

## 2011 Survey Municipal Green Initiatives Survey

This spring, Broward County's Energy & Sustainability Program reached out to our 31 municipalities to explore the scope and diversity of energy efficiency initiatives and sustainability programs implemented.



Fifty-five questions covered 10 topic areas.

- General Program Information
- Greenhouse Gas Mitigation
- Water Use and Conservation
- Energy
- Transportation
- Built Environment
- Waste Reduction and Recycling
- Comprehensive Planning
- Adaptation Planning
- Next Steps

[2011 Survey results](#) illuminate general trends in program direction, priorities, and funding, but not success stories, identify best management practices, and propose opportunities for future community program advancement.

By sharing the survey results, and through the upcoming development of an online clearinghouse and collaborative workshops, we hope to:

- Produce information that is useful to the participating municipalities and Broward community
- Create a platform for cooperatively advancing energy efficiency and sustainability programs
- Capture, celebrate and share our collective achievements

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# Sustainability in Broward County, Florida

## *Local Governments in Action*



Broward County Energy & Sustainability Program  
Natural Resources Planning and Management Division  
An Energy Efficiency and Conservation Block Grant Supported Activity

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# Broward County Energy and Sustainability Program 2011 Municipal Green Initiatives Survey Summary Report

## Objective

As part of Broward County's Energy and Sustainability Program efforts related to the U. S. Department of Energy's Energy Efficiency and Conservation Block grant activities, an online survey was distributed to the 31 municipalities within Broward County's geographic borders on March 9, 2011. The purpose of the 2011 Municipal Green Initiatives Survey was to gain a greater understanding of the scope and diversity of energy efficiency initiatives and sustainability related programs implemented throughout the County.

This report summarizes the outcome of the survey and highlights best practices undertaken by municipal and county governments. The first section focuses on key findings. In the next section, a more detailed description of the results of each survey topic area is covered, including highlights of some of the initiatives and best practices from the responding cities. In the last section, areas for future community-wide collaboration and program advancement are discussed. The report is followed by three appendices containing the contact information of survey participants, a table of specific initiatives or actions taken per municipality and the complete responses for each question in the survey.

Survey results, resource links and examples of best practices will be available through an online clearinghouse currently under development by the County. The major goals of the Energy and Sustainability Clearinghouse are to:

- *Gather together existing sustainability information and share it with the participating municipalities and Broward community*
- *Capture, celebrate and share the collective achievements of local government*
- *Create a platform for cooperatively advancing energy efficiency and sustainability programs*

## Participants

Each of Broward County's 31 municipalities participated in the information gathering process initiated by the 2011 Municipal Green Initiatives Survey. Prior to the survey being administered, the purpose and goals of the survey, the likely scope, and its context within the Energy and Sustainability Program were communicated to staff from each of the municipalities. Various departments within each city were included, from planning and zoning, community development, environmental services, etc. This provided a broad range of individuals and disciplines from each municipality to serve as primary and supporting roles in the municipality's collective response to the survey. Of the County's 31 municipalities, 28 successfully completed and returned the survey, one municipality had limited participation and two had no green initiatives to report. The survey was also completed by Broward County staff, as to truly capture and reflect the scope of energy efficiency initiatives and sustainability efforts undertaken by local governments throughout the entire county.

## Scope

The depth and breadth of the 2011 Municipal Green Initiatives Survey (see Appendix C for survey questions) was significant, requiring a dedicated commitment from the identified contacts in each municipality. Fifty-five questions covered 10 topic areas:



### General Program Information



### Greenhouse Gas Mitigation



### Water Use and Conservation



### Energy



### Transportation



### Built Environment



### Waste Reduction and Recycling



### Comprehensive Planning



### Adaptation Planning



### Next Steps

The intent was to gain an understanding of what general energy efficiency, green, climate and sustainability programs were currently underway, what specific actions were taken within these programs, who could report on success stories and how common obstacles could be overcome in the planning and implementation of these initiatives. Because these types of efforts typically require the attention of multiple staff across many departments, collecting data proved especially challenging. Communication and coordination became a critical component of administering the survey successfully.

## Key Findings

The 2011 Municipal Green Initiatives Survey collected quantifiable/comparable information through structured response questions, and qualitative information to identify best practices and discuss challenges through open-ended questions. The following is a summary of some of the key findings gleaned from analysis of the survey results.

In general, most sustainability initiatives in the Broward community prioritize economic development, protection of resources and emissions reductions. They were most often funded through the cities' general funds and/or federal grants. The four topic areas most commonly covered by these initiatives or programs are native landscaping, recycling and waste management, water conservation and energy efficiency and conservation.

Specific sustainability initiatives where Broward municipalities are making significant strides include increasing local energy production and improving energy efficiency. Over half of respondents reported having installed solar panels on governmental/institutional facilities. Additionally, while cities are reporting significantly increasing energy efficiency through technology, program goals and physical retrofits, improvement is needed in tracking energy usage, working collaboratively to save money and moving toward energy independence as a community.

Many positive responses were received regarding alternative transportation improvements, recycling initiatives and efforts to reduce the carbon footprint of water treatment and supply. For example, in the last five years, more than half of respondents reported adding biking/walking trails or making improvements to bus shelters in their city. More than 80 percent have recycling at government facilities, and the same percentage have implemented community-wide single-stream or comingled recycling. Of the cities which operate a water or wastewater treatment facility, 13 have taken significant steps to address energy use. Some of these actions include: energy audits, equipment upgrades, ordinances which prohibit potable water for irrigation and progressive water reuse plans.

