other contacts, should be made available through www.flclimatechange.us

### Resources - Government Agencies/Offices:

**Energy Star™**, 1-888-782-7937,
http://www.energystar.gov/

**Florida Department of Community Affairs**, Florida Building Commission, 1-850-487-1824
www.floridabuilding.org
http://www.myfloridagreenbuilding.info/index.htm

**Florida Department of Environmental Protection**, Florida Energy Office, 1-850-245-8002
http://www.dep.state.fl.us/mainpage/programs/energy.htm

**Florida Governor's Energy and Climate Team**
1-850-488-4441, www.flclimatechange.us

**Gainesville Regional Utilities**, 1-800-818-3436
www.energydepot.com/GRUres/appcalc/pg1.asp?ID=0

**Lawrence Berkeley National Laboratory**, Home Energy Saver, 1-510-486-4000, http://hes.lbl.gov/

**Oak Ridge National Laboratory**, Building Technologies
1-865-574-4160, www.ornl.gov/sci/eere/tech_building.shtml

**U.S. Department of Energy**, Energy Efficiency and Renewable Energy, Solar Decathlon, 1-877-337-3463
http://www1.eere.energy.gov/femp/renewable_energy/renewable_purchasepower.html
www.solardecathlon.org

### Resources - Other:

**Database of State Incentives for Renewables and Efficiency (DSIRE)**, North Carolina Solar Center
1-919-515-5666, http://www.dsireusa.org

**Green-E**, Renewable Electricity Program
1-415-561-2100, http://www.green-e.org

**Florida Green Building Coalition**
1-850-894-3422, http://www.floridagreenbuilding.org/db/

**International Code Council**, International Energy Conservation Council, 1-888-422-7233 www.iccsafe.org

**Residential Energy Services Network**, The American Building Performance Rating System, 1-760-806-3448
www.natresnet.org/default.htm
www.natresnet.org/ratings/RESNET_Rater_Map.pdf

**Southface Energy Institute**, 1-404-872-3549
www.southface.org/solar/index.htm

**University of Central Florida,** Florida Solar Energy Center (FSEC), *How Home Design Contributes to Energy Efficiency,* 1-321-638-1000
http://www.fsec.ucf.edu/en/consumer/buildings/homes/designs/index.htm

**University of Florida**, Renewable Energy
1-352-392-1971, http://www.energy.ufl.edu/

**Washington Post**, Common Dreams – News Center
1-207-775-0488
http://www.commondreams.org/archive/2008/02/05/6855/

**Don't know where to go for an answer to a specific question?**
Contact: Building A Safer Florida, Inc. 1-850-222-2772 or www.buildingasaferflorida.org

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