FLORIDA - SAVING ENERGY, THE ENVIRONMENT, AND MONEY

Local Governments in Action: Some Best Practices To Address Global Warming

A Brief Statewide Survey to stimulate the sharing of experiences and tools and to facilitate the development of a Florida Global Warming Action Plan

Union of Concerned Scientists

Citizens and Scientists for Environmental Solutions

ACKNOWLEDGMENTS

The Natural Resources Defense Council (NRDC), the Union of Concerned Scientists (UCS), and the Florida Climate Alliance (FCA) would like to acknowledge all the people around Florida who so generously provided information for this report and who care deeply and work diligently for the benefit of our state. The author and producers of this publication express sincere gratitude and best wishes for their continued success.

ABOUT NRDC

The Natural Resources Defense Council is a national nonprofit environmental organization with more than 400,000 members. Since 1970, our lawyers, scientists, and other environmental specialists have been working to protect the world's natural resources and improve the quality of the human environment. NRDC has offices in New York City; Washington, D.C.; Los Angeles; and San Francisco.

ABOUT UCS

The Union of Concerned Scientists is a nonprofit partnership of scientists and citizens combining rigorous scientific analysis, innovative policy development, and effective citizen advocacy to achieve practical environmental solutions.

ABOUT FCA

The Florida Climate Alliance is a project of the Natural Resources Defense Council, created in 1999 to motivate political leadership for taking action to reduce global warming; to engage concerned citizens, businesses, and civic organizations; to provide education about global warming; and to advocate for common sense solutions. As a coalition of more than 40 state and national groups, the FCA has coordinated a statewide campaign calling for a Florida Global Warming Action Plan. The results: 13 counties and seven cities, representing well over half the state's population and 15 of the state's 23 Congressional districts, have passed resolutions in support of a plan. Three regional planning councils have adopted similar resolutions, and scores of businesses, civic organizations, and individuals have endorsed the idea. This publication is an effort by FCA to demonstrate that a plan-in-the-making already exists.

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This report was funded by the Natural Resources Defense Council and the Union of Concerned Scientists and was prepared by Joyce Chumbley, Ph.D., Climate Campaigner for the Florida Climate Alliance. For more information, see **HTTP://WWW.FLORIDACLIMATEALLIANCE.NET**.

INTRODUCTION

Feeling the Heat – Hotter temperatures in summer, fewer freezes in winter, drought, stronger storm surges, and more flooding. The climate change observed in Florida over the last few years can no longer be ignored, and the federal government and Florida's top scientists predict more disturbances for beaches, wildlife, ecosystems, and even human health in the coming decades and years. (1)

Florida's flat topography, extensive shoreline developments, and rapid population growth make it especially vulnerable to the effects of climate change. Florida's economy, which is based primarily on tourism and agriculture, requires a reliably healthy environment. A growing consensus among the world's leading climate scientists attributes these disturbing changes in the Earth's climate to heat-trapping (greenhouse) gases released into the atmosphere by human activities, mainly the burning of fossil fuels. (2)

While Florida's emissions contribute to the buildup of heat-trapping gases in the atmosphere, Florida can also choose to become a leader in finding and implementing solutions to global warming. Taking such a leadership role could pay huge dividends in the future for Florida's economy. Put simply, using less energy means spending less money. Today, necessity is already driving local governments to adopt responsible, energy-efficient technologies and practices that reduce greenhouse gas emissions and the resultant warming impacts. This brief survey provides some examples of how cities and counties in Florida are taking actions that are saving energy, the environment, and money.

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Local Government in Action – Cities and counties are major consumers of energy – for electricity and vehicle fuel. It only makes sense that they should invest in technologies that lower purchasing costs, maintenance costs, and energy bills. Also, they have the ability to influence the amount of energy used and waste generated locally, thereby potentially reducing the emissions of global warming pollution and improving the quality of life in their communities. Cities and counties have the authority to build global warming mitigation and adaptation strategies into their community planning process. Opportunities include: land use and development decisions; local permitting policies for houses and commercial buildings; landfill regulations; and public transit and traffic ordinances. Some public officials say that their communities are demanding these measures.

A number of communities in Florida are already implementing global warming solutions because such solutions make fiscal and environmental sense. Some have joined the Cities for Climate Protection Campaign sponsored by the International Council for Local Environmental Initiatives (ICLEI). (See Additional Information section.) Through this global network, communities receive funding and technical support while also exchanging experiences with other local officials on how to do well by doing good.

Purpose of this Survey – This sampling of best practices offers some success stories and provides information about local government initiatives in order to encourage more exchange, networking, and action. It does not, by any means, cover all the energy efficiency and conservation programs in Florida. It does, however, illustrate the widespread concern around the state about both global warming and rising energy costs, and that there are many ways of **saving energy, the environment, and money through local action.** (3)

NOTES:

