
**SEMINOLE COUNTY GOVERNMENT
AGENDA MEMORANDUM**

SUBJECT: Resolution of Support for the Energy Efficiency & Conservation Strategy

DEPARTMENT: Planning and Development **DIVISION:** Planning

AUTHORIZED BY: Dori DeBord

CONTACT: Dick Boyer

EXT: 7382

MOTION/RECOMMENDATION:

Approve and authorize the Chairman to execute the Resolution supporting the Seminole County Energy Efficiency and Conservation Strategy (Energy Strategy) and the submittal of the Energy Strategy to the U.S. Department of Energy.

County-wide

Martin Black, Consultant

BACKGROUND:

The American Recovery and Reinvestment Act of 2009 (ARRA) appropriated funding for the US Department of Energy (DOE) to award formula-based grants under the Energy Efficiency and Block Grant Program (EECBG). The purpose of this program is to assist eligible entities in creating and implementing strategies to reduce fossil fuel emissions, reduce total energy use, and improve energy efficiency in the building, transportation, and other appropriate sectors.

Seminole County was allocated \$2,925,100 under this federally funded grant program and on June 9, 2009, the Board authorized staff to submit applications and execute supporting documents. The first application requesting \$250,000 of the allocated funds for Activity 1, Development of an Energy Strategy, was submitted. Seminole County was among the first 10 recipients of this award nationwide.

The terms and conditions of the agreement require Seminole County to provide a summary of goals and objectives under the EECBG program in the form of an Energy Efficiency & Conservation Strategy by November 24th, 2009, in order to constitute compliance, and obligate the remaining \$2,675,100 of the grant allocation.

At this time, the County's energy planning consultant has prepared the Energy Strategy, which establishes focus areas for eligible activities. The strategy is based in part upon an ongoing audit of the County's energy and fuel consumption and a review of the capital projects submitted by members of the County's Energy Conservation Committee. The attached table outlines the preliminary program recommendations for initial fund allocations. There are four broad categories of projects, three of which directly target County facility operations.

Funding allocations can be amended during the course of the 36 month grant period to reflect policy preferences. A more detailed, project by project, proposed fund allocation will be prepared once DOE approval is secured. Proposed fund allocation and project selection will be presented to the Board for review and finalization prior to the initiation of any project activity. DOE approval of the Energy Strategy is anticipated

in the early spring of 2010.

There is no local match required under this federally funded grant program. For those grantees implementing an approved Energy Strategy, competitive grant opportunities are available through both the DOE and the State Energy Office, potentially funding projects not currently implemented through the initial Block Grant funds.

STAFF RECOMMENDATION:

Staff recommends that the Board approve and authorize the Chairman to execute the resolution supporting the Seminole County Energy Efficiency and Conservation Strategy (Energy Strategy) and the submittal of the Energy Strategy to the U.S. Department of Energy.

ATTACHMENTS:

1. Resolution
2. Preliminary Implementation Program Allocations
3. Department of Energy Submission
4. Energy Efficiency & Conservation Strategy - Draft Executive Summary

Additionally Reviewed By:

■ Budget Review

■ County Attorney Review (Arnold Schneider)

Resolution No. 2009-R _____

**A RESOLUTION SUPPORTING THE SEMINOLE COUNTY
ENERGY EFFICIENCY AND CONSERVATION STRATEGY
ADOPTED AT THE REGULAR MEETING OF THE
BOARD OF COUNTY COMMISSIONERS OF SEMINOLE COUNTY, FLORIDA
ON THE 10th DAY OF NOVEMBER, A.D., 2009**

WHEREAS, the American Recovery and Reinvestment Act of 2009 (ARRA) appropriated funding for the US Department of Energy (DOE) to award formula-based grants under the Energy Efficiency and Block Grant Program; and

WHEREAS, the purpose of this program is to assist eligible entities in creating and implementing strategies to reduce the total energy use of entities; and improve the energy efficiency in the building, transportation, and other appropriate sectors; and

WHEREAS, Seminole County was allocated \$2,925,100 under the grant program of which the Board authorized, on June 9, 2009, the submittal of two grant applications: the first for \$250,000 to develop an Energy Efficiency and Conservation Strategy (Energy Strategy) detailing activities that would achieve the purposes of the program and the second for the remainder of the grant allocation to implement the Energy Strategy; and

WHEREAS, securing the remainder of the grant allocation is contingent upon submittal to and approval of the Energy Strategy by the US Department of Energy (DOE); and

WHEREAS, Seminole County by these actions wishes to support the national goals of the ARRA and to locally improve the County's own contribution to creating and retaining jobs, to improving energy efficiency and conservation, and to reducing green house gases.

NOW BE IT RESOLVED that the Board of County Commissioners hereby demonstrates its support for the proposed Energy Strategy through this resolution and authorizes the strategy's submission to DOE for review and approval.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Seminole County, Florida that this Resolution be spread upon the Official Minutes by the Clerk of the Circuit Court in and for the County of Seminole.

ADOPTED, this 10th day of November, A.D. 2009.

ATTEST:

Maryanne Morse, Clerk to the Board Of County
Commissioners in and for the County of Seminole,
Florida

Bob Dallari, Chairman
Board of County Commissioners

SEMINOLE COUNTY 2009 EECBG PRELIMINARY PROGRAM RECOMMENDED TENTATIVE ALLOCATIONS

IMPLEMENTATION PROGRAM	PROPOSED ALLOCATION AMOUNT	EECBG AWARD AMOUNT BALANCE (START: \$2,675,100)	TARGETED EXPECTED RETURN ON INVESTMENT
1. County Facility Operations Improvements and Program Administration			
County Facilities Lighting, HVAC, Temperature and Related Energy Efficiency Retrofits	\$230,000	\$2,445,100	7-10 years
Reimbursement of County Staff Effort and Program Administration	\$267,100	\$2,178,000	3 years
County Facility Roof, Air Handler, Demand Control Retrofits	\$368,000	\$1,810,000	7-10 years
2. Environmental Services Investment			
Utility System Variable Frequency Drives (VFD's) High Efficiency Motors and System Upgrades	\$750,000	\$1,060,000	5-7 years
3. County Facility Renewable Energy Deployment			
Renewable Energy Systems at County Facilities (Public-Private Partnership RFI & Implementation)	\$600,000	\$460,000	5-15 years
4. County Regulatory Program			
Upgrade Land Development Code (LID Standards & Efficiency Incentives)	\$95,000	\$365,000	2-10 years
5. Targeted Community Revolving Loan/Grant Pool Pilot Program			
Energy Efficient Loan/Grant Pool for Renewable Energy Residential and Small Business Installations	\$365,000	\$ -0-	5-20 years

Attachment D

Energy Efficiency & Conservation Strategy for Units of Local Governments & Indian Tribes

As detailed in Part 1 of this announcement, all applicants must submit an Energy Efficiency and Conservation Strategy (EECS). Units of local government and Indian tribes have the option of submitting the EECS no later than 120 days after the effective date of the award or at the time of application. Units of local government and Indian tribes who chose to submit the EECS at the time of application shall use the format contained in Attachment D. This form should be saved in a file named "UIC-Strategy.pdf" and click on "Add Optional Other Attachment" to attach.

