

greenkeywest

Annual Sustainability Report 2009 City of Key West

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Executive Summary

This has been an exceptional year in sustainability initiatives in Key West. The crowning achievements are most assuredly the completion of the Climate Action Plan, the establishment of the City Commission Sustainability Advisory Board, and the dedication of a full time Environmental Programs Manager. City Staff and Commission dedication to sustainable issues has created a team that is working together from various departments to meet the goals of the Climate Action Plan which was adopted by the City Commission in October; our transit system is working to enhance bus system reliability and increase ridership, our fleet initiatives have saved 19,900 gallons of fuel and offset 45,798 gallons of petroleum fuel with renewable fuel; our past bike and pedestrian planning has resulted in many millions of dollars of sidewalks projects being ready for bid and design; our work with community volunteers has increased our recycling rate by 15% and decreases litter and saved the City well over \$50,000 in staff time.

The 2009 municipal operation has reduced its electric use by 13.3% compared to the 2005 baseline year. The 2009 municipal operation is well on its way to meet the 2015 15% greenhouse gas emissions reduction goal; the 2009 emissions are 5.7% lower than 2005.

Introduction

At the start of 2008 the City Manager introduced the City's Sustainability Program. The program was developed by extrapolating from a variety of City Commission Resolutions to create one comprehensive environmental policy. An environmental strategic plan emerged which was listed in six major categories, or goals:

1. Enhancement of bicycle, pedestrian and public transit;
2. Reduction in runoff/stormwater pollutants into near shore waters;
3. Reduction of pollutants from marine users at docks and off shore;
4. Reduction in greenhouse gasses;
5. Community enhancement to increase carbon biomass and encourage dedication to our environment; and
6. Support natural habitats and indigenous wildlife.

This annual update report informs the status of the program and summarizes the goals for the subsequent year.

Although the Sustainability Program has 6 components one component is considered urgent by the worldwide community, and that is reduction in greenhouse gas (GHG) emissions. In 2009 The City Commission set a policy to reduce municipal and community wide emissions by 15% by the year 2015. Through staff efforts to conserve fleet fuel, conserve energy in our facilities, lighting, and municipal waste water treatment plant, as well as use alternative fleet fuels, City municipal GHG emissions has been reduced by 5.7% (1004.1 metric tons) compared with our 2005 baseline.

The "Reduce" component of the popular phrase Reduce, Reuse, Recycle" is the most important; If the waste is not created it need not be managed. Our community solid waste reductions have reduced solid waste carbon emissions by 14.4% (2,054 metric tons) since the baseline year of 2005. This is a tremendous step in meeting the 15% goal in 2015. The total waste reduced from 2008 to 2009 was 4,505 tons, or 9% of our waste stream. Please keep in mind, due to hard economic times our waste is significantly lower than in a good economic year (construction waste, home waste, and tourism waste are all significantly down), this component could rebound in coming years.

Recycling has been a community priority this past year. A huge education effort by volunteers was made possible by the efforts of the City and the Green Living and Energy Education (GLEE) organization. Over 60 persons went door to door to educate citizens about recycling in general and the city's recycling ordinance. This caused an increase in recycle rates by 15% from an average of 5.4% in

2008 to 7% in 2009. This additional recycling reduced GHG emissions by 278 metric tons.

Our fleet operational changes and use of ethanol and bio-diesel fuel has reduced greenhouse gas emissions in 2009 by 622.7 metric tons. This is 3.5% of our 2015 goal.

The 2009 municipal operation has reduced its electric use by 13.3% compared to the 2005 baseline year. As a breakdown, City buildings, street lights, traffic lights, etc reduced electric use by 18.9% while the waste water treatment operation reduced energy by 6.1%.

The 2009 municipal operation is well on its way to meet the 2015 15% greenhouse gas reduction goal. The 2009 emissions are 5.8% lower than 2005.