Sustainable building design practices and reducing energy demand in the built environment is another area in which local governments are making progress. About half of respondents reported offering incentives for green construction and, of the municipalities that have updated their comprehensive plans recently, more than 80 percent have included language to address energy efficiency and greenhouse gas reduction strategies.

Many are also interested in working with Broward County government to plan for climate change. More than half were aware that the County is in the process of creating a Climate Change Element for inclusion into the Broward County Comprehensive Plan. Ninety-seven percent said that a template would or may be useful to them in order to create a Climate Change Element within the municipal Comprehensive Plan.

Finally, when asked what survey participants wanted to come out of the survey process, 96 percent would like to see an online clearinghouse of information developed on initiatives in the Broward community. Seventy-eight percent said that they would like to participate in a series of workshops dedicated to highlighting best management practice (BMPs) initiated locally in our community.

## Results and Analysis

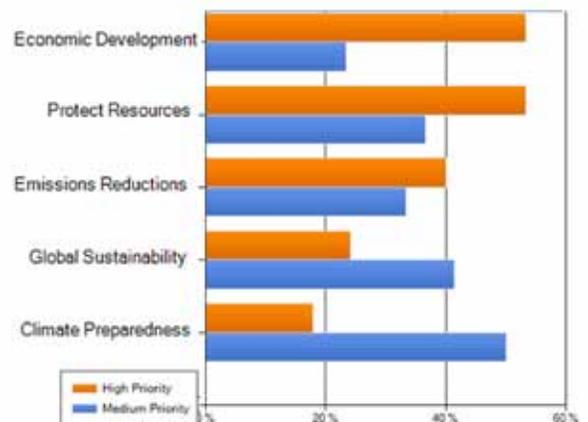


### General Program Information

#### Main Objectives of Sustainability Initiatives

*Economic Development* and *Protection of Resources* were equally considered as the highest priority of respondents' sustainability objectives at 53 percent.

*Emissions Reductions* ranked the third highest high priority at 40 percent, and *Climate Preparedness* was the objective most often chosen by respondents as a medium priority, at 50 percent.

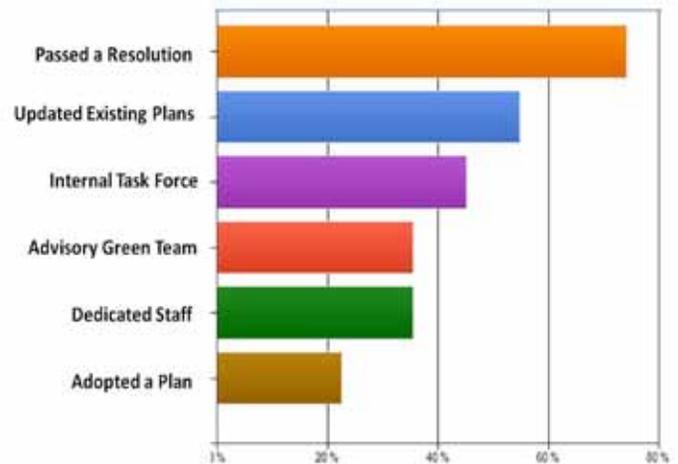


## Sustainability, Energy Conservation and Climate Change Actions Recently Taken

With regards to energy conservation, climate change, or overall sustainability, almost three-fourths (74 percent) of all respondents have passed a resolution in support of programs or initiatives.

More than half (54 percent) have included “green” goals, objectives and policies into existing plans, and nearly half (45 percent) have established an internal green committee or task force.

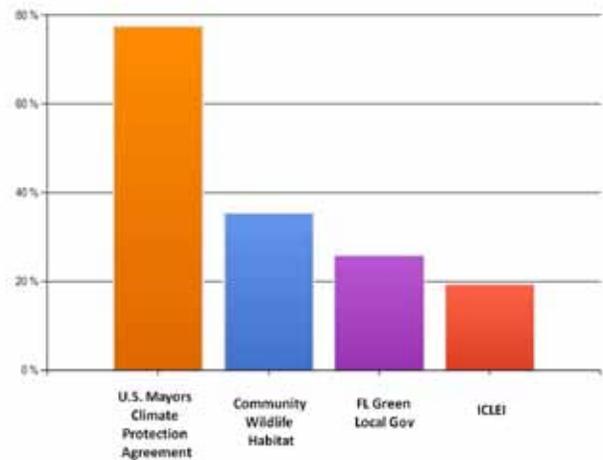
More than one third of respondents (35 percent) have appointed a citizens committee or advisory green team and have dedicated staff to the sustainability effort.



## Coalitions Joined and Commitments Pledged

The majority of municipalities in Broward County have signed the U.S. Mayors’ Climate Protection Agreement (77 percent).

More than one third (35 percent) have achieved a Community Wildlife Habitat/NatureScape Broward designation, and one quarter (25 percent) are certified as a Florida Green Local Government by the Florida Green Building Coalition (FGBC). Additionally, almost one-fifth (19 percent) participate in Local Government’s for Sustainability’s (ICLEI) Cities for Climate Protection.