(1) A group of experts from Florida's major universities and elsewhere have concluded that climate change poses a range of serious challenges to the state's environment, economy, and quality of life. Their findings have been collected in two peer-reviewed reports released recently through the **Florida Climate Alliance**. ***Feeling the Heat in Florida; Global Warming on the Local Level*** from the **Natural Resources Defense Council** offers an overview of the impacts on coastal ecosystems and the Everglades, on human health, and on the agriculture, tourism, and retirement industries. ***Confronting Climate Change in the Gulf Coast Region: Prospects for Sustaining Our Ecological Heritage*** from the **Union of Concerned Scientists** and the **Ecological Society of America** presents an assessment of the likely impacts of climate change on the entire Gulf Coast region. Supplemental materials from the Union of Concerned Scientists include a summary of findings for the state of Florida as well as fact sheets on fresh water resources and sea-level rise, and a high school curriculum guide. Links for the reports can be found at **http://www.floridaclimatealliance.net.** The reports may also be found on the websites of the sponsoring organizations: **Natural Resources Defense Council – http://www.nrdc.org, Union of Concerned Scientists – http://www.ucsusa.org, and Ecological Society of America – http://www.esa.org.**

… the most prevalent greenhouse gas in the state is carbon dioxide (CO_2), created by fossil fuel combustion in the utility and transportation sectors…

(2) **Greenhouse Gas (GHG) –** In the recently completed Florida Greenhouse Gas Inventory, it was reported that the most prevalent

greenhouse gas in the state has been carbon dioxide (CO_2), created by fossil fuel combustion in the utility (47+%) and transportation (42+%) sectors, accounting for nearly 91 percent of gross emissions during the period studied, 1990-1997. In 1997, the CO_2 emissions in Florida were 55.26 MMTCE (million metric tons of carbon equivalent) (Executive Summary-3). All of the greenhouse gas avoidance accomplished by the various programs described here should be measured against the TOTAL amount that is being generated consistently throughout the state.

(3) Where specific figures regarding cost savings, reduced energy use, and heat-trapping gases avoided are not supplied here, it is because the programs referred to are new and have not built a track record or because the information is not available. Data listed elsewhere in the report, however, should indicate sufficient trends and potential.

CHAPTER 1

SELECTED BEST PRACTICES

BUILDING AND SYSTEM RETROFITS

… retrofits pay for themselves in a short time and go on to save money.

By far, the most widespread practice to save money and reduce energy use is the retrofiting of existing buildings and systems with newer and more efficient technologies. Across the state, a growing number of cities and counties are making simple moves like upgrading their weatherization with improved insulation and duct sealing, and replacing their lighting systems with compact fluorescent bulbs and light emitting diodes. From decreased energy use and the savings realized in energy costs, those retrofits pay for themselves in a short time and go on to save money. Some small additions, such as lighting controls (occupancy/motion sensors and timers) and sunscreens, are being included as well. Large equipment retrofits, such as high-efficiency air conditioning systems, chiller plants and cooling towers, and heat recovery systems, are expected to take somewhat longer to pay for themselves but are considered to be cost-effective investments for the future.

County and City Building Retrofits

Several counties and cities across Florida have taken the lead in saving money and reducing emissions of the pollutants that cause global warming through the implementation of efficient energy technologies and practices.

Hillsborough County

The county's **Energy Management Program** is in the midst of a five-year action plan to improve energy efficiency in government facilities. Initiatives include participating in US EPA's Green Lights program and a Central Chilled Water Plant for the air conditioning of two major buildings. The Water Department's Administration building has received the Energy Star Mark of Excellence award for indoor air quality and thermal and lighting energy performance.

Savings planned throughout the five year program:

- **12,195,542 kilowatt hours (kWhs)**
- **8,754.4 tons of carbon dioxide (CO_2) emissions**
- **$951,451 in costs**

Savings completed:

- **2,281,166 kilowatt hours (kWhs)**
- **1,485.9 tons of carbon dioxide (CO_2) emissions**
- **$232,572 in costs**

Source:
http://www.hillsboroughcounty.org/realestate/energymgmt/energy_man.html

Contact: Randy Klindworth, Energy Manager, 813-276-8789

Alachua County

Alachua County's **Energy and Resource Use Reduction Plan** is based on comprehensive management – from auditing of county facilities and identification of their efficient energy needs, to the installation of the most efficient, low consumption, and cost effective products (for upgrades in lighting, heating and air conditioning, water conservation, and building envelope), to the communication with people who work in the buildings about the importance of the plan and how they can help to conserve energy. The first facilities being retrofitted are the Public Administration Building, the Fire Rescue Headquarters, and the Animal Control Shelter. The goal of Alachua's plan is to **reduce costs by 30% over five years.**

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Contact: Charlie Jackson, Facilities Manager, 352-374-5229

Miami-Dade County

A recent performance analysis of energy and water retrofit projects already completed throughout Miami-Dade County facilities shows **annualized savings of 6,000,000 kWhs and $340,000 per year.**

Contact: Doug Yoder, Assistant Director, Department of Environmental Resources Management, 305-372-6766

Jacksonville

Jacksonville's new **Energy Conservation Project**, in cooperation with the JEA utility, includes a citywide retrofit of public buildings. When the

project is completed, **savings to the city are estimated to be between $7 and $8 million.**

Contact: David McKee, JEA, 904-665-4336

School Retrofits

In addition to city and county buildings, school facilities are becoming preferred targets for energy savings and improvements.

A partnership agreement was made recently between **Rebuild America/Energy Smart Schools** (see Resource List) and **Orange County Public Schools** to conduct energy audits and make improvements to 169 schools and administrative facilities.

Savings estimated when project is completed:

- **$5 million annually**

Contact: Jon Adsit, Chief Facilities Officer, 407-317-3700, extension 5333
or Douglas Goddard, Senior General Engineer, 407-317-3700, extension 5453

A similar project is planned for **Brevard County Schools** for 80 facilities with a potential **savings of $1 million per year.**

Business and Government Partnership Retrofits

City and county governments are also assisting businesses in their communities to become more energy conscious and thus more cost efficient and more environmentally friendly.