Grantee: Seminole County, Florida **Date:** 11/21/2009

DUNS #: 067834358 **Program Contact Email:** Tara Anderson 407-665-5252, tanderson@seminolecountyfl.gov

1. Describe your government's proposed Energy Efficiency and Conservation Strategy. Provide a concise summary of your measurable goals and objectives, which should be aligned with the defined purposes and eligible activities of the EECBG Program. These goals and objectives should be comprehensive and maximize benefits community-wide. Provide a schedule or timetable for major milestones. If your government has an existing energy, climate, or other related strategy please describe how these strategies relate to each other.

Sustainable Seminole

Seminole County is planning to ensure the sustainability of our community and to maintain the quality of life that our residents enjoy. Through a series of initiatives across the entire county organization, we have the ability to mitigate the impacts from greenhouse gas emissions and climate change. Our approach includes balancing environmental awareness, economic growth and social responsibility for current and future residents, businesses and visitors.

Seven areas to re-enforce current actions and further initiatives serve to focus the strategic direction of Seminole County moving forward:

- **Conservation** – recycling activities, reuse and renewal of resources
- **Development Standards** – Florida Green Building Coalition, LEED, ICLEI, low impact design standards
- **Energy** - efficiencies, alternative renewable sources, reduced vehicle miles traveled
- **Environment** – hazardous materials management, air quality, habitat protection, land management, carbon sequestration
- **Financial Incentives** – amnesty days, revolving loan pool demonstrator/pilot, public-private partnerships
- **Outreach** – education, community engagement
- **Water** – conservation, reclaimed water, water quality, water use restrictions

2. Describe your government's proposed implementation plan for the use of EECBG Program funds to assist you in achieving the goals and objectives outlined in the strategy describe in question #1. Your description should include a summary of the activities submitted on your activity worksheets, and how each activity supports one or more of your strategy's goals/objectives.

SEMINOLE COUNTY 2009 EECBG PRELIMINARY PROGRAM RECOMMENDED TENTATIVE ALLOCATIONS

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<ul style="list-style-type: none"> County Facilities Lighting, HVAC, Temperature and Related Energy Efficiency Retrofits 	\$230,000	\$2,445,100	7-10 years
<ul style="list-style-type: none"> Reimbursement of County Staff Effort and Program Administration 	\$267,100	\$2,178,000	3 years
<ul style="list-style-type: none"> County Facility Roof, Air Handler, Demand Control Retrofits 	\$368,000	\$1,810,000	7-10 years
<p>Seminole County has been incorporating sustainable building features into facilities for some time. In 2003, the County completed the "Green Lights" program, which involved switching out fluorescent bulbs and ballasts for more energy efficient products in many of the County's major buildings. Since 1993, the County has saved almost \$560,000 by participating in Florida Power and Light's Load Control program. The County's Criminal Justice Center, completed in 2004, incorporates drought tolerant landscaping materials, low water consumption plumbing fixtures, energy efficient air conditioning systems, and computer controlled lighting systems. In 2007, the County replaced more than \$1,000,000 worth of old, energy inefficient HVAC equipment at the County Services Building. Each of these activities has a demonstrated energy savings and environmental programmatic objective. Continued investment improving County facility lighting, temperature, HVAC and related energy efficiency retrofits with EECBG funds will facilitate short and long term reductions to greenhouse gas emissions, a reduced carbon footprint associated with these facilities, and continue existing successful cost control measures. Pursuant to the U.S. Department of Energy EECBG grant award provision, project funds may be utilized to offset County staff effort and grant administration costs. Additional funding is targeted to identified capital project needs to retrofit existing County facilities through roof and air handler replacements and installation of demand control instrumentation that is expected to generate energy efficiencies and operational cost savings for existing facilities. These projects had been previously identified by County staff but were not funded in the current fiscal year budget as a result of revenue constraints. Use of EECBG funds will avoid future local funding demands in the future.</p>			
2. Environmental Services Investment			
<ul style="list-style-type: none"> Utility System Variable Frequency Drives (VFD's) High Efficiency Motors and System Upgrades 	\$750,000	\$1,060,000	5-7 years
<p>Environmental Services has already demonstrated the energy efficiency and cost savings associated with migration to variable frequency drives and high efficiency motors within its water and wastewater system. As part of the assessments initiating the development of EECBG strategy, County staff identified several additional locations that have not yet been funded or installed. Allocation of a portion of the EECBG funding provides the opportunity to quickly roll-out these funds and commence savings within the current fiscal year while meeting EECBG program requirements to reduce energy consumption and GHG emissions.</p>			

IMPLEMENTATION PROGRAM (cont'd)	PROPOSED ALLOCATION AMOUNT	EECBG AWARD AMOUNT BALANCE (START: \$2,675,100)	TARGETED EXPECTED RETURN ON INVESTMENT
3. County Facility Renewable Energy Deployment			
<ul style="list-style-type: none"> Renewable Energy Systems at County Facilities (Public-Private Partnership RFI & Implementation) 	\$600,000	\$460,000	5-15 years
<p>The County would use the EECBG funds within the framework of a Power Purchase Agreement Model, also known as a PPA, or Energy Services Contract. The agreement would be established within regulatory rules for the State of Florida and consider various tax credit options. Among these considerations are new market and energy credits, rebates and any other financing options including grants and banking relationships. The EECBG funds would establish a source of County matching funds to invest in the deployment of renewable energy generation to provide an alternative energy source to offset current electric grid load demands and provide an ability for any excess power generated to be sold back to the grid. The issuance of a Request for Information (RFI) is proposed to solicit proposals from a variety of renewable energy sectors that can then be evaluated prior to undertaking selection of preferred renewable energy sectors and facility deployment. The County has already received unsolicited informal inquiries from biomass, solar, wind and other renewable energy parties with an interest in securing rights to County lands or facilities and this process will provide a transparent method for fairly considering these options prior to implementation.</p>			
4. County Regulatory Program			
<ul style="list-style-type: none"> Upgrade Land Development Code (Low Impact Development Standards & Efficiency Incentives) 	\$95,000	\$365,000	2-10 years
<p>Low impact development (LID) is a regulatory and design approach to land development that uses various land planning, design and construction practices to simultaneously conserve and protect natural resource systems while reducing infrastructure construction and operating costs. The current Seminole County Comprehensive Plan sets the foundation for this approach. LID is a more sustainable land development approach that begins with a site planning process that first identifies critical natural resource areas for preservation. LID techniques may include maintaining natural drainage flow paths, bio-retention/bio-swales, minimizing land clearance, clustering buildings, and reducing impervious surfaces. Completing an assessment of existing County Land Development Regulations and developing recommended changes to incorporate best practices and remove regulatory impediments to redevelopment will have long term benefits for future economic and sustainable growth in the County.</p>			
5. Targeted Community Revolving Loan/Grant Pool Pilot Program			
<ul style="list-style-type: none"> Energy Efficient Loan/Grant Pool for Renewable Energy Residential and Small Business Installations 	\$365,000	\$ -0-	5-20 years
<p>This proposed program includes funding energy efficiency retrofitting in the community through a loan program following the models already in use by several communities across the country (including Orlando Utilities Commission, Tallahassee Utilities, Lakeland Utilities,). Combined and coordinated with FPL/Florida Power existing energy audit programs, the program provides an alternative low cost financing for retrofits that can be paid back through special assessments similar to water/wastewater connection fee financing already offered by Seminole County. The proposed program can require the pre-qualification of local installers/contractors to complete the energy efficiency improvements. The program would involve creation of a sustainable energy special financing district. The County secures a pool of funds for the projects from a bond or loan fund that gets repaid through assessments on participating property owners' tax bills. Assessments are proposed to be spread over a period up to 20 years, the approximate time it takes to recover typical full costs of conversion to a complete home renewable energy system. The special financing district solves many of the financial hurdles facing property owners. First, there would be little upfront cost to the property owner by utilizing the EECBG funds to underwrite some of the program cost in establishing the loan pool. Second, the total cost of the renewable energy system and energy improvements may be less when compared to financing through a traditional equity line or mortgage refinancing. Third, the special financing tax assessment is transferable between owners. Property owners and their contractors would be required to agree to certain terms and conditions mandating energy efficiency steps, appropriate warranties, and other performance measures to take advantage of the financing. The special financing district differs from existing MSBU's in place for roadway and lighting districts throughout the county, because the program would allow individual property owners to voluntarily opt-in to the program.</p>			

