

Memorandum

MIAMI-DADE
COUNTY

Date: October 27, 2009

To: Honorable Chairman Dennis Moss and Members,
Board of County Commissioners

From: George M. Burgess
County Manager

Subject: Update Report from the Climate Change Advisory Task Force for September 2009

RPS

Agenda Item No. 8A

Pursuant to Ordinance 06-113, the Climate Change Advisory Task Force is required to provide quarterly reports to the Committee designated by the Board, in this case the Budget, Planning, and Sustainability Committee.

Attached please find the quarterly report submitted by Harvey Ruvin, Chair of the Climate Change Advisory Task Force, for your review.



Assistant County Manager

**Update Report from the Climate Change Advisory Task Force
September 23, 2009**

Pursuant to Ordinance 06-113, I am pleased to submit this update report of the Climate Change Advisory Task Force (CCATF) to the Chair and Members of the BP&S Committee, and through them to the Chair and Members of the Board of County Commissioners.

As you are aware, The CCATF is charged with identifying potential future climate change impacts to Miami-Dade County and then providing recommendations to the Board of County Commissioners regarding actions that should be taken to begin adapting for and mitigating these impacts. In order to effectively address the overlapping issues important in this mitigation and adaptation planning process, six (6) committees and a Steering Committee were formed in 2007. The committees include the following: The Science Committee, chaired by Dr. Hal Wanless; The Greenhouse Gas (GHG) Reduction Committee, chaired by Mr. Richard Pettigrew; The Built Environment Adaptation Committee, chaired by Ms. Elizabeth Plater-Zyberk; The Natural Systems Adaptation Committee, Chaired by Mr. Dan Kimball; the Economic, Social, & Health Committee, chaired by Captain Dan Kipnis; and The Intergovernmental Affairs Committee, chaired by Ms. Carolyn Dekle. With the complexity of the greenhouse gas reduction issues, the GHG Committee created two subcommittees: Transportation and Alternate Fuels chaired by Jose K. Fuentes, and Buildings and Energy chaired by Jane Gilbert. An update from each of the Committees and Subcommittees is included below.

I am very gratified to report that more than two years after appointment, all of the Chairs initially appointed to the various Committees are still serving or willing to serve the County and CCATF. This speaks extremely well of the quality of the CCATF appointments by the BCC, the Mayor, and the County Manager. Unfortunately, the nine member appointments made with recommendations from the County Manager all expired in January 2009. For unclear, but I am sure critical reasons to the functioning of the Manager's Office, the BCC confirmation of the recommendations for reappointments of these nine members has been delayed until at least November 2009 when they are tentatively scheduled for BCC hearing.

Our Steering Committee met in June and approved 15 new recommendations from our Committees to move forward to the CCATF for approval. We attempted to have a full CCATF meeting in August, but could not meet with a full quorum to make the necessary votes. In anticipation of the Manager's appointments being approved by BCC, I have delayed scheduling a Task Force meeting. Currently, three of our Committee Chairs are Manager appointments and their full voting participation in the meeting is important to me. The important recommendations, while still in draft form pending full Task Force approval, are attached to this report for your purview.

Despite the delay in getting you the final work products, I am still pleased to welcome three new members who have been appointed by the Mayor and Commissioners in 2009 as replacements for those members who found it necessary to resign or were not reappointed. I am equally confident that the new appointments or reappointments will serve the CCATF as we move forward with our mission. They are Jane Gilbert, Jose K. Fuentes, and Albert Harum-Alvarez.

Since the Task Force provided the "Second Report and Initial Recommendations" to the Board of County Commissioners in April 2008, the various committee members, participants, and County staff have been meeting and working in earnest to continue progress in the County's climate change mitigation and adaptation planning process. Since January 2009, the full task force has met twice: once to hear an update from Commissioner Sorenson's office and once to get an update on DERM's sea level rise mapping project supervised by the Science Committee. CCATF Committees have met 28 times and drafted fifteen

(15) new recommendations to supplement the initial recommendations presented to BCC in 2008. These draft recommendations have been approved by CCATF Steering and sent to the County's Department Directors for comment. These draft recommendations, and any other recommendations completed in the near future, will be presented to the full CCATF for consideration later this year or early in 2010, depending on the confirmation of the Manager's CCATF member recommendations by the BCC. DERM continues to provide the significant administrative assistance and support to the Task Force in this effort.