1 ENHANCEMENT OF BICYCLE, PEDESTRIAN AND PUBLIC TRANSIT

Bicycle

- Created and support the KW Bicycle Action Committee
- Applied for, received and bid the design bike paths on both sides of Duck Ave
- Bid the design of bike path and sidewalk repairs on Atlantic Blvd.
- Bid the design of transportation grant for the design of pedestrian and bike ways in the Duval to Truman Waterfront area.
- Held the “Jim Malcolm Bike Safety Rodeo” for elementary school bike safety
- Held the “Pedal Pusher’s Poker Run” produced by our Bicycle Action Committee teaching people safe bike routes through the city
- Held two “Holiday Bike Light Tour” produced by our Bicycle Action Committee to educate people on safe biking at night
- A new 5-year master Bike Action Plan was started by Bicycle Action Committee
- Assisted FDOT with development of bike bridge on the south side of Cow Key Channel in an effort to reduce accidents and deaths; this is part of the city’s long term strategic goals for bike routes
- Bicycle Action Committee held workshops to generate ideas to increased bike use and decrease vehicle miles traveled
- Held a “Road Safety Bike Training” class - Bicycle Action Committee brought down a workshop to educate people on how to ride safely on roads.

- Installed 25 bike racks
- Installed signs on Fleming and Southard Street to remind bikers to travel with traffic

Pedestrian

- Support and organize the Community traffic safety Program to enhance walk-ability of our city
- Initiated the “I Walk to School Program” education program at all elementary schools (part of our Safe Routes to School Grant)
- Initiated the “I Walk” day at Glenn Archer School where kids are taken on a “walk to school” outing (part of our Safe Routes to School Grant)
- CTST – Held numerous meetings regarding the proposed changes to the Bahama Village traffic routes to ensure pedestrian safety is a key component
- Began and are 80% complete with the Flagler Ave Sidewalk program to encourage walking to 4 nearby schools (a CTST initiative started in early 2000)
- Made significant strides in completing our sidewalk plan in an effort to improve the walk-ability of Key West and reduce vehicle miles traveled:
 - Applied for, received, and bid the design for a Safe Routes to School grant project at Gerald Adams School on College Road, Stock Island
 - Bid the design for a transportation grant for additional sidewalks on College Road
 - Applied for and received a grant for Safe Routes to School grant for sidewalk Poinciana school on Duck Ave and 12th Street
 - Bid the design of the transportation grant for sidewalk and roadway improvements on Glenn Archer Drive
 - Applied for, received and bid stimulus transportation grant for sidewalks on Duck Ave from 17th Street to South Roosevelt Blvd.
 - Applied for received and bid Stimulus grants for sidewalks on Leon Street, Ashby Street, Virginia Street, Telegraph Lane, Applerouth Lane, William Street, and Eisenhower Drive.
 - Applied for, received, and bid Stimulus grants for ADA ramps on Southard street (11 corners), Fleming Street (12 corners), Caroline Street (13 corners), and Eaton Street (13 corners)

Public Transit

- Key West Transit launched phase two and three of the Real Time Information System making available further menu items to enhance the first (1st) level of service (which was that of voice automation). Second level automation is text messaging and third level, mapping via internet is now available on a website hosted by Syncromatics as "KWTRANSIT.com" - the real time information system service There is a

full list of stops and times available online and via automated menu options from (305) 600-1455

- KW Transit participated in the Recycle Fair by hosting a booth with information on public transit held at the Key West High School on November 14, 2009
- KW Transit participated in the GLEE Expo event and via commission resolution of support, provided a free bus shuttle service from KW and Marathon on March 28th, 2009, for that event
- KW Transit hosted a table at the GLEE Expo with public transit information including a power point display

2 Reduction in runoff/stormwater pollutants into near shore waters

- Installed 5 waste treatment devices on storm water outfalls
- Improved the water quality in the salt ponds by restoring tidal flow to culverts there and dredging areas of the Riviera and 9th Street Canals
- Removed silt buildup at stormwater outfalls on Patterson Ave, 10th Street, Linda Ave, and Jose Marti Drive
- Installed 5 gravity wells with treatment systems to reduce pollutants
- Held 9 City-wide trash clean-ups to reduce trash getting into the water
- Added 4 Adopt an Area members

Notes: Maintenance of the Stormwater MS4 program to the measured goals is required as a part of the City's Permit to maintain a stormwater system in the State of Florida.