3. Describe how your government is taking into account the proposed implementation plans and activities for use of funds by adjacent units of local government that are grant recipients under the Program (response not mandatory for Indian Tribes).

Seminole County has been and will continue to share information (processes, techniques and technical data) with other local and regional government entities and assist in achieving energy reductions in their organizations.

Continue sharing energy related ideas and activities with other jurisdictions in the region through quarterly gatherings sponsored by local private industry group.

The County's affiliation with the International Council for Local Environmental Initiatives (ICLEI), which includes quarterly phone conferences for the Southeast Region members, and the Florida Association of Counties will allow Seminole County the opportunity to share energy related information and ideas across the state, the nation and the world.

4. Describe how your government will coordinate and share information with the state in which you are located regarding activities carried out with grant funds to maximize energy efficiency and conservation benefits (response not mandatory for Indian Tribes).

Seminole County will partner with the State of Florida Energy Office by sharing energy related processes, techniques, ideas and technical data at conferences throughout the state.

5. Describe how this plan has been designed to ensure that it sustains benefits beyond the EECBG funding period.

At this point, Seminole County has identified the Community Renewable Loan Program which would create an energy efficient loan pool for renewable energy projects implemented by residents and small businesses as a possible long term program.

This proposed program includes funding energy efficiency retrofitting in the community through a loan program following the models already in use by several communities across the country (including Orlando Utilities Commission, Tallahassee Utilities, Lakeland Utilities,). Combined and coordinated with FPL/Florida Power existing energy audit programs, the program provides an alternative low cost financing for retrofits that can be paid back through special assessments similar to water/wastewater connection fee financing already offered by Seminole County.

6. The President has made it clear that every taxpayer dollar spent on our economic recovery must be subject to unprecedented levels of transparency and accountability. Describe the auditing or monitoring procedures currently in place or that will be in place (by what date), to ensure funds are used for authorized purposes and every step is taken to prevent instances of fraud, waste, error, and abuse.

Please see the following pages for a description of the County's auditing and monitoring procedures established within the Division of Administrative Services entitled "Monitoring and Oversight of the ARRA Energy Efficiency & Conservation Block Grant (EECBG)":

**DIVISION OF ADMINISTRATIVE SERVICES
POLICY and PROCEDURE**



POLICY STATEMENT:

Monitoring and Oversight of the ARRA Energy Efficiency & Conservation Block Grant (EECBG)

PURPOSE:

The purpose of this policy is to ensure compliance with American Recovery and Reinvestment Act (ARRA) and Department of Energy (DOE) requirements under the EECBG through standardization of internal administration and support operations.

DEFINITIONS:

Prime Recipient:

Non-Federal entities that receive Recovery Act funding as Federal awards in the form of grants, loans, or cooperative agreements directly from the Federal government. The prime recipient is responsible for reporting activities required by Section 1512 of the Recovery Act

Sub-recipient:

Non-Federal entity that expends Federal awards received from another entity to carry out a Federal program but does not include an individual who is a beneficiary (prime recipient) of such a program.

Vendor:

A dealer, distributor, merchant, or other seller providing goods or services that are required for the conduct of a Federal program; Prime recipients or sub-recipients may purchase goods or services needed to carry out the project or program from vendors.

EECBG Project Manager:

Primary individual responsible for grant administration including coordinating project activities and facilitating report consistency throughout the performance period

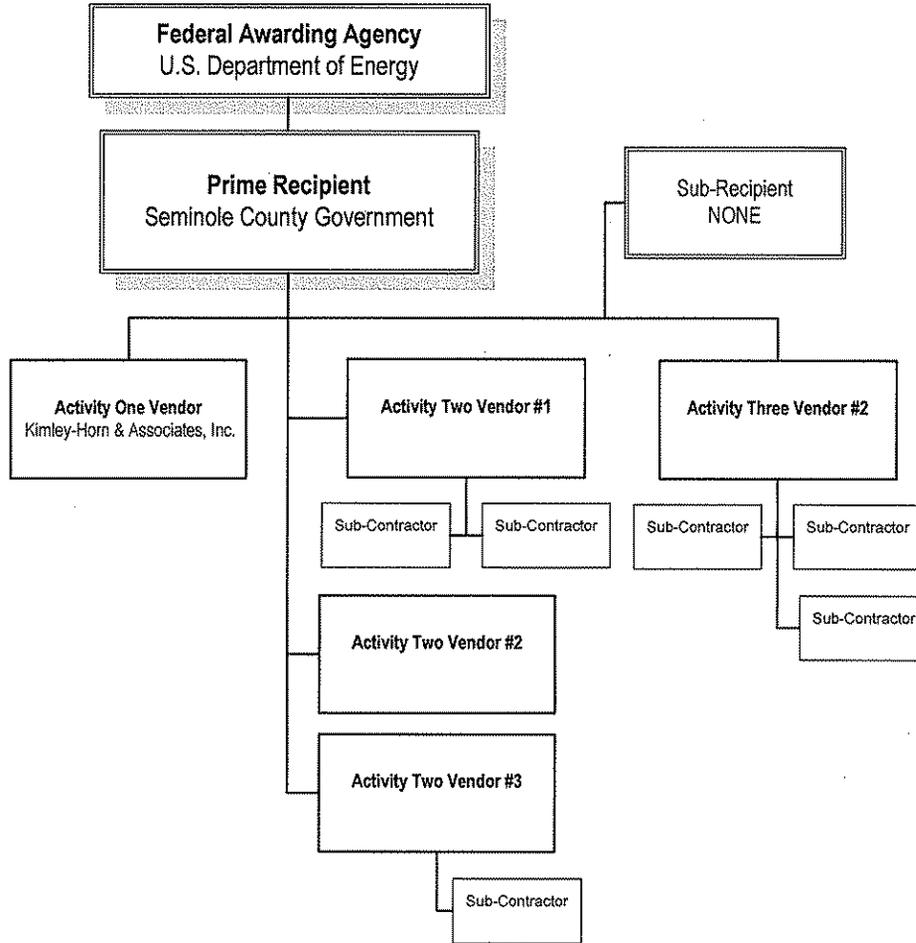
Activity Project Manager:

Primary individual responsible for successful completion of services and products for approved, funded activities. This individual works directly with operational personnel and vendors to successfully complete activities under the EECBG

RECIPIENT RELATIONSHIPS:

Recipient Relationships are illustrated in the diagram below. Currently only Activity One has been established, therefore, additional activities and vendors depicted in the diagram are demonstrative of anticipated relationships under prospective activities.