### Local Government Highlight:

Lauderhill was a 2010 Honorable Mention winner of the U.S. Mayors Climate Protection Award for their program and Web site. Check out their sustainable initiatives and green programs by visiting [www.lauderhillgreen.com](http://www.lauderhillgreen.com)

## Sustainability Programs Through the Broward Community Address a Number of Important Issues

Most respondents (68 – 75 percent) reported that their programs address four major issues:

- *Native Landscaping*
- *Recycling and Waste Management*
- *Water Conservation/ Reuse*
- *Energy Efficiency and Conservation*

More than half (50 – 59 percent) also cited the following four aspects of sustainable planning:

- *Urban Canopy and Open Space*
- *Green Building*
- *Community Education*
- *Promoting Alternative Modes of Transportation*

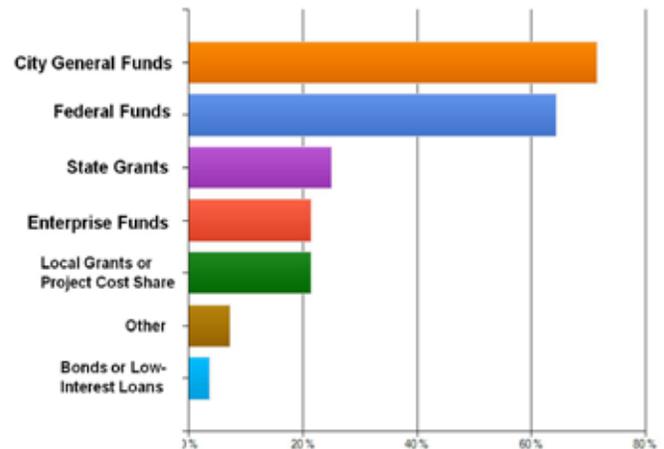
A significant number (25 – 46 percent) also address:

- *Green Purchasing*
- *Reducing Vehicle Miles Traveled*
- *Alternative Fuels*
- *Air Quality*
- *Renewable Energy Generation*

## How Local Governments are Funding their Sustainability Initiatives

Most municipalities in Broward County are using *City General Funds* and/or *Federal Grants* to fund their sustainability programs (71 percent and 64 percent respectively).

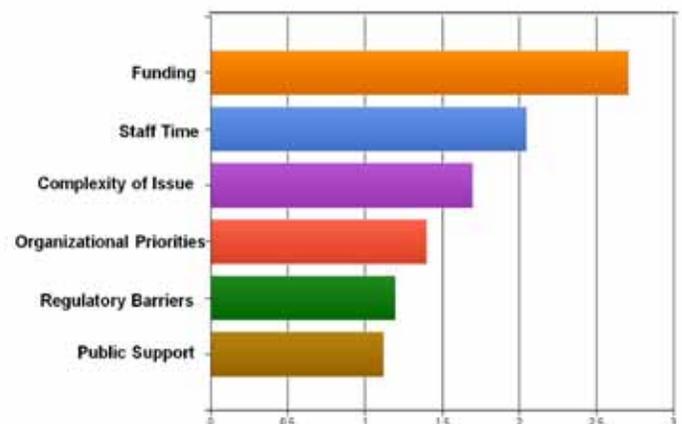
Significantly less, but still a noteworthy number, are employing alternative strategies, such as *State Grants* (25 percent), *City Enterprise Funds* (21 percent) and/or *Local Grants/Project Cost Share* (21 percent) options.



## Biggest Obstacles to Developing/Implementing Sustainability Programs

*Funding* was cited by respondents as the biggest obstacle to the development and/or implementation of sustainability programs.

*Staff time* was ranked the second biggest obstacle and *Complexity of Issue* came in as the third greatest obstacle.





## Greenhouse Gas Mitigation

Twenty percent of respondents reported having done a Greenhouse Gas (GHG) Emissions Inventory for their municipality's internal/government operations and 16 percent reported having completed one city-wide. Of those who have taken steps to inventory their GHG emissions, 71 percent used the Clean Air and Climate Protection (CACP) Software by ICLEI, while 29 percent used another method, such as their own tracking software. Additionally, 11 respondents were aware that Broward County completed a community-wide GHG Inventory in 2007, and six also reported using that inventory in their municipality's sustainability planning.

While work remains to achieve the goal of all municipalities performing emissions tracking, many have already taken steps to sequester carbon dioxide emissions. Two-thirds of respondents (20 of 30) reported having incentives or programs dedicated to increasing the urban forest or tree canopy. Activities range from landscape ordinances and codes for streets, businesses, and neighborhoods to educational events and community or grant supported native plant sales and tree give-aways.

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**Local Government Highlight:** The City of Tamarac's 2010 Climate Action Plan incorporates findings from their 2008 Community-wide Greenhouse Gas Emission Inventory and their 2008 Government Greenhouse Gas Inventory.

The plan sets out policies and measures that the city will implement to reach a reductions goal of 7 percent below the 2008 baseline by 2015. The ICLEI CACP software was used to provide a specific energy savings (or water or fuel savings) for each measure.

See the [report](#) or visit:

<http://publicagenda.tamarac.org/AttachmentViewer.aspx?AttachmentID=4923&ItemID=2301>

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**Local Government Highlight:** Broward County's NatureScape program has certified more than 3,000 yards, including 88 county facilities. These Florida-friendly landscapes increase overall tree canopy, reduce irrigation needs and reduce GHG by reducing the amount of electrical power needed to maintain building operation.

The County also provides significant training to the community. Last year alone, 387 programs were given to 46,289 participants throughout the County, offering education in NatureScape best management practices and Florida-friendly landscapes and hosting workshops such as the Habitat Stewards trainings. These programs lower GHG emissions by promoting sustainable practices for additional carbon dioxide sequestration and storage.