Maintenance of the goals in the EPA Reasonable Assurance Document is mandatory to possibly avoid expensive Total Maximum Daily Load (TMDL) requirements for the City.

3 Reduction of pollutants from marine users at docks and off shore

- The two City of Key West marinas were finally awarded the FDEP Clean Marina Program designation
- We have recycling available at all marinas
- We have waste oil collection at all marinas

- There are signs in the Garrison Bight office and out in front of the office concerning Manatee, Sailfish, conserve drinking water, stash your trash, and all around the marina concerning not feeding the Pelicans
- Police issued 65 citations to boaters who did not have proper pump out capabilities in effect on their vessels. (Maintenance of this program is mandatory for compliance with our EPA Reasonable Assurance Document)

4 Reduction in greenhouse gasses

- Completion of a 5-year Climate Action Plan, and are developing the implementation plan for it
- Active Climate Action Team
- 5.7% reduction in Municipal GHG emissions

Energy Conservation

- Key West Transit used 156,000 of bio-diesel in buses in 2009; 30,287 gallons of petroleum diesel was offset, reducing carbon emissions by 314 metric tons, a reduction of 20% over use of No. 1 or 2 diesel.
- Richard Heyman Waste Water Treatment Plant reduced electric by 6.1% saving 253 tons of carbon.
- All City gasoline vehicles operate on a mixture of 10% ethanol, reducing petroleum fuel by 10,036 gallons, and reducing CO₂e emissions by 88.7 metric tons, a reduction of 10% over normal motor gasoline.
- All City diesel trucks operate on a mixture of B-20 biofuel, reducing petroleum fuel by 4,563 gallons and reducing CO₂e emissions by 46 metric tons, a reduction of 20% over use of No. 1 or 2 diesel.
- We have at least 4 staff that now ride to work (in the 2007 survey only one person reported riding a bike)
- Conservation efforts reduced our unleaded fuel use by 19,916 gallons per year reducing CO₂e by 174.9 metric tons.
- Designed an energy saving retrofit at the waste water treatment plant to install a diffused air system, reducing 6-75hp motors (total 450hp) to one 300hp motor –Sewer Utility
- Washers and dryers located in City Marina at Garrison Bight were replaced with energy saving units
- DoT reduced bus routes in the City of Key West and Stock Island areas by combining four (4) corridor services into two (2) corridor services
- DoT reduced the Lower Keys service by eliminating the designated commute bus providing AM and PM services all the way into Old Town Key West - Monday through Friday via integration of that down town / old town area into existing bus services which operate 7 days per week (While all may not totally agree that reduced transit is a wonderful thing to

encourage incentive to public transit system use - it is a good thing in that it reduces fuel use and carbon production in vehicles that may have been under utilized throughout all parts of the daily service)

- Instant on hot water heaters in Mooring Field Rest Room – Garrison Bight
- Consolidating travel to Home Depot/ down town - Garrison Bight
- Install storm door at City Marina Dock Master's Office
- Support a CTST Lighting Task force to improve lighting and conserve electric
- Maintain a "Green Energy Policy" to reduce energy use in City facilities
- Changing old fashioned street lighting on Duval 100/150 watt sodium to 62/42 watts CFL's as bulbs burn out
- Changing T8 Fluorescent to T12 as bulbs or ballasts burn out
- Changing lighting to lower wattage in parks as bulbs burn out
- All a/c units installed were 14 seer and higher

Green Building

- Our new City Hall is being designed to obtain a LEED Platinum certification
- The Garrison Bight Mooring Field shore-side facilities were equipped with tankless water heaters

Renewable Energy

- The Climate Action Plan was completed recommending the use of renewable energy for resident, businesses and Keys Energy Services
- Our Historic and Architectural Review Commission approved the installation of solar panels on 26 homes and a full photo voltaic system on one home in the Historic District
- We have an advertisement on our TV station running 5 times per day announcing the state rebate program
- We are seeking the installation of a wind turbine for the WWTP

Solid Waste

- Completion of the new state of the art transfer station significantly enhances the quality of solid waste management
- The reduction of non-recycled waste in 2009 from 2008 was 5,069 tons; and multiplying by 69\$/ton we saved \$349,761

Reduce

- Since January '09, all meeting packets and resolutions from the Planning Department have been made available online, decreasing the amount of paper used. We have also seen a significant decrease in public records requests now that the public can view the items online
- Staff is encouraged to print on both sides of one sheet of paper.