Energy Efficiency & Conservation Block Grant
Recipient Relationships Diagram



PROCEDURE:

The EECBG Project Manager is responsible for the day to day supervision and coordination of activities under the EECBG. Focus is on compliance and consistency throughout EECBG activities in support of successful grant administration under the American Recovery and Reinvestment Act as follows:

1. Each contract will have a defined scope of services which will include the obligations of the contractor under the EECBG. In addition to outlining service requirements, the

defined scope will outline ARRA and DOE monitoring expectations, inspection requirements, reporting data requirements, timetable, and eligible activities.

2. Procurement documents issued under the EECBG (i.e. contracts, agreements, work orders) will include an ARRA compliance statement such as *“through execution of this agreement, the terms and conditions require compliance with the American Recovery and Reinvestment Act (ARRA) of 2009 in its entirety, for all services provided”* or similar with the direction and approval of the County Attorney’s office.
3. Certification documents for “Buy American” and “Davis-Bacon Act” will be required of contractors under the EECBG as applicable. For applicable vendors, signed certification documents will be required with invoices for applicable contracted services; copies of the certification documents will be attached to invoices. A backup of certifications will be maintained by the EECBG Project Manager.
4. In the case of the EECBG, Seminole County is the *prime recipient* and is therefore responsible for reporting information required by section 1512 of the Recovery Act. This responsibility will NOT be delegated and is the responsibility of the Activity Project Managers with support from the EECBG Project Manager.
5. Activity Project Managers will conduct oversight and facilitate collection of reporting data from vendors.
6. Activity Project Managers will receive direction on quarterly reporting requirements from DOE and OMB. There are two agencies requiring quarterly reports under the EECBG as follows:
 - a. **ARRA Reports**
Agency: Office of Management and Budget (OMB)
Deadline: not later than 10 days after the end of each calendar quarter
System: FederalReporting.gov
Site for Reporting: www.federalreporting.gov
Components: Section 1512 ARRA- Project activities & status, infrastructure development, jobs created/ retained, award recipients/ sub-recipients/vendors information
Questions: <https://recoveryclearinghouse.energy.gov> or 1-888- 363-7289
 - b. **EECBG Reports**
Agency: Department of Energy
Deadline: later than 10 days after the end of each calendar quarter
System: PAGE Performance and Accountability for Grants in Energy
Site for Reporting: www.page.energy.gov
Components: Financial Data, project status, activity level information on costs, milestones, metrics, and qualitative descriptions that combined provide a quarterly view on activity progress
Questions: page-hotline@ee.doe.gov

7. Vendor job creation and retention data will be collected during the invoicing process. Jobs will be quantified using guidance provided by the Executive Office of the President Office of Management & Business (OMB).
8. Staff job creation and retention data will be captured daily. Staff will use the "County Staff Hours/ Task Tracking Detail" sheets provided by the EECBG Project Manager to record all time spent on EECBG activities. Total time spent is entered on the bi-weekly timesheet under "Other" using project code 90011924W. A copy of the detail sheet is provided to the EECBG Project Manager to maintain as backup file. Jobs will be quantified using guidance provided by the Executive Office of the President Office of Management & Business (OMB).
9. County staff will provide training and technical assistance to vendors on how to capture, document, and submit reporting data. Staff will review data to ensure critical data elements are collected.
10. A reminder task "tickler" system through MS Outlook will be established by the EECBG Program Manager to ensure reports deadlines are met.
11. Reports will be reviewed by the EECBG Program Manager and the Grants Coordinator to ensure reasonable accuracy prior to submittal to agency.

Implementation Date: 10/1/09



Frank Raymond, Director
Administrative Services Department



Kimley-Horn and Associates, Inc.

U R G
URBAN RESOURCE GROUP

A DIVISION OF KIMLEY-HORN AND ASSOCIATES, INC.



**ENVIRONMENTAL
AWARENESS**



**ECONOMIC
GROWTH**



**SOCIAL
RESPONSIBILITY**

11/4/2009

ENERGY EFFICIENCY AND CONSERVATION STRATEGY

SEMINOLE COUNTY,
FLORIDA

October/November 2009

Executive Summary
Preliminary Draft



YOU CAN HELP.

Acknowledgements

Board of County Commissioners

Bob Dallari, Chairman

Michael McLean, Vice-Chairman

Brenda Carey

Carlton D. Henley

Dick Van Der Weide

County Staff

Joseph A. Forte, Acting County Manager

Sabrina O'Bryan, Assistant County Manager

Frank Raymond, Administrative Services Director

Alison Stettner, AICP, Planning Manager

Tara Anderson, Financial Analyst

Jennifer Bero, Grants Administrator

Dick Boyer, AICP, Senior Planner



Energy Efficiency and Conservation Strategy

Seminole County is poised to draw upon its legacy of environmental awareness and move forward to fully engage the community in identifying the core principles and implementation programs needed for the future. By balancing environmental awareness, economic growth and social responsibility, Seminole County's approach to sustainability is guided by our commitment to meeting the needs of the present without compromising the ability of future generations to meet their needs.

Consultant Team

Martin P. Black, AICP, ICMA-CM, Senior Project Manager

Kelley Klepper, AICP, Project Manager

Zachary Zehnder, E.I., Analyst

Clif Tate, Jr., P.E., Senior Vice President

Chris Hice, RLA, ASLA, LEED-AP, Landscape Architect

Bill Waddill, RLA, ASLA, AICP, Senior Vice President



Executive Summary of Policy Focus

Sustainable Seminole

Seminole County is planning to ensure the sustainability of our community and to maintain the quality of life that our residents enjoy. Through a series of initiatives across the entire county organization, we have the ability to mitigate the impacts from greenhouse gas emissions and climate change. Our approach includes balancing environmental awareness, economic growth and social responsibility for current and future residents, businesses and visitors.