With direction from Commissioner Sorenson to the OOS and the County Manager's assignment of Susy Torriente to lead the Office of Sustainability in July 2009, coordination between CCATF and OOS has been more clearly defined. OOS, which along with various County agencies was already providing staff support in the Committees, is now in the process of considering the appropriateness of each recommendation, prioritizing, and assigning the County agencies necessary to implement the CCATF recommendations already presented to the Board. With this increased collaboration and participation between CCATF and County agencies, the Board can be even more confident that the CCATF is advancing the County's response to climate change as expeditiously as possible.

CCATF is also participating at a regional level when appropriate. I, along with my Vice Chair, James Murley, will be participating in the Broward sponsored Mayors' Climate Summit taking place in October 2009. Additionally, the CCATF Steering Committee has directed the Science Committee to ensure that the County's sea level mapping effort includes a regional scale and compatibility with adjoining counties that will facilitate emergency planning and other regional issues.

Committee Updates

The Science Committee is tasked with providing the Task Force and its Committees with a scientific assessment of the magnitude and timing of expected climate change impacts to Miami-Dade County. This Committee has met officially once this year, but appointed members have been collaborating closely with DERM's Water Management Division to finalize an accurate base elevation map for the County from which sea level rise planning can be based. This collaboration moves forward the request by the 2008 GOE Committee for implementation of this critical recommendation. Having knowledgeable and experienced staff, DERM has focused significant resources to create as accurate as possible, a GIS base elevation map using LiDAR data obtained from the National Hurricane Center and other survey sources. The Science Committee received the electronic map product in August 2009 and committee members associated with FIU are providing a peer review prior to the data being released. The sea level rise scenarios resulting from the base map will be utilized by the other Committees to identify areas of concern for further recommendations.

The Greenhouse Gas (GHG) Reduction Committee is tasked with identifying and promoting ways in which the County can further reduce its Greenhouse Gas (GHG) emissions. This effort was divided into two Subcommittees; GHG reduction related to 1) Buildings and Energy and 2) Transportation and Alternate Fuels. Since that time, the GHG Committee has not met independently. However, the Chair, Richard Pettigrew participates on the Subcommittees.

The GHG Reduction Alternative Fuels and Transportation Subcommittee chaired by Mr. Jose K. Fuentes, WREN Group, Inc., has met four (4) times in 2009. This year the subcommittee is investigating high speed rail, feebates, mobility fees, biodiesel and local alternate fuel manufacture. The Sub-Committee gets significant staff support from DERM's Air Monitoring Division.

The Greenhouse Gas Energy and Buildings Subcommittee chaired by Jane Gilbert, High Impact Integrated Solutions, and has met six (6) times in 2009 and has aggressively developed 7 new draft recommendations for mitigating green house gases in the built environment.

The Built Environment Adaptation Committee chaired by Elizabeth Plater-Zyberk, Dean of the University of Miami, School of Architecture, is tasked with focusing on adaptation measures associated with the County's built environment and infrastructure and has met six (6) times in 2009. The Committee has investigated Smart Growth principals, Florida's Building Commission and Building Code, the CDMP Evaluation and Assessment Report process and has drafted 5 new recommendations on these topics.

The Natural Systems Adaptation Committee, tasked with providing recommendations for adaptation and adaptive management of natural systems to predicted climate impacts, is chaired by Dan Kimball, Superintendent of Everglades National Park, and has met once in 2009. The Committee is waiting on input from OOS on implementation of the 2008 recommendations associated with land preservation and a "Vital Signs" monitoring program, to serve as a multi-parameter ecosystem monitoring program that will help track climate change effects.