- Reduced the quantity of hard copy bus schedule prints by 1/4th - promoting use of the real time passenger information system (RTPIS) via the automated number at (305) 600-1455 and provide that website information on all buses, print media and other advertising - with intents on further reducing printed schedules in
- Citizen Review Board members had one or two meetings per month which required extreme copying of about 9 sets of the materials with tabs and binding which took not only hours of copying (heat, energy) but about two phone books thick of documents per meeting. Now, 90% of the materials are placed on the website (so the public can also see) and thumb drives are used for any materials that can't go up on the web
- When public records request come in most are now sent electronically. – Clerk/CRB
- CRB Annual Report is created in pdf and uploaded to the City Website. The CRB annual report is about 30 pages long and could take 50 copies per year for distribution--now all e-mailed and posted for the public to review.
- CRB colored brochure, along with other documents, are all scanned and uploaded to web site

Reuse

- Purchased and installed the Flexi-pave, i.e. recycled tires to use as permeable membranes around trees in well used sidewalks to enhance water absorption and safety
- Mulched Christmas trees, mulched trimmings and tree removals made accessible to public for home use
- Used furniture from other departments instead of all new purchases – Landscaping and General Services
- As mentioned earlier – we are reusing street plantings
- Maintain a “Green Purchasing Policy” to increase the use of material manufactured with recycled products

Recycle

- Implemented a mandatory residential recycling ordinance
- Increased City commercial/residential recycle pick up rates in 2009 by an average of 15% (4 quarter increases were: 16%/14%/14%/14%); the total amount recycled in 2009 is 6,729,660 pounds (3,364.83 tons), which is equivalent to 274.7 pounds per resident of the city. The increased recycling from 2008 is 482.24 tons, saving \$33,275 dollars by not having to pay WM to haul from the city.
- Current measured recycle waste rate for 2009 in the City limits is 22% for a total of 16,102.83 tons (this includes recycled seaweed)
- Code Enforcement has obtained a dozen recycling bins so when they receive enquiries from personal contacts and the public, they take one to the listed address

- Worked with GLEE R-4 Committee to implement a door-to-door education campaign
- Commissioners worked with GLEE at volunteer education meeting.
- Enhanced recycling containers at Ball Fields
- Required all special events on city property to have a recycle plan and report results
- Purchased pencils and bumper stickers for speaking engagements at schools
- Purchased recycling information magnets for use by transient rental units
- Maintained a “Green Recycle Policy” directing recycling at all City facilities
- Purchased 10,000 “recycle” stickers for hand distributions to residents to use in recycle pick up containers
- Purchased 10,000 bilingual door hangers for hand distribution to residents
- Supplied 10,000 bilingual recycling handouts for hand distribution to residents
- Installed 25 Duval Street Recycle containers, and ordered 25 trash pails to install adjacent to them

ROT

- Hauled 12,738 tons of seaweed from the beach and turned it into mulch for reuse/recycle

Water Pumping/Treatment Energy Conservation

- Began a water leak detection program at City Marina
- Posted water conservation posters in city offices
- Parks and Recreation maximizes the use of water through optimum watering schedules
- Initiated discussion with FKAA to initiate a reuse system at the WWTP
- Use sewer reuse water for sewer maintenance wash downs

5

Community enhancement to increase carbon biomass and encourage dedication to our environment

- The City has created a City Commission Sustainability Advisory Board to advise them on issues

Youth Leadership

- We support HOB school adopt and area group
- We attended Poinciana School career day to discuss environmental programs such as stormwater and recycling