Seven areas to re-enforce current actions and further initiatives serve to focus the strategic direction of Seminole County moving forward:

Conservation - recycling activities, reuse and renewal of resources

Development Standards - Florida Green Building Coalition, LEED, ICLEI, low impact design standards

Energy - efficiencies, alternative renewable sources, reduced vehicle miles traveled

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Financial Incentives - amnesty days, revolving loan pool demonstration/pilot, public-private partnerships

Outreach - education, community engagement

Water - conservation, reclaimed water, water quality, water use restrictions



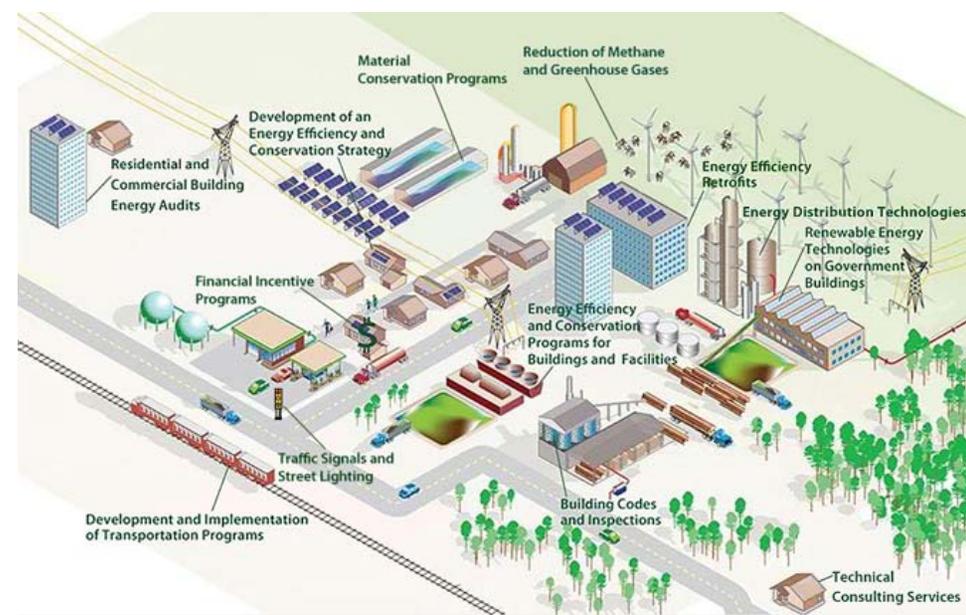
The Energy Efficiency and Conservation Block Program

The purpose of the Energy Efficiency and Conservation Block (EECBG) Program is to assist communities in implementing energy efficiency and conservation strategies designed specifically to:

- reduce fossil fuel emissions;
- reduce total energy use; and
- improve energy efficiency in the transportation, building and other appropriate sectors.

Eligible activities approved by the U.S. Department of Energy for funding under this program must meet certain criteria and are generally limited to the following types of activities:

- Developing/implementing an energy efficiency and conservation strategy
- Conducting residential and commercial building energy audits
- Establishing financial incentive programs for energy efficiency improvements (e.g., loan programs, rebate programs, waive permit fees)
- Providing grants to nonprofit organizations to perform energy efficiency retrofits
- Developing/implementing programs to conserve energy used in transportation (such as flex time by employees; satellite work centers; promotion of zoning requirements that promote energy efficient development; transportation infrastructure such as bike lanes/pathways, pedestrian walkways and synchronized traffic signals)
- Developing and implementing building codes and inspection services to promote building energy efficiency
- Implementing energy distribution technologies
- Developing public education programs to increase participation and efficiency rates for recycling programs
- Purchasing/implementing technologies to reduce and capture methane and other greenhouse gases generated by landfills or similar sources
- Installing light emitting diodes (LEDs)
- Developing, implementing and installing onsite renewable energy technology that generates electricity from renewable resources (solar and wind energy, fuel cells and biomass) on or in any government building
- Retaining technical consultant services to assist in the development of such a strategy





Seminole County was determined to be eligible for a total EECBG 2009 program funding award of \$2,925,100. Of this amount, the County set aside \$250,000 for development of baseline greenhouse gas emissions (GHGs) and energy use data, evaluation of strategic alternatives, forecast period projections, and initial program administration costs. The remaining \$2,675,100 is available for targeted programmatic and capital improvements that meet the criteria and activity types identified above. The County is required to submit a summary strategy to the U.S. Department of Energy on or before November 24, 2009 to confirm eligibility for the remaining funds. The U.S. Department of Energy has confirmed that the County has the ability to amend the submitted strategy as implementation plans are finalized over the course of the grant period (within 36 months of the effective date of the grant award). This Energy Efficiency and Conservation Strategy will serve as the basis for completing the responses to the six criteria required by the U.S. Department of Energy for receipt of the remaining funds and to guide the County's future decision-making processes.

The six required response criteria are:

1. Describe your government's proposed Energy Efficiency and Conservation Strategy. Provide a concise summary of your measurable goals and objectives, which should be aligned with the defined purposes and eligible activities of the EECBG Program. These goals and objectives should be comprehensive and maximize benefits community-wide. Provide a schedule or timetable for major milestones. If your government has an existing energy, climate, or other related strategy please describe how these strategies relate to each other.
2. Describe your government's proposed implementation plan for the use of EECBG Program funds to assist you in achieving the goals and objectives outlined in the strategy describe in question #1. Your description should include a summary of the activities submitted on your activity worksheets, and how each activity supports one or more of your strategy's goals/objectives.
3. Describe how your government is taking into account the proposed implementation plans and activities for use of funds by adjacent units of local government that are grant recipients under the Program.
4. Describe how your government will coordinate and share information with the state in which you are located regarding activities carried out with grant funds to maximize energy efficiency and conservation benefits.
5. Describe how this plan has been designed to ensure that it sustains benefits beyond the EECBG funding period.
6. The President has made it clear that every taxpayer dollar spent on our economic recovery must be subject to unprecedented levels of transparency and accountability. Describe the auditing or monitoring procedures currently in place or that will be in place (by what date), to ensure funds are used for authorized purposes and every step is taken to prevent instances of fraud, waste, error, and abuse.



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County Facility Operations Improvements and Program Administration



County Facilities Lighting, HVAC, Temperature and Related Energy Efficiency Retrofits; Reimbursement of County Staff Effort /Program Administration; and County Facility Roof, Air Handler, Demand Control Retrofits

Seminole County has been incorporating sustainable building features into facilities for some time. In 2003, the County completed the “Green Lights” program, which involved switching out fluorescent bulbs and ballasts for more energy efficient products in many of the County’s major buildings. Since 1993, the County has saved almost \$560,000 by participating in Florida Power and Light’s Load Control program. The County’s Criminal Justice Center, completed in 2004, incorporates drought tolerant landscaping materials, low water consumption plumbing fixtures, energy efficient air conditioning systems, and computer controlled lighting systems. In 2007, the County replaced more than \$1,000,000 worth of old, energy inefficient HVAC equipment at the County Services Building. Each of these activities has a demonstrated energy savings and environmental programmatic objective. Continued investment improving County facility lighting, temperature, HVAC and related energy efficiency retrofits with EECBG funds will facilitate short and long term reductions to greenhouse gas emissions, a reduced carbon footprint associated with these facilities, and continue existing successful cost control measures. Pursuant to the U.S. Department of Energy EECBG grant award provision, project funds may be utilized to off-set County staff effort and grant administration costs. Additional funding is targeted to identified capital project needs to retrofit existing County facilities through roof and air handler replacements and installation of demand control instrumentation that is expected to generate energy efficiencies and operational cost savings for existing facilities. These projects had been previously identified by County staff but were not funded in the current fiscal year budget as a result of revenue constraints. Use of EECBG funds will avoid future local funding demands in the future.