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### Energy Conservation as a Function of Water Conservation

Water and wastewater treatment plants are often a significant portion of a municipality's energy consumption. Of the cities that operate a water or wastewater treatment facility, 13 have taken significant steps to address its energy use. Nine respondents also reported having community-wide water conservation strategies that might be beneficial to share with other participants.

Actions range from energy audits and equipment upgrades to ordinances that prohibit potable water for irrigation and progressive water reuse plans. Through the Energy and Sustainability Program, Broward County plans to create both virtual and face-to-face opportunities for participants to share some of these best practices and lessons learned, so that we might all advance in our efforts to more efficiently manage these precious shared resources.

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**Local Government Highlight:** The City of Miramar prohibits potable water for irrigation through a city ordinance. Miramar also:

- Uses grass carp fish instead of chemicals for weed control management in the city's waterways
- Eliminated the planting of annuals and uses only drought-tolerant plants and trees
- Runs a Residential Plumbing Fixture Replacement Program (with SFWMD WaterSIP funding)
- Produces four million gallons per day (MGD) of Reclaimed Wastewater. To see more information, visit: [www.ci.miramar.fl.us/green/docs/MiramarSustainability.pdf](http://www.ci.miramar.fl.us/green/docs/MiramarSustainability.pdf)



**Local Government Highlight:** Pompano Beach Utilities Department has implemented a number of energy-saving practices and upgrades, such as: automatic meter reading (AMR), FPL load sharing program, installation of vehicle tracking systems, leak detection program and water and sewer relining programs, and is implementing others such as variable frequency drives (VFD) on pumps and refurbishing filters at the reuse plant. In addition, Pompano's water reuse system (OASIS), provides approximately two million gallons per day (MGD) of irrigation water to the area and has saved more than ten billion gallons of Biscayne Aquifer water since 1989. Under a new program in partnership with Broward County, the City will connect single-family homeowners to the reuse system at no cost to the homeowner. The City will take care of all plumbing work and permits. Visit their new Web site at [www.iCanWater.com](http://www.iCanWater.com)



## Government Operations Energy Usage

Participants reported a number of strategies being employed to reduce the amount of energy used by government operations.

The top strategy used to decrease energy use is:

- Purchase Energy Star, “green” or Electronic Product Environmental Assessment Tool (EPEAT) certified equipment when available (65 percent)

Half of all respondents (50 percent) also reported using the following three strategies to decrease energy usage:

- Purchased alternative fuel vehicles
- Conducted energy audits of government buildings
- Installed energy management systems to control heating and cooling (HVAC) in buildings

About a third (30-34 percent) reported saving energy by:

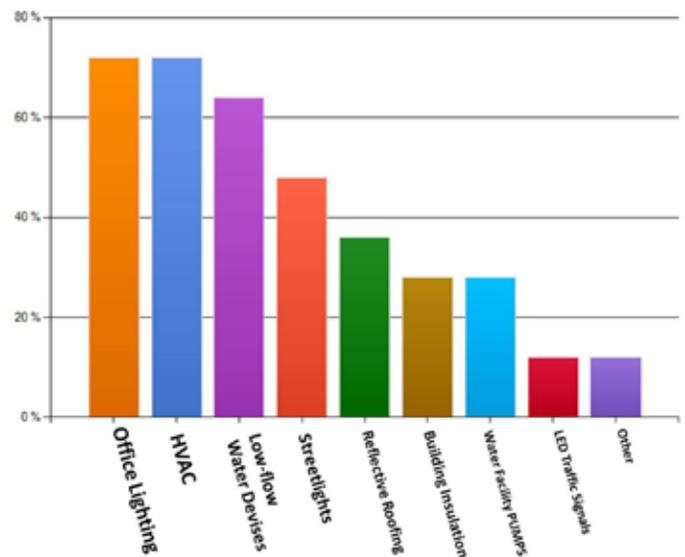
- Having alternative fuels available to their fleet
- IT Solutions (like server virtualization)
- Other strategies

## Recent Energy Efficiency Upgrades/Retrofits of Government facilities and Services

Many survey participants reported completing energy efficiency upgrades or government facility retrofits in the last five years.

The top two upgrades were for HVAC and Office Lighting (72 percent of respondents).

The next most popular upgrades were Low-flow Water Devices, Streetlights or other Exterior Lighting, and Reflective/Cool Roofing (64 percent, 48 percent and 36 percent respectively).



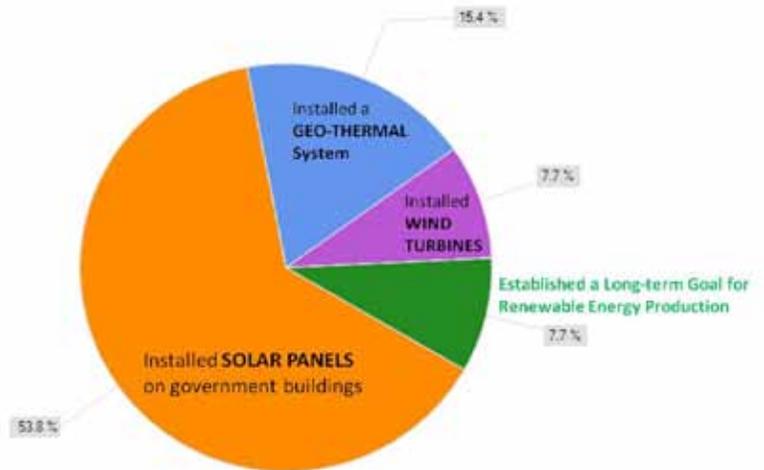
## Actions Taken to Increase Energy Production

Broward municipalities are also making significant strides toward increasing local energy production.