In **Quincy** (Gadsden County), the city's Redevelopment Agency has entered into a partnership agreement with Rebuild America to weatherize and improve vacant, abandoned, and underutilized buildings in the Central Business District, Historic District, and on Main Street. The goal is to **reduce energy usage by 10-15%.**

In Miami-Dade County, the Climate Wise Program should save 1,347,714 metric tons of CO_2 emissions.

Contact: Deanna Ible, Redevelopment Manager, 850-875-7344

In **Miami-Dade County**, the Department of Environmental Resources Management (DERM) has completed an EPA Climate Wise Program (1995-2001) that helped to educate and create business partners. The same program promotes energy audits and the Energy Star (see Resource List) program for businesses.

Savings estimated to date from Climate Wise partners:

- **1,347,714 metric tons of CO_2 emissions**

Source: "Metro-Dade's CO_2 Reduction Plan, Progress Report 2001" (Draft)

Contact: Doug Yoder, DERM Assistant Director, 305-372-6766

PROCUREMENT POLICIES AND PRACTICES

Another way for local governments to save energy and associated costs is to "buy green" – from efficient Energy Star office equipment to recycled paper products. Because of their size, local governments, school districts, and businesses have significant market power and can take advantage of economies of scale.

Sarasota County

The Board of County Commissioners recently passed a resolution making a commitment to energy efficient building design and operations. Furthermore, county staff have been directed to develop policies, guidelines, and strategic actions for **Environmentally Preferred Procurement (EPP)** practices with application countywide.

Contact: Nina Powers, Public Works Department, 941-316-1747

BUILDING ENERGY CODE

The Florida Energy Efficiency Code for Building Construction establishes the minimum energy efficiency standards required by the state, and performance must be verified by a certified energy rater. Cities and counties must, of course, meet that uniform code in their own facilities; but they have the option to exceed those standards through more efficient technologies. Appliances and fixtures with the Energy Star certified label are believed to be 30% more efficient than the Florida Energy Code. Cities and counties can also provide incentives for residents, developers, and businesses to upgrade or to select more energy-efficient designs for new structures. Most importantly, local governments can serve as a model, educating the public about the cost savings and environmental benefits of energy efficiency and conservation.

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Monroe County

Because of the county's Rate of Growth Ordinance (ROGO – to allow for adequate hurricane evacuation), a highly restrictive **Residential**

Permitting System establishes criteria higher than the Florida Building Code. Energy efficiency measures help obtain permits, and those efficiency measures ultimately provide **cost savings** to residents.

Contact: Tiffany Stankiewicz, Planning Department, 305-289-2500

Alachua County/City of Gainesville

In an affordable housing project, Cedar Grove II, the **Energy Star Homes** set of criteria is being designed into the 60 homes to provide **low energy and maintenance costs.**

Contact: Judy Raymond, Housing Department, 352-334-5026

RENEWABLE ENERGY SOURCES

A fourth strategy for saving energy, saving money, and reducing CO_2 emissions is to increase the use of electricity generated from renewable energy sources.

There are some experimental energy-generating projects in Florida – such as, biomass (based on the combustion of dedicated agricultural crops), ocean thermal currents as a driver of generator turbines, and the micro hydro (small dam) sources. But the most prevalent use among all the renewables at present is solar (photovoltaic and thermal). As another option, some local governments are making plans to harvest gas from municipal solid waste in their landfills, and it is predicted that every landfill that has the potential to generate harvestable gas will be developed in the next five years.

Solar Power as a Renewable Energy Source

Over the course of the last several years, the cost of solar energy systems has dropped significantly. As a result, an increasing number and variety of institutions have been cutting their emissions of global warming pollution by installing solar systems. With its ample sunshine, few states have more potential for solar energy than Florida.

County Facilities

In recent years, Miami-Dade DERM has used solar lighting in parks as a way of conserving finances as well as energy. At Lago Mark Park, 52 photovoltaic (PV) light fixtures have been installed along the park's walkway.

Savings estimated:

- **13 tons of CO_2 emissions**

Contact: Doug Yoder, DERM Assistant Director, 305-372-6766

Educational Institutions

Solar PV systems have been installed on 17 school portables in **Lakeland** and on five schools in **Orange County.** The systems have also been installed at the University of North Florida, Jacksonville University, Florida Community College, and on 20 high schools in **Jacksonville**.

Municipal Utilities

In many cases, the use of cost-saving renewable energy sources has been led by municipal utilities (also known as "munis"), which are governed by elected city commissions or appointed or elected utility boards.

Under the auspices of Tallahassee Electric (a "muni"), a 10 kW photovoltaic system has been installed at the bathhouse of the **Trousdell Aquatics Center** in **Tallahassee**.

Contact: Gary Brinkworth, Tallahassee Electric, 850-891-8903

A 4 kW PV system has been installed at the **Coronado Beach Elementary School** in **New Smyrna Beach**. The second public facility recently "solarized" by New Smyrna Beach Utilities is a municipal golf course. Residential customers of the muni are also offered the option of rooftop PV systems with attractive financial incentives. A Solar Energy Leadership Committee has been created with the mission: "To Make New Smyrna Beach the Solar Leader in the Sunshine State."