- We included a Girl Scout Troop in our Tree Inventory
- Membership in ICLEI – Local Governments for Sustainability
- Membership in Green Living and Energy Education

Communications

- DoT encourages and educates the community (and visitors) of why they should use public transit - via educational campaigns that are ongoing with public service messages / announcements as well as active advertising and educational campaigns via radio and television media
- Placed recycling and sea turtle education in utility bills mailed each month – Customer Services
- spoke to the Key West Ambassadors regarding Environmental programs
- Spoke at KW Ambassadors luncheon to obtain volunteers for the recycle volunteer program
- Ensured the publication of 2 news articles one for the opening o turtle nesting season and one when turtles began to hatch
- Highly publicized the Climate Conversation for Earth Day through electronic media, print and radio
- Held an Earth Day Climate Conversation to encourage more discussion in the community regarding climate change
- Through press releases obtained numerous news articles regarding environmental programs such as recycling, regional summit, etc.
- Articles posted on City web site (all of which were accompanied by press releases that were distributed to all local media outlets):
 - 2/2009 recycling seaweed
 - 3/2009 transfer station nears completion
 - 3/ 2009 free shuttle to GLEE Expo
 - 3/2009 trees donated for Key West Cemetery
 - 4/2009 Native plants put in at Southernmost Point
 - 4/2009 Earth Day
 - 5/ 2009 seeking volunteers for inverse tree inventory as part of the Climate Action Plan
 - 5/2009 transfer station ribbon cutting
 - 5/2009 water conservation and watering the ball fields
 - 5/2009 water restrictions
 - 6/2009 Citywide cleanup
 - 6/2009 Dump the Pump
 - 7/2009 Citywide cleanup
 - 7/2009 Tree Commission commended
 - 7/2009 seeking recycle education volunteers
 - 8/2009 transfer station is now online
 - 8/2009 new “green” mulch installed – Flexipave
 - 9/2009 citywide cleanup
 - 10/2009 Climate Change Summit

- 11/2009 GLEE R4 Fair, part of electronic newsletter
 - 11/2009 Pocket park cleanup, part of electronic newsletter
 - 11/2009 tree relocation
 - 12/2009 holiday tree recycling
- Other press releases include:
 - 1/2009 Arbor Day
 - 1/2009 Citywide cleanup
 - 2/2009 pocket park cleanup
 - 2/2009 Water Quality Awareness month
 - 4/2009 Turtle hatching awareness
 - 4/2009 Earth Day Climate Change Conversation
 - 6/2009 Cemetery cleanup
 - 10/2009 Citywide cleanup
 - 10/2009 Sustainability
 - Additionally, we had monthly recycle reports that were presented to the Commission and posted on the City's web site for: May, June, July, August, September, October, and November
 - Code Enforcement is making a point to educate citizens when handling complaints

6 Support natural habitats and indigenous wildlife

Land Conservation

- Landscaping Department has purchased trees and shrubs, approx. 200, most of which are native (90% or better)
- Landscaping staff has an invasive exotics removal program (completed Berg and Kitsos Parks as well as other areas.)
- General Services preserved 20 trees and palms by transplanting instead of removal on Flagler Ave.
- General Services had Flagler Ave Improvements designed with 140 trees, including many mature trees specifically to ensure a large carbon uptake on the project and have a more walk-able community
- Worked with KES to shut off all beach front street lighting before turtle season began

Healthy Practices

- The Historic Cemetery employs the use of bio-pesticide Iguana repellent to protect the grave sites

A

ctions for 2010

The start of 2010 brings the need for the establishment of an implementation plan for the Climate Action Plan and an awareness of the entire Sustainability Program by all Directors and affected associates.