The Economic, Social and Health Committee, tasked with providing analysis and recommendations for the economic, social, and health impacts of climate change is chaired by Captain Dan Kipnis. The Committee has met five (5) times in 2009 and developed three new draft recommendations targeting assessing public knowledge and education on climate change.

The Intergovernmental Affairs Committee, tasked with identifying and working with a broad range of public, private, civic, and non-profit organizations to identify opportunities for collaboration on climate change mitigation and adaptation strategies is chaired by Carolyn Dekle, Director of the South Florida Regional Planning Council. This Committee has met four (4) times in 2009 and focused on assessing municipal and agency knowledge on climate change matters.

The Steering Committee is comprised of all Chairs and Vice-Chairs of the various Committees, Task Force Vice-Chair Jim Murley, Office of Sustainability Manager Susy Torriente and Devesh Nirmul, DERM staff persons Nichole Hefty and Lisbeth Britt and me. The Steering Committee met once in June to consider and comment on the recommendations drafted by the Committees in preparation for consideration at the next full Task Force meeting.


Harvey Ruvin, Chair

Supplemental Recommendations
from the
Climate Change Advisory Task Force (CCATF) Committees
Proposed for Inclusion in the 2009 Annual Report
Approved by the CCATF Steering Committee June 24, 2009

These supplemental recommendations, made at the CCATF committee level, are presented for review by the Miami-Dade Climate Change Advisory Task Force (CCATF). These recommendations are in addition to the Initial Recommendations made as part of the Second Annual Report to the Miami-Dade Board of County Commissioners (BCC) in May 2008. These Supplemental Recommendations were reviewed and approved by the CCATF Steering Committee and are now proposed to be included as part of the Third Annual Report to the BCC. The supplemental recommendations include mitigative and adaptive strategies, but each also has components for educating the residential and business communities. The recommendations are numbered to follow the Initial Recommendations from the Second CCATF Report (http://www.miamidade.gov/derm/library/08-10-04_CCATF_BCC_Package.pdf).

B. Greenhouse Gas Reduction

Initial Statement: The Greenhouse Gas Reduction Committee is tasked with identifying and promoting ways in which the County can further reduce its Greenhouse Gas (GHG) emissions. Its Energy & Buildings Subcommittee, established in July 2008, first focused its efforts on developing overarching GHG emissions reduction goals that would be consistent and supportive of existing goals adopted by the county through their association with various national climate change programs. One such program is the National Association of Counties (NACo) U.S. Cool Counties Program. On July 16, 2007 at the NACo Annual Conference in Richmond, Virginia, Miami Dade County Commissioner Natasha Seijas joined 11 other counties in committing to launch "Cool Counties." The Cool Counties Program seeks to marshal the resources of all 3,066 counties across the nation to address the challenges climate change poses to our communities. Participating counties make the following four commitments:

- i. Create an inventory of our county government (operational) greenhouse gas ("GHG") emissions and implement policies, programs and operations to achieve significant, measurable and sustainable reduction of those operational GHG emissions to help contribute to the regional reduction targets as identified in paragraph ii;
- ii. Work closely with local, state, and federal governments and other leaders to reduce county geographical GHG emissions to 80 percent below current levels by 2050, by developing a GHG emissions inventory and regional plan that establishes short-, mid-, and long-term GHG reduction targets, with recommended goals to stop increasing emissions by 2010, and to achieve a 10 percent reduction every five years thereafter through to 2050.
- iii. Urge Congress and the Administration to enact a multi-sector national program of requirements, market-based limits, and incentives for reducing GHG emissions to 80 percent below current levels by 2050.

5

- iv. We will take immediate steps to identify regional climate change impacts; we will draft and implement a county plan to prepare for and build resilience to those impacts.

Recommendation B.11:

The Climate Change Advisory Task Force supports the "Resolution endorsing Miami-Dade County's participation in U.S. Cool Counties Program and its goals and objectives including the Climate Stabilization Declaration", sponsored by Commissioner Natacha Seljas and approved by the Board of County Commissioners on December 16, 2008. The Task Force further recommends that Miami-Dade County implement the following steps to ensure their ability to meet the Cool Counties greenhouse gas reduction commitments.