More than half of respondents (54 percent) reported having *installed solar panels on governmental/ institutional facilities*.

A much smaller percentage (7-15 percent) reported *installing a geothermal system, wind turbine or having a long-term goal for renewable energy production*.

These actions, in addition to further advancing the use of solar energy, should be target areas for increased focus in our community in the future.



<http://blog.energy.gov/blog/2011/05/13/hollywood-florida-celebrates-less-traditional-type-sweeps-week>

### Local Government Highlight:

City of Hollywood's Green SWEEP (Solar Wind Energy Efficiency Project), includes the installation of solar photovoltaic panels, wind turbines and new reflective cool roofs at four facilities. These energy efficient and renewable energy technologies, along with other environmentally-friendly practices, were demonstrated at a kick-off event with elementary students and the City's Mayor this April. For more information, visit

[www.energysystemsgroup.com/hollywood](http://www.energysystemsgroup.com/hollywood)

## Community Focused Energy Initiatives

The survey shows widespread support for initiatives that promote renewable energy production and the reduction of energy consumption in the community. Respondents reported employing a variety of strategies. These include:

- Incentives, rebates or give-aways of energy efficient fixtures and appliances (37 percent)
- Weatherization assistance (26 percent)
- Reducing regulatory barriers to residential renewable energy production (21 percent)
- Revolving Loan Funds for energy efficiency and renewable energy improvements (16 percent)
- Renewable energy demonstration projects (10 percent)



**Local Government Highlight:** Through the City of Fort Lauderdale’s Smart Watts Program, Fort Lauderdale residents may qualify for up to \$1,000 in cash rebates and \$10,000 in loans for the purchase and installation of heating, ventilation and air-conditioning systems, solar or gas on-demand water heaters, solar panels, ENERGY STAR windows or doors, and insulation. In addition, the City of Fort Lauderdale is hosting a series of Home Energy Saver Workshops, in partnership with the Museum of Discovery and Science, to educate residents about how to proactively take measures to save energy in their homes. Workshop participants even receive a \$100 tool kit to improve energy efficiency!

For further details, visit [www.fortlauderdale.gov/smartwatts](http://www.fortlauderdale.gov/smartwatts)



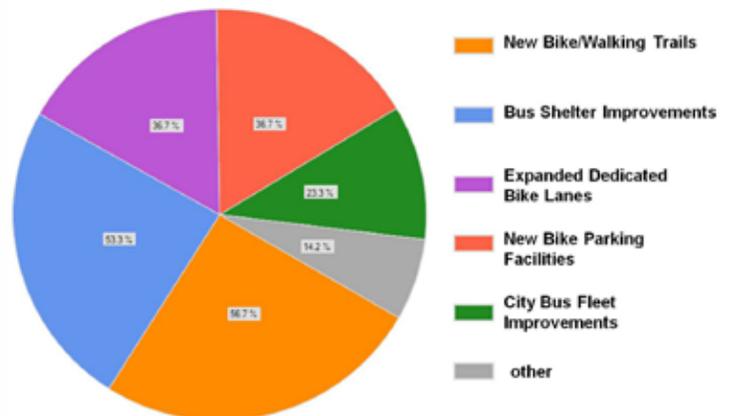
## Transportation

### Alternative Transportation Improvements

In the last five years, more than half of respondents reported *adding biking/walking trails* (57 percent) and making *improvements to bus shelters* (53 percent).

More than one third (37 percent) reported *adding bike parking facilities* and/or *expanding dedicated bike lanes on streets*.

About one quarter (23 percent) have *improved their city bus fleet*, either by purchasing higher efficiency, hybrid, electric or biodiesel units, or some other means of increasing efficiency.



## Creating more Walk-able Communities

Many respondents also reported making targeted efforts to make transportation infrastructure more pedestrian friendly in their community. Specifically, the top three actions taken were:

- Enforcing Street-Tree Requirements (45 percent)
- Widening Sidewalks (38 percent)
- Reducing the Required Parking Standard (31 percent)

**Local Government Highlight:** Dania Beach has four electric car charging stations in a new environmentally friendly parking garage.

To view the video, visit: [www.ci.dania-beach.fl.us/index.aspx?nid=1072](http://www.ci.dania-beach.fl.us/index.aspx?nid=1072)

**Local Government Highlight:** Broward County has launched a Bike Sharing Program with a minimum of 200 bikes and associated bike share stations, which will begin operations in Fall 2011. An agreement with B-Cycle, LLC was approved October 26, 2010, to establish and manage the program. The vendor and the County have been working collaboratively with the cities of Pompano Beach, Fort Lauderdale, and Hollywood to permit the initial station locations.

Check out the program's Facebook page by visiting:  
[www.facebook.com/pages/Broward-B-cycle/111177855620574](http://www.facebook.com/pages/Broward-B-cycle/111177855620574)



## Built Environment

Traditional building use consumes 40 percent of the total fossil energy in the United States. Sustainable building design practices reduce both the demand for energy and the costs for building operation. In order to positively influence the private sector to undertake more sustainable building practices, about half of respondents (45 percent) reported offering incentives for green construction, such as increased density or height allowances, streamlined permitting process, etc. Additionally, more than half of respondents (54 percent) reported being familiar with the new International Green Construction Code (IGCC).