The Climate Action Plan has specific recommendations to reduce greenhouse gas emissions as well as a recommendation for an adaption plan for climate change. It also directs support of the Southeast Florida Regional Climate Change Compact. The 2010 goals for the climate program are to:

1. Create an implementation plan for the Climate Action Plan objectives:
 - a) Have 5 meetings with the Climate Action Team;
 - b) Create a base year/future year energy use spread sheet for all city controlled facilities including cooling and heating degree days;
 - c) Develop a conceptual departmental plan with each Director for all of their facilities/program areas; and
 - d) Develop alliances or coalitions with all outside agencies specified in the CAP to ensure coordinated effort;
2. Recommend a sustainability budget on April 30, 2010;
3. Communicate and promote sustainable efforts to the community, within the 2009-10 budgets of various departments through use of IT and the PIO;
4. Make recommendations to infuse sustainable efforts into city operations;
6. Work with the Building Official and HARC Planner to develop a path to improved "Green Building" codes; permitting, inspection, and incentives by September 1, 2010; and
7. Fully support the Regional Climate Action Plan

A matrix of the specific CAP recommendations can be seen in Appendix 1, these will be filled in as meeting progress. "Mind Mapping" techniques will be used with Directors and outside partners to determine dates, staff resources and completion times (see Appendix 2). A Gant Chart will be developed to track progress (see sample in Appendix 3).

Goals for adaptation planning are:

1. Create a working group made up of community and government agency representatives to create an initial adaptation plan; and
2. Support the 4-County Regional Climate Initiative and request for federal funding for local adaptation planning and infrastructure.

The selected working group membership can be seen on the graphic on the next page. There will seven sub-committee areas which will be investigated: infrastructure, benthic/fisheries communities, water resources, terrestrial communities, weather/sea level rise, human disease, and economics.

The Regional Climate Initiative has requested a 15 million dollar federal appropriation for adaptation planning. This will include the second phase of adaptation planning which is very specific stormwater and storm surge modeling to help provide design standards for the next 50 years. Most new infrastructure is designed to last at least 50 years so now is the time to make new design requirements to ensure residents are protected in the future. Based on new climate data, Miami-Dade has just decided to increase its projected sea level rise from 1.5 feet in 50 years to 3 feet in 50 years. Clearly, we need to begin adaptation work immediately.

Adaptation Working Group



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A_{ppendix 1}

Implementation Matrices

	A	B	C	D	E
1	Program Recommendations Matrix - Section 6				
2	<u>6.1</u>	Lead Department	Responsible Party	Start Date	Completion Date
3	<u>Energy – Key West will reduce annual greenhouse emissions by 10,731 tons by using renewable energy, conservation, and more efficient power.</u>				
4	1. Replace standard street lights with Solar LED lighting - 986 tons				
5	2. Replace old fashioned lights with LED lighting - 540				
6	3. Install LED lighting and solar generation system at City (Park n Ride Garage) -130 tons				
7	4. Install alternative energy systems:				
8	a. Wind energy generator at Waste Water Treatment Plant (WWTP) and land fill - 500 tons;				
9	b. KES/FMPA/NOAA solar project, (37kw)				
10	c. KES/FMPA/NOAA wind project (6kW capacity)				
11	5. City Commission to Partner with Utility Board of the City of Key West to develop a series of goals, timelines and benchmarks to reduce emissions by 6,814 tons CO2e through:				
12	a. enhanced program of purchasing electric power generated by low co2 emission fuels and non-combustible energy				
13	b. Energy demand or tiered/inverted rate incentive program to encourage conservation and fund improved energy audits or utility “green energy improvements”.				
14	c. Encourage Keys Energy Services to continue to consider “smart grid” and “smart meter” systems.				
15	d. Encourage continued improvement of transmission and distribution systems to reduce line losses.				
16	e. Partner in rebate and marketing program to promote conservation as cost effective “climate action”.				
17	6. Consider the advantage of taxing electric utility and propane use to encourage conservation; dedicate funding for a revolving loan fund for weatherizing and renewable energy projects. Tax at a level that simple conservation at the desired level will not increase current/expected rates. (note, increased cost during this economic climate may not be feasible by 2015)- (900 tons).				
18	7. The City of Key West will monthly publish in a local newspaper the current and previous 24 month electric consumption by the City of Key West government in order for the citizens to judge the progress towards reducing consumption.				
19	8. The Utility Board shall monthly publish in a local newspaper the current and previous 24 months the total and per customer electric consumption by all residences and businesses in order to for the citizens to evaluate progress towards the goal of reducing consumption.				
20	<u>6.2</u>				
21	<u>Sewage and Solid Waste and Water Supply – Key West will reduce waste and water supply greenhouse gas emissions by 7,055 tons through water conservation, system conservation, alternative waste disposal and modified waste contracts</u>				
22	1. Establish multiple commercial recycling and waste vendors to increase competition and improve services. Ensure contracts have performance measures and quarterly and annual performance reviews.				
23	2. Implement a pay as you throw trash initiative to incentivize composting, recycling, reducing and re-using.				
24	3. Create a “solids” composting system for the waste water treatment plant and a composting system and mulch program for organic solid waste.				
25	4. Implement an energy efficiency program, or ESCO for the waster water treatment system.				
26	5. Partner with the FKAA to implement a reclaimed water system reducing the need for pumping fresh water from the mainland.				