Contact: Gregg Goldsworthy, New Smyrna Beach Utilities Commission, 386-427-1361

Programs for residential solar-powered water heaters are being operated by two munis - in **Polk County** and in **Alachua County.** Solar technology not only **saves customers money on their energy bills, but it also reduces carbon dioxide emissions**. According to the EPA, a 30 gallon solar water heater "avoids" 3,089 pounds of CO_2 annually, or the equivalent of driving approximately 3,861 miles in an average passenger car. (See page 17 in this report for EPA Clean Energy calculations referral.)

Contact: Jeff Curry, Lakeland Electric, 863-834-6853
Steve Stagliano, Gainesville Regional Utilities, 352-334-3400

This technology not only saves customers money on their energy bills, but it also reduces carbon dioxide emissions. According to the EPA, a 30 gallon solar water heater "avoids" 3,089 pounds of CO_2 annually, or the equivalent of driving approximately 3,861 miles in an average passenger car.

Landfill Gas as a Renewable Energy Source

Methane produced in landfills can be used in some cases as a renewable energy source. **Miami-Dade County** and **Alachua County** are two examples of proposed recovery programs, which generate electricity from methane gas produced by landfills.

Savings estimated in Miami-Dade:

- **177,000 tons of CO2 emissions over the life of the landfill**

Contact: Doug Yoder, Miami-Dade DERM Assistant Director, 305-372-6766

Contact: Mark Spiller, Gainesville Regional Utilities, 352-334-3444, extension 1293

TRANSPORTATION

Smart transportation management can reduce heat-trapping gas emissions from motor vehicles while simultaneously supporting other co-benefits. These benefits include reducing air pollution and ground-level ozone formation, thus minimizing public health risks, especially for Florida's older population. Smart transportation management can also relieve traffic congestion, improve local communities' image and quality of life, and help protect natural areas from urban sprawl. These benefits can be achieved through improved planning and zoning, incentives for increased public transportation, and more fuel-efficient vehicle transport.

Miami-Dade County

"Electric Wave" Shuttle is a system composed of 11 electric powered shuttles with seating on each for 22 passengers. The system serves the South Beach area of Miami Beach. It alleviates parking problems, supports a park-and-ride program, and makes links with other transportation services.

Savings in two years, transporting 2.5 million passengers:

- **3,717,273 Vehicle Miles Traveled (VMT)**
- **1,835 tons of CO_2 emissions**

Contact: Doug Yoder, DERM, 305-372-6766

Broward County

In 1989, the Energy Management Section (EMS) introduced cleaner fuels into the county's fleet of vehicles. Through an **Alternative Fuel Vehicle**

(AFV) Program, EMS has converted existing vehicles to alternative fuels, purchased new alternative fuel vehicles, and established a fueling and charging infrastructure. The use of alternative fuel sources has produced cost savings, reduced dependency on fossil fuels, and improved air quality from lower mobile emissions. In addition, EMS has reached out to county agencies as well as the community with programs that educate and train individuals on the beneficial aspect of these new technologies. Broward vehicles have logged two million miles using alternative fuels. Currently, there are more than 236 vehicles in the fleet using alternative fuels, and these vehicles are refueling/recharging at 38 different sites throughout the county.

Savings in 2001:

- **82 tons of greenhouse gas emissions**

Contact: Anthony Rosa, Energy Manager, 954-357-6505

LEDs for Traffic Signals

Many cities and counties are replacing incandescent lights in traffic signals with LEDs (light emitting diodes) because LEDs consume less energy and last much longer. Considered a key part of retrofit and energy conservation programs, LEDs are an important tool in transit-oriented development. In **Hillsborough**, LEDs represent one of the county's best programs for saving energy, the environment, and money.

Savings from LED Traffic Signals:

- **1,800,000 kilowatt hours**
- **$150,000 annually in costs**

Contact: Randy Klindworth, Energy Manager, 813-276-8789

CHAPTER 2

ADDITIONAL INFORMATION

RECOGNITION AND AWARDS

Counties and cities are often evaluated by quality of life and efficiency/effectiveness standards. Recognition for achievement in those areas can enhance the prestige of a local government and indirectly enhance local tax revenue. The following are two recent examples of a county and a city having received an award for saving energy, the environment, and money.

- **Broward County** was awarded the **1999 Energy Star Buildings Government Partner of the Year Award** for outstanding efforts by the Energy Management Section in implementing quality energy-efficiency upgrades and communicating the benefits to employees and the community.

- For the calendar year 2000, the **City of Tallahassee** was awarded first place for exemplary pollution prevention performance from the **Florida DEP Partnership for Ecosystem Protection (PEP) Program.** The award was based on a range of initiatives from an emissions cap to renewable energy uses to an adopt-a-tree program.

COMMUNITY ASSISTANCE FROM THE FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS

Funding assistance for energy costs is provided through local governments to low income households from two federal programs. The **Low Income Home Energy Assistance Program (LIHEAP)** is intended to help low income households secure funds for heating and cooling their homes. The **Weatherization Assistance Program (WAP)** is designed to reduce the

heating and cooling costs for low income families by improving the energy efficiency of their homes while ensuring their health and safety.