- i. Commit to a 20% reduction in GHG emissions by 2020 through an annual 2% reduction from the base year of 2005 for both County government and County-wide GHG emissions. Provide annual reporting on greenhouse gas emissions for the County government and Countywide GHG emissions. This annual report should include steps taken to reduce GHG emissions internally and geographically, results, and steps needed to meet the next year target.
- ii. Recognize this commitment takes dedicated resources to develop, implement and report on these plans. The County Manager needs to adequately resource this initiative to achieve targets established in the Cool Counties resolution and in paragraph (i) of this resolution.
- iii. The County establish a countywide alliance of municipalities and large corporations, public and nonprofit institutions that will need to collaborate in order to meet previously established targets. This consortium will be used to:
 - a. Enlist partners to explicitly adopt all primary goals of the Cool Counties GHG reduction targets and to report on their own GHG reductions.
 - b. Identify and implement strategies for the financing and performance of energy efficiency and renewable energy upgrades in Miami Dade County/South Florida,
 - c. Increase purchasing power of energy efficiency related financing, services and products, and
 - d. Enlist partners to assist with the dissemination of information and incentives designed to assist individuals and small businesses in meeting these reduction goals.(This alliance could also be used to coordinate Countywide adaptation efforts)

Recommendation B.12:

The CCATF recommends that Miami-Dade County implement the following in order to promote energy conservation and efficiency in buildings owned by Miami-Dade County:

- Conduct a feasibility study and develop a plan for retrofitting all County-owned outdoor lighting to high efficiency lighting technologies. The study should include a review and summary of current standards and case studies of implementation in other communities. High efficiency light options to be

considered may include: Light emitting diodes (LED), induction lighting, with a preference given to solar powered lights. Additionally, an evaluation should be made to improve the efficiency of outdoor lighting with the goal to reduce non-essential outdoor lighting during daytime hours.

- Require that all county buildings that annually consume more than 500,000 kilowatt hours (kwh) and have not received a comprehensive energy audit in the last 5 years, receive a comprehensive energy audit and/or retro commissioning, with the intent of identifying energy saving and carbon footprint reducing opportunities.
- Require that all County departments include their goals and plans for greenhouse gas reduction and climate change adaptation in their strategic plans and that each Department Director's performance evaluation include a reporting on outcomes. Present sustainability award to Departments and Directors that achieve most impressive results. One department (e.g., Office of Sustainability, DERM and/or GSA) could be responsible for providing strategies, tools and resources to each department to assist departments in achieving their reduction goals.

Rationale: The CCATF applauds the leadership of the County Commission with the adoption of Resolution R-228-09 (Resolution to Reduce Miami-Dade County's Electrical Energy Consumption). These recommendation actions further support the goals of that resolution.

Recommendation B.13:

The CCATF recommends that Miami-Dade County take advantage of funding opportunities available through the American Recovery and Reinvestment Act (ARRA) and other federal programs to retrofit homes, commercial, and housing facilities for energy and water efficiency, and educate residents and homeowners about conservation. The following should be included in order to optimize, leverage, and facilitate energy conservation federal programs and funding.

- Incorporate educational, behavioral, and operational training programs with all retrofit and renovation options.
- Monitor and analyze results of retrofits to include but not be limited to obtaining an energy rating of all renovated homes and public housing facilities.
- Use some or all of the funds created from the resale of foreclosed and renovated homes for further development and promotion of energy and water efficiency outreach programs.
- Maximize the use of Smart Meters to monitor results and compliment behavioral programs.

Rationale: Programs to consider should include, but not be limited to, the Neighborhood Stabilization Program, Weatherization programs, Public Housing Capital Improvements, Community Development Block Grants, Community Services Block Grants, and homelessness prevention.