Local governments can impact the private sector beyond incentives and regulation, by leading by example. According to Florida state statutes, all new or retrofitted publicly financed buildings must be constructed and maintained to meet the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating system, or a similar nationally-recognized, high-performance green building rating system standard, as of July 1, 2008. So far, about 26 percent of survey respondents reported having some (1-6) government-owned or operated buildings that are LEED rated. As time goes on and more buildings are built or retrofitted, these numbers should continue to increase.



Photo credit: Dania Beach Community Redevelopment Agency

**Local Government Highlight:** The Dania Beach Paul DeMaio Library is a design build project between Broward County and the City of Dania Beach that consists of 10,000 square foot library designed to achieve LEED Gold Certification.



Photo credit: City of Lauderdale

**Local Government Highlight:** The City of Lauderdale constructed the first LEED Silver city hall in the southeastern United States. The project serves as an example to local residents and businesses of the city's commitment to energy efficient construction that promotes healthful, durable, affordable and environmentally sound practices.



## Waste Reduction and Recycling

### Actions Taken to Reduce, Reuse and Recycle

Survey respondents are taking a variety of approaches to reduce waste and make recycling more available and efficient throughout the community.

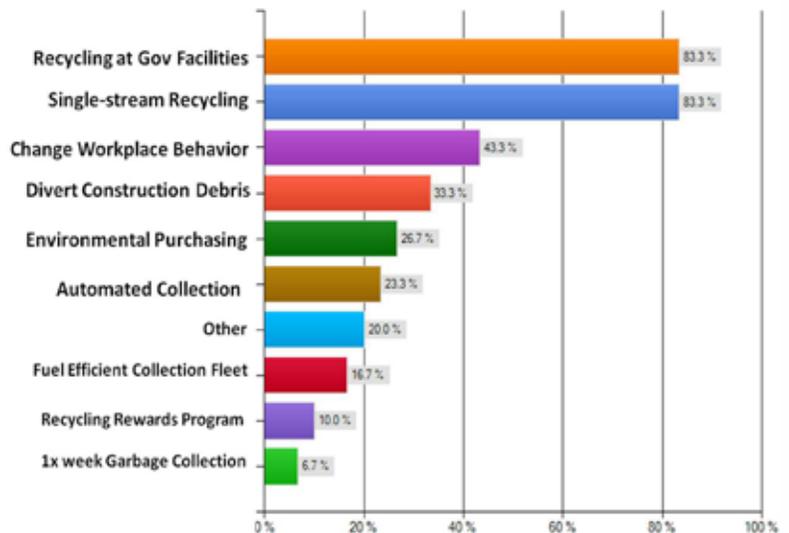
The top two actions taken within local government are:

- *Recycling at Government Facilities* (83 percent)
- *Changing Workplace Behavior* (43 percent)

The top two actions taken on the community-wide scale are:

- *Single-stream or Comingled Recycling* (83 percent)
- *Diverting Construction and Demolition (C&D) Debris from the landfill to a materials recovery facility (MRF)* (33 percent)

About half of respondents reported that their local governments *encouraged* recycling in three additional sectors of the community: *Office/Workplace* (62 percent), *Multi-family Residential* (50 percent) and *Public Events* (43 percent). While the findings are certainly positive, these efforts would be more successful if local governments took on even greater leadership to *mandate or enforce and provide support* for these types of programs. This level of engagement is currently reported by only 7-25 percent of respondents.



**Local Government Highlight:** Hollywood has been using a recycling reward program since February 2010. Through a contract with RecycleBank, residents earn points based on the amount they recycle, which can then be redeemed for discounts at local and national businesses. Hollywood has seen a 130 percent increase in recycling city-wide since the program's inception. While Hollywood was the first city in Broward to implement the program, other cities are now considering adoption. Next online: City of Sunrise. To learn more, visit [www.sunrisefl.gov/index.aspx?page=489](http://www.sunrisefl.gov/index.aspx?page=489)



### Energy Efficiency and Greenhouse Gas Reduction

The County and many municipalities have already included energy efficiency and Greenhouse Gas reduction strategies in their local comprehensive plans, as required by Florida House Bill 697 as of July 1, 2008. Of the 43 percent who have updated their comprehensive plans recently, 83 percent included the energy efficiency language referenced in HB 697. Sixteen respondents have not yet made the changes, but said that technical assistance would be beneficial to them in the process of doing so.

### Climate Change Planning

Broward County is in the process of creating a Climate Change Element for inclusion into the County Comprehensive Plan. About two-thirds (63 percent) of respondents were aware that this action was being taken, and 97 percent would or might find a template useful in creating their own Climate Change Element.



## Adaptation Planning

Survey participants were asked to rank their level of concern regarding 14 potential impacts of climate change on our local community.