Environmental Services Investment

Utility System Variable Frequency Drives (VFD's) High Efficiency Motors and System Upgrades

Environmental Services has already demonstrated the energy efficiency and cost savings associated with migration to variable frequency drives and high efficiency motors within its water and wastewater system. As part of the assessments initiating the development of EECBG strategy, County staff identified several additional locations that have not yet been funded or installed. Allocation of a portion of the EECBG funding provides the opportunity to quickly roll-out these funds and commence savings within the current fiscal year while meeting EECBG program requirements to reduce energy consumption and GHG emissions.



County Facility Renewable Energy Deployment

Renewable Energy Systems at County Facilities (Public-Private Partnership RFI & Implementation)

The County would use the EECBG funds within the framework of a Power Purchase Agreement Model, also known as a PPA, or Energy Services Contract. The agreement would be established within regulatory rules for the State of Florida and consider various tax credit options. Among these considerations are new market and energy credits, rebates and any other financing options including grants and banking relationships. The EECBG funds would establish a source of County matching funds to invest in the deployment of renewable energy generation to provide an alternative energy source to off-set current electric grid load demands and provide an ability for any excess power generated to be sold back to the grid. The issuance of a Request for Information (RFI) is proposed to solicit proposals from a variety of renewable energy sectors that can then be evaluated prior to undertaking selection of preferred renewable energy sectors and facility deployment. The County has already received unsolicited informal inquiries from biomass, solar, wind and other renewable energy parties with an interest in securing rights to County lands or facilities and this process will provide a transparent method for fairly considering these options prior to implementation.



County Regulatory Program

Upgrade Land Development Code (Low Impact Development Standards & Efficiency Incentives)



Low impact development (LID) is a regulatory and design approach to land development that uses various land planning, design and construction practices to simultaneously conserve and protect natural resource systems while reducing infrastructure construction and operating costs. The current Seminole County Comprehensive Plan sets the foundation for this approach. LID is a more sustainable land development approach that begins with a site planning process that first identifies critical natural resource areas for preservation. LID techniques may include maintaining natural drainage flow paths, bio-retention/bio-swales, minimizing land clearance, clustering buildings, and reducing impervious surfaces. Completing an assessment of existing County Land Development Regulations and developing recommended changes to incorporate best practices and remove regulatory impediments to redevelopment will have long term benefits for future economic and sustainable growth in the County.

Targeted Community Revolving Loan/Grant Pool Pilot Program

Energy Efficient Loan/Grant Pool for Renewable Energy – Property Assessed Clean Energy Loans



This proposed program includes funding energy efficiency retrofitting in the community through a loan program following the models already in use by several communities across the country (including Orlando Utilities Commission, Tallahassee Utilities, Lakeland Utilities,). Combined and coordinated with FPL/Florida Power existing energy audit programs, the program provides an alternative low cost financing for retrofits that can be paid back through special assessments similar to water/wastewater connection fee financing already offered by Seminole County. The proposed program can require the pre-qualification of local installers/contractors to complete the energy efficiency improvements. The program would involve creation of a sustainable energy special financing district. The County secures a pool of funds for the projects from a bond or loan fund that gets repaid through assessments on participating property owners' tax bills. Assessments are proposed to be spread over a period up to 20 years, the approximate time it takes to recover typical full costs of conversion to a complete home renewable energy system. The special financing district solves many of the financial hurdles facing property owners. First, there would be little upfront cost to the property owner by utilizing the EECBG funds to underwrite some of the program cost in establishing the loan pool. Second, the total cost of the renewable energy system and energy improvements may be less when compared to financing through a traditional equity line or mortgage refinancing. Third, the special financing tax assessment is transferable between owners. Property owners and their contractors would be required to agree to certain terms and conditions mandating energy efficiency steps, appropriate warranties, and other performance measures to take advantage of the financing. The special financing district differs from existing MSBU's in place for roadway and lighting districts throughout the county, because the program would **allow individual property owners to voluntarily opt-in** to the program.



Part 1 – Foundation of Approach

The consultant team and county staff have approached the development of Seminole County’s Energy Efficiency and Conservation Strategy through a modified application of the methodology underlying the Five Milestones developed by ICLEI-Local Governments for Sustainability. The methodology provides a standardized means of calculating greenhouse gas emissions, establishing targets to lower emissions, reducing greenhouse gas emissions and monitoring, measuring and reporting performance. The Five Milestone Approach was modified to accommodate the shortened timeframes required by the conditions of the County’s grant from the U.S. Department of Energy and to reflect limits of the readily available data sources.

The Five Milestone Methodology for setting and meeting climate mitigation goals has been applied to the Seminole County strategy development as follows:

1. **Conduct a baseline emissions inventory**

Greenhouse gas emissions for a base year (e.g., 2006) and interim year (FY2009) were completed. The calculations capture emissions levels from all applicable county operations (e.g., county owned and/or operated buildings, streetlights, wastewater treatment facilities). This inventory provides a benchmark for planning and monitoring progress.

2. **Identify an emissions reduction target for the forecast years**

The project team recommends that an emission reduction target be formally set for the county. The target is essential to create a framework that guides the planning and implementation of measures across the organization.

3. **Develop a Local Climate Action Plan/Energy Efficiency and Conservation Strategy**

The plan details the policies and measures recommended to be considered by Seminole County to reduce greenhouse gas emissions and achieve its emissions reduction target.

4. **Implement policies and measures**

Going forward, Seminole County will implement the policies and measures contained in the Energy Efficiency and Conservation Strategy.

5. **Monitor and verify results**

Monitoring and verifying progress on the implementation of measures to reduce or avoid greenhouse gas emissions is an ongoing process. Monitoring begins once measures are implemented and continues for the life of the measures, providing important feedback that can be use to improve the measures over time.



Part 2 – State of the Science and Community Background

History: The United Nations convened the World Commission on Environment and Development in 1983 to address a growing concern about the world-wide quality of the human environment and natural resources. Also known as the Brundtland Commission, its focus on considering the consequences of these deteriorating conditions upon economic and social development led to their release in 1987 of a definition of sustainable development as meeting: “...the needs of the present without compromising the ability of future generations to meet their own needs.”

Building upon this work and a growing interest across the globe in sustainability and climate change, environmental advocate and business strategist John Elkington coined the phrase, “the triple bottom line” to describe a process for optimizing three foundational elements of sustainability. The ‘Triple Bottom Line’ has gained acceptance as a broader method to measure success through balanced achievements in environmental Awareness, economic growth and social responsibility.

Seminole County’s Energy Efficiency and Conservation Strategy relies upon this core approach to develop implementation opportunities for county operations and the community at-large.