Recommendation B.14:

The CCATF recommends that Miami-Dade County develop incentives for energy and water efficiency, conservation, and distributed low- and no-carbon energy generation for existing residential, industrial, and commercial buildings. The CCATF recommends that the County:

- Explore development of a public/private partnership that would provide financing and technical assistance to smaller scale commercial, multifamily and residential facilities to retrofit homes for improved energy and water efficiency. This should support current and future technologies (e.g., metered charging stations in parking garages for electric vehicles and roof hook ups for PV, and, where feasible, the installation of renewable energy technologies such as solar water heaters).
- In the short term, identify potential partners to develop and implement a financing solution for solar water heaters similar to Lakeland Electric.
- Analyze and maximize GHG reduction opportunities through all county services to residents and businesses.
- Work with FPL on the installation of a real-time, web-based smart meter program in County government and other large public institutions.
- Promote the use of green roofs, e.g. vegetative roofing, high reflectivity roofing materials, etc.
- Include solar reflectance, emissivity and Solar Reflectance Index (SRI) values into the roof system product approval process.
- Develop incentives for retrofitting buildings to accommodate energy-saving additions such as PV panels on rooftops and metered charging outlets/stations in parking garages for electric vehicles.
- Develop incentives for the addition of customer-paid electric vehicle (EV) charging stations in portions of public and county-run parking lots.
- Consider a demonstration retrofit of a County-owned building that could be used as a public outreach and education vehicle for promoting energy-saving retrofits.

Recommendation B.15:

The CCATF recommends that Miami-Dade County educate the business sector and the public on energy and water efficiency and conservation. The CCATF recommends that this would best be accomplished if Miami-Dade County collaborates with corporate, nonprofit, and educational organizations to develop a broad scale and culturally competent media and community based education campaign dedicated to promote the adoption of conservation, efficiency and renewable behaviors, systems and technologies in residences and businesses.

CCATF suggests that this campaign should:

- Inform residents and the business sector of the economic benefits of, and resources available for, energy efficiency and certain renewable technologies (e.g., green roofs, solar water heaters, smart meters, etc.).
- Develop two separately designed and targeted campaigns and approaches: one for residents and one for business. For consumer/resident examples, refer to the Home Energy Saver (attached) and Green Homes Challenge (attached) descriptions. For a business example see www.e4s.org, the Entrepreneurs for Sustainability website.
- As part of this education campaign, include information about the Energy Gauge performance rating system for new and existing commercial and residential buildings and encourage property buyers to ask for the rating.

Recommendation B.16:

The CCATF recommends that Miami-Dade County investigate the County's water and sewer rates and conservation/efficiency programs. The County should:

- Conduct a long term comparative cost/benefit analyses on the combination of increasing electricity and water generation vs. ramping up conservation and efficiency programs. The CCATF recognizes that both options may be necessary but a preference should be given to increasing conservation and efficiency.
- Provide consumer education on the current comparatively low rates they have enjoyed and the need for increasing rates to pay for these investments is critical. The goal of this education is to build voter acceptance that increased rates are essential to maintaining and improving the quality of life here.
- Determine the feasibility of using Miami-Dade County's Water and Sewer Department (WASD) facilities for installation of renewable energy technologies, including for water and sewer operations.

Rationale: WASD is the County's highest consumer of electricity and one of the highest consumers in the State of Florida. In addition, our community's resiliency depends on a reliable water supply. Miami Dade's water and sewer rates are considerably lower than those found elsewhere in the state. Miami Dade County's commercial and residential sectors need to recognize the long term projected costs and increases in energy use associated with increased treatment, disposal and reclamation regulations, and of increased water demand (with and without aggressive conservation and efficiency programs).

Recommendation B.17:

Recognizing that support at the state and federal level are important in facilitating action at the local level, the Climate Change Advisory Task Force recommends that Miami-Dade County:

- Advocate for the Florida Public Service Commission to require FPL to achieve at least a 20% reduction in GHG generation from the 2005 baseline by 2020. This would include incorporating the costs of the

proposed nuclear power plants in the comparative costs and benefits of energy efficiency and renewable energy systems and improve and expand incentive structures for energy efficiency, energy conservation and renewable generation. These incentive structures need to promote both customer owned and utility owned energy efficiency and demand side renewable energy systems. Additionally, the cost benefit analysis needs to place a greater emphasis on reducing overall energy consumption, not just capacity reduction, to achieve greater reduction in greenhouse gas emissions.