Currently, LIHEAP programs operate in the following counties: Brevard, Broward, Charlotte, Citrus, Hillsborough, Lee, Dade, Monroe, Orange, Palm Beach, Sarasota, Volusia, and Wakulla. There are WAP programs in Baker, Brevard, Calhoun, Jackson, Jefferson, Lee, Liberty, Dade, Orange, and Wakulla.

The noncompetitive funds are allocated to counties by a formula that includes the number of low-income residents and the number of heating and cooling days. Unfortunately, only about six percent of the eligible low-income households receive LIHEAP grants, and only one percent receives WAP funds (Energy 2020 Final Report, pp. 51-52). Unfortunately the need for energy assistance is much greater than the resources available. Nevertheless, for the 2,100 homes in Florida that received WAP funds last year, "…it is calculated that **approximately 30,220.28 mBtus were saved as a result of weatherization measures installed. This equates to an average savings of $369.14 per home/per year realized through weatherization services."** (Energy 2020, p. 52)

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DEMONSTRATION SITES

Florida House Learning Center (Sarasota)

The Florida House is a model home and yard that demonstrates an "earth-friendly" technology and design for living in southwest Florida. Major sponsors are the Florida House Foundation, the Cooperative Extension Service for Sarasota County (IFAS/UF), the Sarasota County Technical Institute, and the Southwest Florida Water Management District. The project has support from hundreds of agencies, businesses, and individuals throughout the community. Services include a wide range of printed materials, educational programs, and consultations. (See Resource List for contact information.)

Actual calculations for savings of energy, greenhouse gas emissions, and costs are not available for the Florida House. One of its licensed affiliates, **Eco-Smart**, can, however, demonstrate how an energy-efficient building creates a positive cash flow from the day it opens, as well as how an energy-efficient home can result in a lower mortgage payment, lower utility bills, improved air quality, reduced environmental impact, and increased equity and resale value.

Contact: Matt Ross, Eco-Smart, 941-377-9460, **www.ecohouse.com**

Orlando House (Orlando)

The Orlando House is part of the Florida Sustainable Communities Demonstration Program sponsored by the Florida Department of Community Affairs. The house, being built under the auspices of the City of Orlando Planning & Development Department, is scheduled to open in the Fall of 2002. It will feature cost-effective and affordable building methods and materials for new and existing Central Florida homes and yards. The primary goal of the project is to create an energy-efficient home that is beautiful as well as sustainable, thereby educating the public on environmentally friendly and healthy products and practices. (See Resource List for contact information.)

Florida Solar Energy Center (FSEC) (Cocoa)

FSEC is a research institute of the University of Central Florida. It is the largest and most active state-supported research, training, and certification institute in the United States. Located on a 20-acre research complex in Cocoa with about 150 staff members, FSEC functions as Florida's resource for renewable energy information, energy efficiency initiatives, and data concerning alternative technologies for buildings and vehicles. FSEC staff consult with city and county personnel throughout the state, engage in contracted research, and sponsor educational and training programs. (See Resource List for contact information.)

Twin Lakes Park Office Complex (Sarasota)

Participants in the Rebuild Sarasota sustainability planning and the Florida House project (see above) have created a vision of a county office building to showcase ecological design as feasible, proven, and cost-effective. The Twin Lakes Park Office Complex – intended to serve as headquarters for management services of the departments of parks and recreation, libraries, historical resources, and cooperative extension – will soon be the realization of that vision.

The completed complex will include remodeling of an existing office facility and the addition of a new cost-saving "green" office building, to make a 17,500-square-foot complex. In addition to efficient building design, the complex will have a solar photovoltaic installation to supplement conventional power usage. That renewable power technology, combined with other energy saving techniques, is expected to result in **50% less energy use than a comparably sized building – with all the associated cost savings, of course.**

The planning team for Twin Lakes Park opted to use the national green building rating system known as **Leadership in Energy and Environmental Design (LEED)** and to apply for that program's Gold

Certification status. (The Certified, Silver, Gold, and Platinum ranking categories are based on energy and environmental criteria. See US Green Building Council in the Resource List.) The building will be equipped with US Department of Energy (USDOE) "Energy 10" software to measure and document efficiency performance in all parts of the building. When construction is completed in May 2003 it is hoped that the Sarasota County Twin Lakes Park Office Complex project will be a pacesetter for "green architecture" across the state.

Contact: Michael Carlson, project design architect, 941-362-4312

FLORIDA GREEN MUNICIPALITY STANDARD

The **Florida Energy Office** and the **Florida Solar Energy Center** have received a grant from the US Department of Energy to develop a standard that will allow any Florida city or county to apply and, if requirements are fulfilled, to be certified "green." Three Florida counties have agreed to act as pilot local governments for the development of the standard **– Sarasota, Alachua,** and **Miami-Dade**.

A standard checklist will include such items as building design elements, energy-efficient appliances/amenities, and energy-efficient lighting, transportation and "circulation" issues (road and parking surfaces, sidewalks, bicycle trails), water use, waste disposal, development and land use, land preservation, and disaster mitigation. A draft of the Florida standard is expected by the end of 2002. Criteria will also be developed for commercial buildings, for contractors, and for private homeowners.

Contact: Robin Vieira, FSEC, 321-638-1404
Eric Martin, FSEC, 321-638-1450

FLORIDA PUBLIC SERVICE COMMISSION STUDY ON RENEWABLE ENERGY RESOURCES

The Florida Legislature in 2002 passed legislation that includes a requirement for the **Florida Public Service Commission**, in consultation with the **Florida Department of Environmental Protection**, to perform a study concerning renewable resources. (See H1601, Section 2 at **http://www.leg.state.fl.us/session/index.cfn**.)