Supporting Science: Climate scientists have reported an observable increase in the atmospheric concentration of greenhouse gases dating back to the industrial revolution. The International Panel on Climate Change identifies six greenhouse gases (GHG’s):

1. Carbon Dioxide (CO₂)
2. Methane (CH₄)
3. Nitrous Oxide (N₂O)
4. Hydrofluorocarbons (HFC)
5. Perfluorocarbons (PFC)
6. Sulfur Hexafluoride (SF₆)

Each of these gases is believed to contribute to the greenhouse effect by trapping heat in the atmosphere and contributing to global temperature increases. Potential impacts from continued global temperature increases that are likely to have long term impacts on Seminole County include: sea level rise, greater storm intensities and rising global temperatures. Understanding and quantifying local and regional contributions to these impacts can serve to identify strategies to improve Seminole County’s short- and long-term economic and environmental sustainability. A lack of planning for our shared future may have dramatic consequences.





Florida: A recent study on climate change by Tufts University (Stanton and Ackerman, 2007) found that Florida stands to be greatly impacted if no actions are taken to mitigate climate change. Significant losses in tourism revenues, increased damage from hurricanes and stronger intensity storms, increased cost of electricity, and impacts to real estate values and community infrastructure may be significant.

The Tufts report quantified financial impacts if no mitigation efforts are undertaken to amount to over \$92 million by 2050 and to over \$345 million by 2100. These values are projected to equate to 2.8 percent and 5.0 percent, respectively, of the forecasted Florida Gross State Product. The compounding of these effects with current economic conditions may further exacerbate these projections and direct community impacts.

The U.S. Environmental Protection Agency (EPA) projects that the effects of climate change could include increased temperatures across all seasons leading to potentially more heat-related death and disease, increased precipitation, and adverse impacts to water quality and water supply. Seminole County has the opportunity to mitigate local impacts, including flooding and contribute to the success of regional and state efforts.

The Florida Department of Environmental Protection's Preliminary Inventory of Florida Greenhouse Gas Emissions 1990-2004 provides a summary of a statewide GHG inventory using the U.S. Environmental Protection Agency's State Inventory Tool. The report shows that total GHG emissions have increased since 1990 at an average rate of 2.5 percent per year. The two primary causes of those increases are electric power and the transportation sectors that are responsible for over 90 percent of Florida emissions:

- *Electric power emissions equaled 49 percent of total emissions.*
- *The combustion of motor fuels for all modes of transportation produced 43 percent of the total. A significant factor in the rise in transportation-related GHG emissions is the increase in Vehicle Miles of Travel.*
- *The balance (8 percent) of Florida GHG emissions were associated with landfills, cement plants, and agriculture.*

Florida ranks sixth among the states in total GHG emissions, and is 30th among the world's top 75 emitters among states and nations (Center for Climate Strategies 2007). Florida produced 255.4 mmt (million metric tons, hereafter designated tonnes) of CO₂ in 2004. From 1990 to 2004, Florida CO₂ emissions increased 37%, second in absolute growth only to Texas (Environment Florida 2007). Most of this increase in CO₂ emissions came from increases in the transportation sector, specifically gasoline consumption, while most CO₂ emitted was produced by power plants.





Greenhouse Gas Sources: Some of the GHG's have a higher potential for heat trapping than others. As an example, the International Panel on Climate Change research summaries suggests that methane has a warming potential that is 21 times greater than that of carbon dioxide.

In order to standardize reporting and to establish an ability to compare GHG emissions across different economic sectors and sources, GHG's are typically converted to carbon dioxide equivalents (CO₂e). Activity data used to determine total CO₂e are initially converted using emission factors that are specific to a region and production source. As an example, for the Seminole County analyses, emissions data have utilized standard total electrical kilo-watt emission coefficients for Florida and the Southeast that are published by the EPA.

Several different GHG protocols are in use and have been developed by a variety of organizations. These include the World Resource Institute/World Business Council for Sustainable Development (WRI/WBCSD), the International Panel on Climate Change (IPCC), the U.S. EPA's Climate Leaders Program and ICLEI – Local Government for Sustainability.

The EPA provides this brief summary of primary human activities associated with each of the principal greenhouse gases:

- **Carbon Dioxide (CO₂):** Carbon dioxide enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄):** Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- **Nitrous Oxide (N₂O):** Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.
- **Fluorinated Gases:** Hydrofluorocarbons, Perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases ("High GWP gases").



The following table presents a summary of typical sources of GHG's that are attributed to human activity.

Sources of Greenhouse Gases	
Carbon Dioxide	Burning Fossil Fuels Solid Waste
Methane	Organic Waste Decomposition
Nitrous Oxide	Aerobic decomposition
Hydrofluorocarbons	Refrigerants
Perfluorocarbons	Industrial Activity
Sulfur Hexafluoride	Electrical transmission and distribution

Local government operations and services typically contribute many of these same sources through daily activity necessary in the course of meeting community needs.

Performance Metric: Seminole County in coordination with the consultant team facilitated the County's membership in ICLEI in September 2009. The ICLEI process and standard was selected to complete the inventory assessment on behalf of the County because of their suite of customizable and standardized GHG and climate change tools in use by over 25 communities in Florida and its acceptance by the U.S. Department of Energy for GHG baseline analyses.

ICLEI is an international membership association comprised primarily of local governments who are dedicated to climate protection and sustainable development. ICLEI was conceived in 1989 when 35 local government leaders from Canada and the USA met with a leading atmospheric scientist about the depletion of the ozone layer. They pledged to establish local laws to phase out chemicals that deplete the Earth's ozone layer.

The organization was formally established in 1990 when more than 200 local governments from 43 countries convened at the World Congress of Local Governments for a Sustainable Future, at the United Nations in New York. At that time it was established as the International Council for Local Environmental Initiatives (ICLEI).

In 2003, ICLEI's Members voted to revise the organization's mission, charter and name to better reflect the challenges local governments are facing in the arena of climate change, economic sustainability and social responsibility. The International Council for Local Environmental Initiatives became ICLEI—Local Governments for Sustainability with a broader mandate to address sustainability issues.



Today, ICLEI is comprised of 1107 cities, towns, counties and their associations, in 68 countries worldwide. Their suite of available tools include: The Clean Air Climate Protection (CACP) software, The Climate and Air Pollution Planning Assistant (CAPPA), The Local Government Operations Protocol, and The Next Generation Emissions Analysis Software.

Methodology: In 2001, ICLEI joined forces with the National Association of Clean Air Agencies (NACAA) and the U.S. Environmental Protection Agency (EPA) to build a software product that would help local governments create greenhouse gas inventories, quantify the benefits of reduction measures, and formulate local climate action plans. The result -- the original CACP Software -- has been helping local governments for five years develop climate action plans that harmonize strategies to reduce both greenhouse gas and air pollution emissions.

The ICLEI software tool, CACP (Clean Air and Climate Protection) 2009 Software is considered an emissions management instrument tailored to support emissions inventorying and climate action planning based on the principles and methods of the Local Government Operations Protocol.

The CACP software quantifies GHG's produced within a variety of sectors for baseline, interim and forecast years. The software converts data readily available from Seminole County information using pre-loaded emissions factors into CO₂e and criteria air pollutants.