- Advocate to the Florida Building Commission, the Energy Technical Advisory Committee, and the 2010 Energy Code Work Group to ensure that new construction and significant renovations and replacement equipment requirements increase energy efficiency and promote renewable by requiring a combination of methods and elements to include: solar water heaters, photovoltaic panels, shading devices, vegetative roofing, controllers and monitoring equipment, best practices and quality installation procedures such as HVAC sizing and duct testing, pre-wiring of buildings to accommodate future GHG reducing technologies such as monitoring devices, HVAC zoning, centralized data centers and distributed renewable power sources on rooftops and metered charging outlets in parking garages for electric vehicles. Advocate for the use of green building standards including the National Association of Homebuilders' (NAHB) Green Building Standards and the Florida Green Building Coalition as one of several model options that can be used to reduce GHG emissions and promote energy efficiency.
- Advocate that Florida and/or the United States pass an energy efficiency resource standard (EERS), a target that will help utility companies reduce electricity usage by 15%.
- Encourage a State and Federal Renewable Portfolio Standard of at least 20% by 2020.
- Advocate the Federal Clean Energy bill return to a goal of reducing GHG reduction by 20% from 2005 by 2020. (This would parallel's the County's current target.)
- Support continued Federal appropriations for the Energy Efficiency Conservation Block Grant (EECBG) program, at least at current levels.

Rationale: Miami-Dade County Board of County Commissioners approved a resolution to adopt the goals and objectives of the US Cool Counties Program on December 16, 2008. This includes a commitment to work closely with local, state, and federal governments and other leaders to reduce county geographical Greenhouse Gas (GHG) emissions to 80 percent below current levels by 2050 and to reduce GHG emissions by 20 percent by 2020. This set of recommendations is intended to provide specific steps to help the County meet these goals. Without federal and state policies and initiatives that, at a minimum, meet and support these reduction targets, Miami-Dade County and other local governments will bear an undue burden of responsibility for climate change mitigation.

C. Built Environment Adaptation

Recommendation C4:

The CCATF recommends that Miami-Dade County use the on-going cycle of the Evaluation and Appraisal Report to include amendments to the Comprehensive Development Master Plan that will further the principles of Smart Growth (www.smartgrowth.org/default.asp).

Rationale: Land use and development patterns contribute to greenhouse gas emissions from buildings, transportation and water consumption.

Recommendation C5:

The County should begin a process of planning and public education, coordinated with the South Florida Regional Planning Council and the Metropolitan Planning Organization that integrates the mapping of projected sea level rise and storm surge impacts with the locations of infrastructure and other public investment, and with the locations of projected growth and development. The goal is to ensure the safety and resilience of public investment, and to consolidate private investment on transit-served high ground.

Rationale: The interrelated nature of climate change mitigation and adaptation requires a geographically based planning process to facilitate decision-making. Mitigation of greenhouse gas emissions requires changes to building design and development patterns at large. Adaptation requires mapping of storm surge and sea level rise effects, with overlays of location and elevations of built investments. Because both cases involve potential changes to private, public and not-for-profit properties, the need to build political will through a process of public information and engagement is critical.

Recommendation C6:

The CCATF recommends that Miami-Dade County (by its departments of Planning and Zoning, DERM, MPO, and Public Works) develop a memorandum of understanding for integrated planning efforts with the Florida Department of Transportation and the South Florida Regional Planning Council.

Recommendation C7:

The CCATF recommends that Miami-Dade County develop mandates and incentives for building designs that meet green building standards such as those established by Energy Star, the Florida Green Building Coalition, the U.S. Green Building Coalition (USGBC) Leadership in Energy and Environmental Design (LEED) or the National Association of Home Builders (NAHB) Green Building Standards. These standards must comply with the Florida Building Code and not conflict with the Comprehensive Development Master Plan. If the County does develop such mandates and incentives, the CCATF further recommends that:

- Buildings eligible to receive an EPA rating using Energy Star's Portfolio Manager, should achieve an energy performance rating of at least 70.