The relevant section reads: "The Florida Public Service Commission in consultation with the Florida Department of Environmental Protection is directed to perform a study for the purpose of defining public policy with respect to the use of renewable resources in Florida. At a minimum, the study shall assess cost, feasibility, deployment schedules, and impacts on

the environment of increased use of renewables. In addition, the study shall describe options and mechanisms to encourage the increased deployment of renewables within our state. The results of this study shall be submitted to the President of the Senate and the Speaker of the house by February 3, 2003."

Because the outcome of that study could have a significant impact on the future deployment of renewables at the local government level, city and county officials may want to monitor closely and perhaps provide input into the process that is undertaken by the PSC and DEP. (See Resource List for contact information.)

INTERNATIONAL COUNCIL FOR LOCAL ENVIRONMENTAL INITIATIVES

ICLEI is an association of local governments dedicated to the prevention and solution of local, regional, and global environmental problems through local action. (See Resource List for contact information.) **Cities for Climate Protection (CCP)** is one of ICLEI's global campaigns. It supports local governments in cutting the emissions that cause global warming and air pollution. Worldwide, over 400 local governments participate in the CCP Campaign. Of that 400, more than 100 are in the United States. Florida participants include: **Alachua County, Broward County, Hillsborough County, Miami Beach, Miami-Dade County, Orange County, Riviera Beach, and Tampa.**

The CCP Campaign requires from its participants a pledge to undertake a process with five milestones: (1) a GHG emissions analysis, (2) a GHG reduction target, (3) the development of a local action plan, (4) the beginning of an implementation plan, and (5) the implementation of a monitoring process. Last February, **Hillsborough County** was recognized at the national CCP meeting as having achieved the fifth milestone.

Two ICLEI publications especially valuable for cities and counties seeking to save energy, the environment, and money are ***10 Things Local Governments Can Do to Cut Global Warming Pollution*** (a brochure) and ***Best Practices for Climate Protection: A Local Government Guide*** (a booklet).

A new challenge has been issued by the US-ICLEI Chair, **Harvey Ruvin** (Clerk, Miami-Dade County), for **"adaptive planning."** In a recent letter to CCP participants, Mr. Ruvin said that the CCP 2002 Work Plan has been amended to begin developing protective response plans to deal with the impending impacts of climate change.

"To be sure, reducing greenhouse gas emissions continues to be a primary goal of ICLEI and the growing number of local governments in the CCP Campaign," Ruvin explains in his letter to CCP participants.

"However, adapting to the known impacts of global climate change is now becoming increasingly necessary. Looking at how our communities will need to adapt in terms of planning, investing in infrastructure and protecting our natural and built environments will force us to quantify the local economic impacts of global warming. In addition to helping us plan for the long-term health and well-being of our communities, this effort will provide concrete information that can be used to more effectively communicate the urgency of both adapting to and preventing global climate change to state and federal policy-makers."

Contact: Harvey Ruvin, 305-349-7333

REBUILD AMERICA

Rebuild America, a national program of the US Department of Energy, is dedicated to improving the quality of life in communities through energy solutions. There are currently nine programs in Florida: in **Bartow, Brevard County, Broward County, Daytona Beach, Orange County, Panama City, Quincy, Sarasota County,** and **Tallahassee.** (See Resource List for contact information.)

GREENHOUSE GAS (GHG) CALCULATIONS – METHODOLOGIES AND SOFTWARE

Finding the means to calculate conditions in Florida (saving energy, the environment, and money) can be a daunting process. A few cities and counties have been tracking reduced electricity use, reduced heat-trapping gas emissions, and reduced costs over the last several years. But many local governments are just beginning to look at those numbers or haven't even started. The information is sometimes difficult to locate. The measurements can be obscure to the novice. And the methods of analysis can be maddeningly variable. But there are resources to help.

A few cities and counties have been tracking reduced electricity use, reduced heat-trapping gas emissions, and reduced costs over the last several years. But many local governments are just beginning to look at those numbers or haven't even started.

(i) Voluntary Reporting of Greenhouse Gases Program from the Energy Information Administration (EIA). There are instructions, sets of forms, and methods of technical assistance. (See Resource List for contact information.)

(ii) Environmental Protection Agency – Clean Energy Program
From the EPA's Clean Energy website (http://www.epa.gov/globalwarming/actions/cleanenergy/index.html), there are ways to estimate the benefits of solar energy (photovoltaic, solar water heater, and solar heated swimming pool) and of buying green power in Florida. The **Solar Environmental Benefits Calculator** will calculate the amount of CO_2 (as well as Nitrogen Oxide and Sulfur Dioxide)

emissions that can be avoided annually. For example, with a 10kW solar photovoltaic system, 32,570 pounds of CO_2 emissions can be avoided.

(iii) Rebuild America (USDOE) has a template for its community partnerships to use. Based on the type of building, square footage, and energy efficiency measures, the annual cost savings in dollars and the annual energy savings in MMBTUs can be calculated. (See Resource List for contact information.)