This software was used to establish a baseline account of County energy consumption and emissions for FY 2006 and FY 2009, as well as forecast energy demand and emissions for future years including 2010, 2015 and 2020.

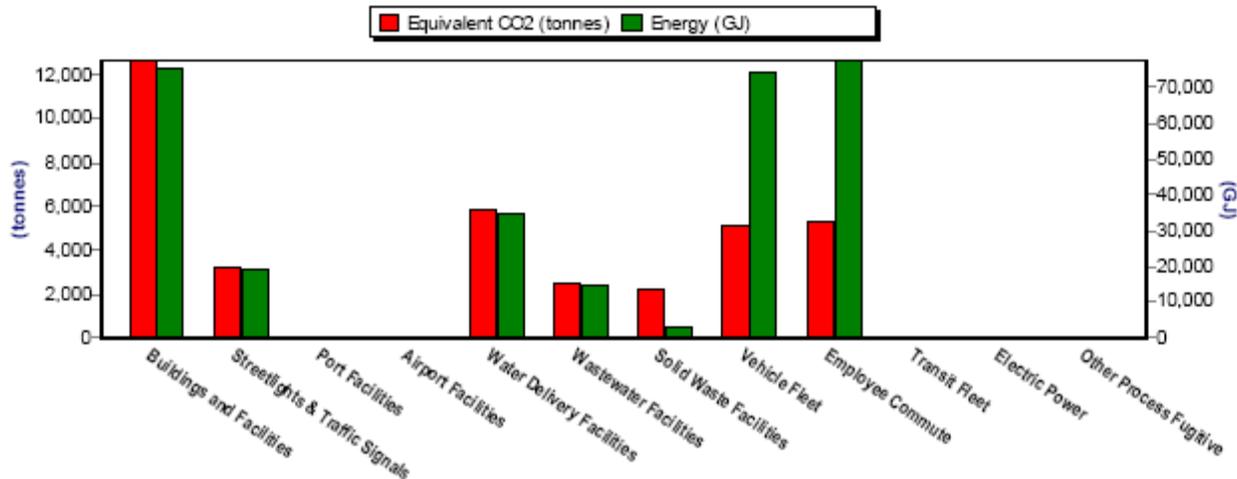


Baseline methodology in this study considers a county fiscal year basis in order to allow future year applications as a decision tool during the county budget process. Analyses have been based on available data and information as provided by Seminole County. The data are categorized into major sectors as follows: Buildings, Vehicle Fleet, Employee Commute, Streetlights, Water - Wastewater, and Solid Waste. Through the use of this tool, communities are able to set goals for emission reductions and standards, and closely track their progress in achieving these objectives based on reduction strategies.



Seminole County Government Greenhouse Gas Emissions in 2006 Summary Report

	CO ₂ (tonnes)	N ₂ O (kg)	CH ₄ (kg)	Equiv CO ₂ (tonnes)	(%)	Energy (MMBtu)	Cost (\$)
Buildings and Facilities	12,567	162	438	12,626	34.4	71,711	1,920,734
Streetlights & Traffic Signals	3,251	42	113	3,266	8.9	18,551	0
Water Delivery Facilities	5,796	75	202	5,823	15.9	33,073	899,134
Wastewater Facilities	2,414	31	84	2,426	6.6	13,777	345,560
Solid Waste Facilities	2,192	6	16	2,194	6.0	2,664	74,577
Vehicle Fleet	4,999	285	209	5,091	13.9	70,523	796,533
Employee Commute	5,205	326	309	5,312	14.5	73,430	1,445,898
Total	36,423	927	1,373	36,740	100.0	283,728	5,482,436

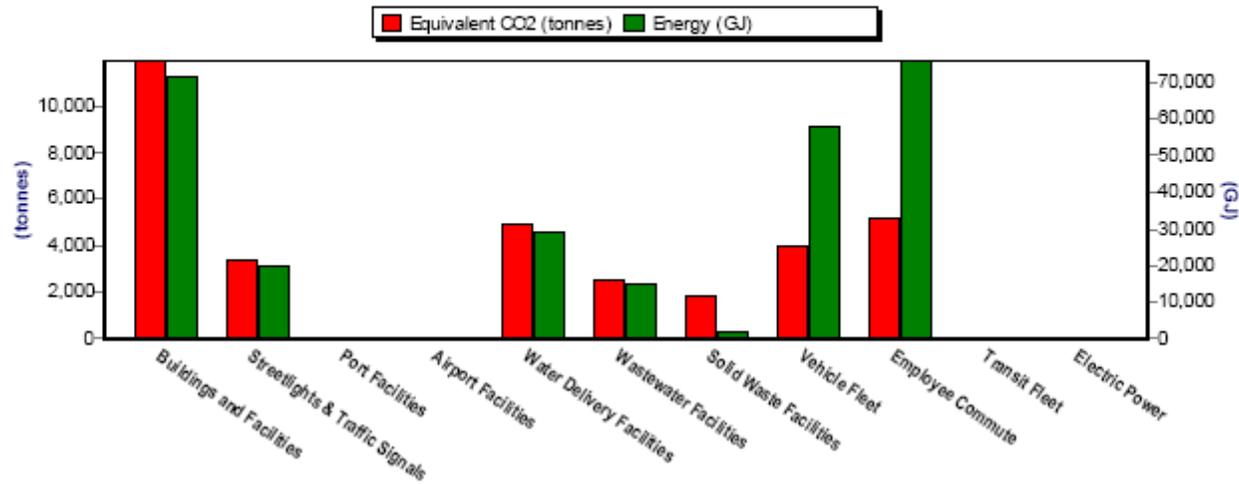


Seminole County

Government Greenhouse Gas Emissions in 2009

Summary Report

	CO ₂ (tonnes)	N ₂ O (kg)	CH ₄ (kg)	Equiv CO ₂ (tonnes)	(%)	Energy (MMBtu)	Cost (\$)
Buildings and Facilities	11,865	153	414	11,922	35.4	67,708	1,969,878
Streetlights & Traffic Signals	3,332	43	116	3,347	9.9	19,012	0
Water Delivery Facilities	4,870	63	170	4,893	14.5	27,791	967,796
Wastewater Facilities	2,549	33	89	2,561	7.6	14,546	425,478
Solid Waste Facilities	1,828	4	12	1,828	5.4	1,970	64,005
Vehicle Fleet	3,903	207	176	3,971	11.8	55,071	425,320
Employee Commute	5,087	328	310	5,196	15.4	71,773	1,237,852
Total	33,434	832	1,287	33,718	100.0	257,871	5,090,329





SUSTAINABLE SEMINOLE

Draft Created on 11/11/11

Conservation – recycling activities, reuse and renewal of resources

Development Standards – Florida Green Building Coalition, LEED, ICLEI, low impact design standards

Energy - efficiencies, alternative renewable sources, reduced vehicle miles traveled

Environment – hazardous materials management, air quality, habitat protection, land management, carbon sequestration

Financial Incentives – amnesty days, revolving loan pool, public-private partnerships

Outreach – education, community engagement

Water – conservation, reclaimed water, water quality, water use restrictions