- Buildings not eligible to receive an EPA rating using Portfolio Manager, demonstrate energy efficiently in at least the 20th percentile for typical buildings of similar type using benchmarking against national median energy source data provided in the Portfolio Manager tool.

Recommendation C8:

The CCATF recommends that Miami-Dade County advocate for amendments to the Florida Building Code that reduce the impact of greenhouse gas emission and improve climate change resiliency.

E. Economic, Social, and Health Adaptation

Recommendation E3:

The CCATF recommends that Miami-Dade County sign the Local Government Green Jobs Pledge (attached).

We approve the establishment of a Green-collar Jobs committee within the CCATF and the exploration of the option of forming a full Green-collar Jobs Task Force in the future. This committee shall promote green jobs and building a local green economy as follows:

- Establish a local action plan for Miami-Dade County,
- Identify goals and opportunities, and
- Identify key partners, both governmental and NGO's, for sharing best practices and resources.

Rationale: In order to help boost the local economy and foster a more sustainable community, the creation of green jobs strategy is suggested, to help deal specifically with climate change adaptation and mitigation. A successful strategy will create communication, collaboration, and coordination between the key stakeholders and bring all necessary stakeholders together including businesses, home builders, retrofitters (demand side), training/certification programs, technical institutions, and non-profit organizations (education), along with key government agencies.

Desired Outcomes:

- Create a sizeable and competent workforce to meet Miami-Dade County's GHG targets.
- Create good jobs and an inclusive economy that not only retrains individuals from the construction industry who are currently unemployed due to the economic downturn, but also provides employment opportunities for people with barriers to employment (individuals from low-income neighborhoods, people with an incarceration record, and folks with educational issues).
- Lower GHG emissions in Miami-Dade County.

Recommendation E4:

The CCATF recommends that Miami-Dade County initiate efforts for a county-wide assessment of local public knowledge and opinion on climate change. The effort should:

- Review and assess existing data on local public knowledge and opinion related to climate change (both mitigation and adaptation), and
- Supplement available data through additional polling, attitude research, and other appropriate information gathering methods.

Rationale Desired Outcomes: See rationale and desired outcomes below under Recommendation E5: (County-wide Educational Outreach Program on Climate Change).

Recommendation E5:

The CCATF recommends that Miami-Dade County take the following steps to facilitate a county-wide education outreach program on climate change to educate the general public:

- Step I - review and assess existing entities (such as internal County departments, Miami-Dade County Environmental Education Providers consortium, local colleges and universities, etc.) that could provide education on climate change
- Step II - coordinate relevant entities identified through Step # I in order to share information gathered as a result of County-wide Assessment of Local Public Knowledge and Opinion on Climate Change (as outlined in #1)
- Step III - direct funding and resources to relevant entities identified through Step # I

Rationale: Research tells us that people are concerned about climate change and its potential effects. However, local residents, in many cases, have no clear idea of climate change implications for South Florida. It is essential that residents have a realistic understanding of what is going to happen and what they can do to participate in and support climate change adaptation and mitigation efforts. It is also important that residents are not unduly influenced by sensationalized news media concerning these issues. Leaving public outreach and education to a later date or to other entities risks having confusion and misinformation spread, and also jeopardizes the critical public support and participation that the County needs to successfully meet the challenges of climate change. The County must begin now to organize and mount a public outreach and education effort to prepare for climate change. County staff should establish clear objectives and success metrics for this public outreach and education effort and report back to the County Commission as it proceeds.

Desired Outcomes: An effective educational outreach program would result in the following:

- Residents would gain a basic understanding of the impact of climate change on South Florida.
- Behavioral changes would result in lower green house gas emissions.
- Public support would be gained for necessary government action to mitigate/adapt to climate change.

DRAFT