Of the 27 respondents who answered this question, 10 or more (40 percent or greater) said that the following impacts were "of great concern:"

- *Flooding/Storm water management*
- *More intense hurricanes*
- *Impacts to public infrastructure*
- *Salt-water intrusion into the aquifer*
- *Drought*
- *Sea-level rise*
- *Impacts to private property*

Additional impacts considered of to be of *moderate concern* by 10 or more (40 percent or greater) respondents were:

- *Impacts to natural systems*
- *Temperature changes*
- *Heat stress/Public health*
- *Price/availability of energy*
- *Price/availability of food*
- *Migration of affected population*

## Recent Investments in Climate Adaptation

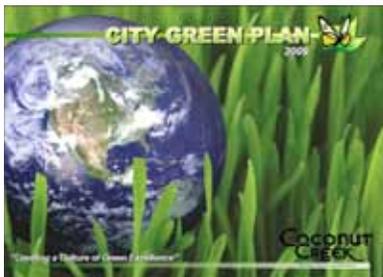
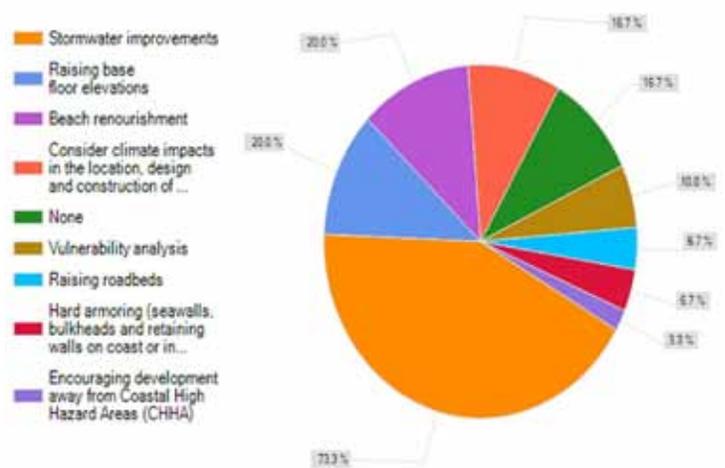
In planning for climate change, many local governments in Broward have already begun to take proactive steps to prepare for the impacts through strategic adaptation planning.

Eighty-three percent of respondents report making recent investments in climate adaptation.

The most common investment, by 73 percent of respondents, was in *Stormwater improvements*.

The next three investments reported most often were:

- *Beach renourishment*
- *Raising base floor elevations*
- *Considering climate impacts in the location, design and construction of public infrastructure*



**Local Government Highlight:** Coconut Creek developed a City Green Plan in 2009, which covers seven environmental themes: Energy, Water, Urban Design, Urban Nature, Waste Reduction, Transportation, and Climate Change.

The plan is designed to be implemented through a series of action steps over a 10-year timeframe. Through each action step, there are means to conserve energy and water, reduce waste, improve community participation and demonstrate environmental stewardship. For more information, visit [www.creekgov.net/green/plan](http://www.creekgov.net/green/plan).



## Next Steps

When asked what participants wanted to come out of the survey process, 96 percent would like to see developed an *Online Clearinghouse of information on initiatives in the Broward Community*, 82 percent would like a *Written Summary Document* (such as this report), and 82 percent would like to have *Networking Opportunities* with other energy and sustainability managers who participated in the program.

One way to continue to share information and cooperatively advance energy efficiency and sustainability programs in our community is through networking and collaboration. In the survey results, the response for this type of next step was very positive. Between 37 percent and 59 percent of respondents said they would be willing to participate in a full-day or half-day workshop, and 78 percent said that they would like to participate in a series of workshops dedicated to highlighting best management practice (BMPs) initiated locally in our community.

This document serves as a written report. A contact list of survey participants is included in this report (Appendix A) as is a matrix of municipal green initiatives (Appendix B). An online clearinghouse is currently under development. All survey participants will be notified of the launch of the clearinghouse, expected sometime the summer of 2011. Beginning in fall of 2011, a series of workshops will be collaboratively planned and hosted by the County and participating municipalities. The workshops will initially focus on strategies and opportunities identified through the 2011 Municipal Green Initiatives Survey.

### **Areas for Future Community-wide Collaboration and Program Advancement**

One place we could improve as a community is tracking our emissions as a precursor to sustainability planning. Currently, 20 percent of municipalities have conducted a GHG inventory for their internal operations, and 16 percent have completed a city-wide inventory. This is consistent with the level of participation in ICLEI reported (about 20 percent), as conducting a GHG inventory is part of the first milestone in ICLEI's "Five Milestones for Sustainability." Local governments who have already embarked on the task of tracking their emissions can come together with municipalities that have yet to do so, in order to share their experience and advice. The County has offered trainings in GHG emissions inventorying in the past and could potentially present additional training through the series of workshops that was requested in the survey responses.

While local governments are significantly increasing energy efficiency through technology, program goals and physical retrofits and improvements, improvement is needed in tracking energy usage, working collaboratively to save money and moving toward energy independence. Three mechanisms that have not yet been fully employed, but hold the potential for producing significant energy and monetary savings for local governments, are:

- Having an energy manager on staff (7 percent currently do)
- Partnering with other cities to do aggregated procurement or collaborative agreements of energy contracts or energy efficient products (15 percent do)
- Establishing a long-term goal for renewable energy production as part of a local energy portfolio (less than 8 percent have)

These strategies should be further explored, where possible, in the Broward community.

Incorporating sustainable building design practices into the planning, construction and operation of the built environment is another topic worthy of increased focus. The Broward community of local governments are making progress in reducing energy demand, and its associated costs, but enhanced efforts are needed to make the built environment more ecologically and economically sustainable.

About half of respondents (45 percent) reported offering incentives for green construction, and more than half (54 percent) are familiar with the new International Green Construction Code (IGCC). These two steps can provide the basis for future actions to promote, influence and regulate the private sector to increasingly adopt best management practices.