(iv) ICLEI has software available for its Cities for Climate Protection participants. (See Resource List for contact information.) A local government and ICLEI participant, **Broward County**, stated recently in a planning document that the Energy Management Section "administers an energy accounting system that benefits all agencies dealing with utility budgets by validating bills as they are processed, forecasting and tracking utility expenses as they occur, preventing errors in bill payments, and verifying energy savings and environmental impact."

Contact: Anthony Rosa, Energy Manager, 954-357-6506

(v) FSEC has **"Energy Gauge" –** a user-friendly PC software tool that was created to allow simple yet detailed performance-based analysis of building energy use and to perform economic analysis of proposed energy improvements. The Energy Gauge will provide energy code calculations and compliance reports, building energy ratings and rating reports, and economic analyses of building energy improvements. (See Resource List for contact information.)

Contact: Tei Simmerman, FSEC, 321-638-1437

Also, FSEC has a **Photovoltaic Performance Database** that can be accessed to view how various systems in Florida are operating. By modem connection, FSEC conducts daily remote monitoring to determine if the system is performing properly or if some mediation is necessary. (See **http://dbase.fsec.ucf.edu/pls/ov/ov_systems**.)

(vi) Other options being developed for measuring heat-trapping gases are:

(a) **The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard** from the World Resources Institute (see **http://www.igc.org/wri/climate/ghg_protocol.html**),

(b) **The California Climate Action Registry** (see **http://www.climateregistry.org**), and the

(c) **Greenhouse Gas State Registry Collaborative** from the Northeast States for Coordinated Air Use Management (NESCAUM – see **http://www.newcaum.org/Greenhouse/registry/index.html**).

CONCLUSION

Clearly, many innovative energy solutions are being implemented at the local level across the state of Florida. Local governments, though, should not have to bear the burden of global warming solutions alone. Over the last two years, commissioners in 13 counties and seven cities (**Alachua, Brevard, Broward, Hillsborough, Leon, Martin, Miami-Dade, Monroe, Palm Beach, Pinellas, Sarasota, Seminole, Volusia** counties and the cities of **Cocoa Beach, Hollywood, Miami Beach, North Lauderdale, Satellite Beach, Tampa**, and **West Palm Beach**), representing more than half of Florida's population, have passed resolutions requesting that the Governor create a statewide climate change program. (At least 25 other states in the country already have one.)

A comprehensive, coordinated **Florida Global Warming Action Plan** has the potential to bring the benefits of the innovative ideas mentioned here **–** and more **–** to every part of the state. Furthermore, the added efforts of state agencies and government would help reduce global warming pollution from our state much faster than individual jurisdictions can achieve on their own. Such a coordinated statewide action plan would spur the local economy, cut electricity costs, reduce heat-trapping gas emissions, and help make Florida a national leader in energy-efficient technology. Florida and Floridians cannot afford to do anything less.

RESOURCE LIST

Alliance to Save Energy
1200 18th Street, NW, Suite 900
Washington, DC 20036-2573
202-857-0666
info@ase.org
http://www.ase.org

American Council for an Energy-Efficient Economy
1001 Connecticut Avenue, NW, Suite 801
Washington, DC 20036-5525
202-459-8873
info@aceee.org
http://www.aceee.org

Association of Energy Engineers
AEE/Southeast Florida Society of Energy Professionals
PO Box 24357
Oakland Park, FL 33307-4357
http://www.aeecenter.org/chapters/
David Santo, President
954-233-3025

AEE/Tampa Bay Chapter
John Adkinson, President
jaadkinson@technology.com

Center for a New American Dream
6930 Carroll Avenue, Suite 900
Takoma Park, MD 20912-4466
301-891-3683
newdream@newdream.org
http://www.newdream.org/

For local governments that think globally, act locally, and buy green.

Database of State Incentives for Renewable Energy (DSIRE)
Interstate Renewable Energy Council (IREC)
518-458-6059
North Carolina Solar Center
919-515-5778
Susan Gouchoe, Project Manager
susan_gouchoe@ncsu.edu/dsire
http://www.ies.ncsu.edu/dsire
The Database of State Incentives for Renewable Energy is an ongoing project of IREC, funded by the US Department of Energy's Office of Power Technologies and managed by the North Carolina Solar Center. See for Florida Incentives for Renewable Energy.

Educational Energy Managers' Association of Florida
http://www.eemaf.org/

Bob Godfrey, President
727-547-7166
godfreyr@pinellas.k12.fl.us

Energy Conservation Assistance Program
Rick Dolan, Manager
University of Central Florida
12565 Research Parkway, Suite 300
Orlando, FL 32826-2909
407-823-5554
richard.dolan@bus.ucf.edu

EnergySmart Schools (US Department of Energy)
http://www.eren.doe.gov/energysmartschools/about.html
Blanche Sheinkopf, National Director
321-779-3768
bsheinkopf@energysmartschools.net

Energy Star
US Department of Environmental Protection (see below)
http://www.energystar.gov

Certifies a whole range of energy efficient products.

Florida Building Code
Energy Efficiency Code for Building Construction
http://www.sbcci.org/Florida%20Building%20Code/btocib.htm
Ann Stanton
Florida Department of Community Affairs
850-487-1824
ann.stanton@dca.state.fl.us

Florida Clean Power Coalition (FCPC)
c/o Holly Binns
Florida Public Interest Research Group (FPIRG)
704 W. Madison Street
Tallahassee, FL 32304-4324
850-224-3321
Hollypirg@aol.com

Florida Department of Environmental Protection (DEP)
David Struhs, Secretary
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
805-488-1554
http://www.dep.state.fl.us/
Pollution Prevention (P2) Program
Partnership for Ecosystem Protection (PEP) Program

Florida Energy Extension Service
University of Florida, Institute of Food and Agricultural Services (IFAS)
Pierce Jones, Director
352-392-8074
Energy information is available at any county's Cooperative Extension Office.