While governments are already leading by example – all new or retrofitted publicly financed buildings in Florida must be LEED certified – Broward can do even more to positively affect development activities in the broader community. Currently, 14 percent of respondents reported having a community-wide goal for LEED in private construction and less than 8 percent reported having an energy demand standard for site plan review. These two steps have great potential for widespread adoption by municipalities in order to advance the common goal of community-wide sustainability and energy reduction.

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**Local Government Highlight:** Coconut Creek has established renewable energy goals as a component of their 2009 City Green Plan.

These include:

- Achieve a minimum of 40 percent of energy use for the MainStreet Project Area from renewable energy sources by 2020 or by completion of development in MainStreet.
- Utilize a minimum of 10 percent of publicly-owned land for alternative energy sources by 2020.
- Increase the use of solar power in residential areas by 40 percent by 2020.
- Modify the City's Neighborhood Enhancement Grant Program making renewable energy projects eligible for application submittal with 50 percent of all grants toward renewable energy projects by 2020.
- Ensure 20 percent of grants received by the City are for energy conservation projects.

To view the plan, visit [www.creekgov.net/green/city\\_green\\_plan.pdf](http://www.creekgov.net/green/city_green_plan.pdf)

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## Local Government Highlights:

- Hollywood recently passed a community-wide Green Building Ordinance that contains both LEED and FGBC principles. The ordinance pertains to new construction and major renovations for both residential and commercial properties.

To view the code, look for *Mandatory green building practices, §§ 151.150 - 151.159*, visit: [www.amlegal.com/nxt/gateway.dll/Florida/hollywood/titlexvlandusage/chapter151buildings?f=templates\\$fn=document-frame.htm\\$3.0#JD\\_151.010](http://www.amlegal.com/nxt/gateway.dll/Florida/hollywood/titlexvlandusage/chapter151buildings?f=templates$fn=document-frame.htm$3.0#JD_151.010)

- Coconut Creek has a Community-wide LEED Goal of 50 percent of new construction throughout the city, and 100 percent within the MainStreet Project Area.
- The Town of Davie's Green Energy and Environmental Committee is developing a South Florida Green Building and Sustainability Checklist. Specific to our subtropical climate, unique geology and hydrology; it will serve as an online tool to be utilized during the building permit process.

The Checklist includes principles of sustainability and will serve as a basis from which to extract training and employment opportunities. It is being developed with the input and collaboration of many other municipalities in the region.

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Broward municipalities are making significant improvements in the availability of recycling throughout the community. Increased efforts to reduce waste and energy can provide the additional benefit of making our community more climate resilient as well. Some innovative approaches, currently being employed and noteworthy for their potential to be expanded throughout the community, are making collection fleets more fuel efficient, implementing a recycling rewards program (such as RecycleBank), and reducing garbage collection to once a week (currently implemented by 17 percent, 10 percent, and 7 percent of respondents, respectively).

Another opportunity to assist in the community's effort to reduce waste—which is energy intensive in its creation, collection, storage and treatment—is to improve the efficiency of processing food scraps and yard trimmings. Currently no respondents reported having a community-wide effort to collect organic material for composting.

Interestingly, Local Food Systems is an issue addressed by 6 percent of respondent's sustainability programs. This aspect of sustainability, while commonly overlooked, is important to consider for two reasons: the high level of carbon emission and fuel costs associated with the transportation of non-local food, and the need to build community resiliency for possible supply challenges resulting from, or aggravated by, climate change. Coincidentally, 96 percent of respondents reported having some level of concern over the price/availability of food as an impact of climate change, with 28 percent reporting it as an issue of great concern.

One of the most important aspects of a sustainable community is climate resiliency. Broward County and its local municipalities and partnering agencies have made progress on both mitigation and adaptation efforts. Planning for climate change impacts must begin immediately as local impacts, especially related to sea level rise, are already occurring. The latest Light Detection and Ranging (LiDAR) elevation data shows that almost 29 percent of Broward County is less than five feet above sea level, making planning to adapt to continually rising seas critical.

Critical public infrastructure, including beaches, roadways and especially stormwater drainage treatment and conveyance systems; have already begun to show vulnerabilities to the current rate of rise of sea level, extreme rainfall and seasonal high tides. According to the survey, only 3 percent to 10 percent of respondents have recently made the following investments in climate adaptation:

- *Encouraging development away from Coastal High Hazard Areas (CHHA)*
- *Raising roadbeds*
- *Conducting vulnerability analysis*
- *Modeling future climate scenarios*

Local governments in the coastal areas can work collaboratively to address some of these issues. Through new direction from the State legislature (163.3164(1), F.S.), "Adaptation Action Areas" (AAA) may be designated in the coastal management element of a local government's comprehensive plan to identify areas that are vulnerable to coastal flooding and other related impacts of rising sea levels, for the purpose of prioritizing funding for infrastructure needs and adaptation planning.

Coastal communities throughout Broward and southeast Florida should consider opportunities to use the AAA designation as a means of incorporating polices and best management practices that will improve the resiliency of our population, infrastructure and natural systems from the impacts of climate change.

## **Conclusion**

The 2011 Municipal Green Initiatives Survey provided an opportunity to begin a dialogue with energy and sustainability managers throughout the Broward community. Collectively, local governments have taken significant strides and have a broad experience with various aspects for planning and implementing energy conservation measures and sustainability initiatives.

Following the recommendation from the survey, Broward County's Energy and Sustainability Program will work collaboratively with its 31 municipalities to organize workshops to share information, lessons learned and new ideas for making this community an even more energy efficient and sustainable place to live.

For more information, contact the  
Broward County Energy & Sustainability Program



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