Florida Energy Office (FEO)
Florida Department of Community Affairs
Alexander Mack, Community Administrator
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
850-488-2475
alexander.mack@dca.state.fl.us

Florida Energy 2020 Study Commission
Final Report (December 2001)
http://www.myflorida.com/energy

Florida Green Building Coalition (FGBC)
Email: **info@floridagreenbuilding.org**
http://www.floridagreenbuilding.org/
c/o Drew Smith, President
Florida Solar Energy Center
1679 Clearlake Road
Cocoa, FL 32922-5703
321-638-1450

Florida House Learning Center
Betty Alpaugh, Program Coordinator
4600 Beneva Road South
Sarasota, FL 34233-1710
941-316-1200
http://sarasota.extension.ufl.edu/FHLC/flahouse.html

Florida Local Environmental Resource Agencies (FLERA)
http://www.flera.org
c/o Jon Van Arnam, President
Palm Beach County Department of Environmental Resources Management
3323 Belvedere Road, Building 502
West Palm Beach, FL 33406-1548
561-233-2454
jvanarna@co.palm-beach.fl.us

Florida Public Service Commission
Renewable Energy Study
Lila Jaber, Chair
2450 Shumard Oak Boulevard
Tallahassee, FL 32399-8153
Jim Dean, Senior Analyst
Division of External Affairs
850-413-6058

Florida Solar Energy Center
Jennifer Szaro, Energy Analyst

1679 Clearlake Road
Cocoa, FL 32922-5703
321-638-1427
jszaro@fsec.ucf.edu
http://www.fsec.ucf.edu/

Florida Solar Energy Industries Association
Colleen Kettles, President
145 Wekiva Springs Road, Suite 187
Longwood, FL 32779-6088
407-774-9939
http://www.flaseia.org

Gold Coast Clean Cities Coalition
c/o Carlos Gonzalez
South Florida Regional Planning Council
3440 Hollywood Boulevard, Suite 140
Hollywood, FL 33021-6927
954-985-4416
carlosg@sfrpc.com

International Council for Local Environmental Initiatives (ICLEI)
Cities for Climate Protection
15 Shattuck Square
Berkeley, CA 94704-1151
510-540-8843
iclei_usa@iclei.org
http://www.iclei.org/us

Natural Resources Defense Council
40 W. 20th Street
New York, NY 10011-4211
212-727-4480

Orlando House
2516 E. Church Street
Orlando, FL 32803-6301
http://www.cityoforlando.net.planning.orlhouse/index.htm
Joe Sandley, Project Manager
Orlando Housing and Community Development
407-246-2188
joe.sandley@cityoforlando.net

Rebuild America (US Department of Energy)
Edward Cobham, Florida Representative
Florida Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, FL 32399-2100
850-922-6081
edward.cobham@dca.state.fl.us
http://www.rebuild.org/

Rocky Mountain Institute
1739 Snowmass Creek Road
Snowmass, CO 81654-9199
970-927-3851
http://www.rmi.org/
See "The Community Energy Workbook" by Alice Hubbard and Clay Fong, which "should be on the desk of every local official and active citizen in the country." (David Orr, author of "Ecological Literacy")

South Florida Green Design Council
c/o David Benjamin
Third Planet
1100 Lee Wagener Boulevard, Suite 304
Ft. Lauderdale, FL 33315-3571
954-359-6350
info@thethirdplanet.org

Space Coast Clean Cities Coalition
c/o Bill Young
FSEC (see above)
321-638-1443
young@fsec.ucf.edu

Treasure Coast Regional Planning Council Energy Planning Guide
Michael Busha, Executive Director
Peter Merritt, Regional Ecologist
301 E. Ocean Boulevard, Suite 300
Stuart, FL 34994-2236
561-221-4060

Union of Concerned Scientists "Clean Energy Blueprint"
2 Brattle Square

Cambridge, MA 02238-3742
617-547-5552
ucs@ucsusa.org
http://www.ucsusa.org/energy/

US Department of Energy (DOE)
Office of Energy Efficiency and Renewable Energy
1000 Independence Avenue, SW
Washington, DC 20585-0001
202-586-9240 for Energy Efficiency in Buildings
202-586-0927 for Pollution Prevention
Energy Efficiency and Renewable Energy Network
800-363-3732
http://www.eren.doe.gov

US Department of Environmental Protection (EPA)
State and Local Climate Change Program
401 M Street, SW
Washington, DC 20460-0001
http://www.epa.gov/globalwarming/visitorcenter/publicofficials/

US Green Building Council (USGBC)
1015 18th Street, NW, Suite 805
Washington, DC 20036-5204
202-828-7422
LEED Green Building Rating System
(Leadership in Energy & Environmental Design)
http://www.usgbc.org/

Voluntary Reporting of Greenhouse Gases Program
Energy Information Administration (EIA), EI-81
US Department of Energy (see above)
800-803-5182, 202-586-0688
infoghg@eia.doe.gov
http://www.eia.doe.gov/oiaf/1605/frntend.html

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