	A	B	C	D	E
27	6. Partner with the FKAA to create a coordinated water conservation program.				
28	<u>6.3</u>				
29	<u>Transportation - Key West will reduce green house gas emissions by 12,681 tons by reducing vehicle miles traveled, conservation and increasing alternative transportation use.</u>				
30	1. Implement the full Bicycle/Pedestrian Plan as approved by the City Commission, along with recommendations listed in the actions section of this plan including curb cuts, safe sidewalks, increase bicycle parking and bike racks at every lower keys shuttle bus stop.				
31	2. Establish sub-committee as an authority to oversee private and public sector assistance in promoting and enabling people to use alternatives to the car; carry out surveys of bus users and non-users and whether commercial interests could assist in promoting public transport such as “free pass to shop” at grocery outlets, employee incentives (the US Navy provides public transit passes to military and civilian employees),and pay not to park programs.				
32	3. Promote “green” and “Smart Fleets” through incentives, driver training, creation of alternative fuel stations. Lead by example through greening of the city bus and vehicle fleet; commission a benefit analysis of using propane for local busses.				
33	4. Promote car pooling, car pool website and electric car stations at all city parking lots; ensure public transit system has bus route timing that encourage commuting to work and back home.				
34	5. Improve bus ridership through minor improvements including a simple to read map and schedule to be posted and maintained at every bus stop, shade, ADA access and weather protection at stops, a marketing campaign and improved bus pass and fare sales.				
35	6. Require special events receiving permits from the City Commission to include a plan to promote transit, pedestrians, bicycles and shared rides. Such a plan would include alternative modes of travel in event publicity, providing additional bicycle parking, provide satellite locations for people to park and ride transit and adding temporary transit service to meet additional demand.				
36	<u>6.4</u>				
37	<u>Buildings - Key West will increase energy efficiency of commercial, residential and government buildings to reduce 30,258 tons of green house gasses.</u>				
38					
39	1. Hire a professional energy manager to work for city to develop energy efficiencies in all city-owned buildings, then assist the remaining top 10 electric users in energy efficiency measures, then work with commercial and residential users. Develop partnerships with all large electric users including Naval Air Station Key West.				
40	2. Create an outreach program to reach every resident and business manager and educate them in using simple clear actions that will save money and reduce greenhouse gas emissions.				
41	3. Implement green office audit for all City owned buildings with milestones, goals, and timelines – develop recognition system for staff. Share audit program with other public agencies.				
42	4. City to create incentives if a permittee or developer uses alternative power, like increased density, reduced parking requirements, fast permitting, etc.				
43	5. Implement ordinance to encourage building energy efficiency improvements in leased spaces, and request that all large building owners consider commissioning studies or an energy savings performance contracting program.				
44	6. Create an alliance of city staff, contractors, planners, architects, engineers, the Monroe County Extension Service, FKCC and educators to encourage energy efficient building and renovations and institute contractor/designer/owner training programs.				

	A	B	C	D	E
45	7. Require all affordable housing to be green building certified by a recognized certification process (i.e. LEED) which will reduce monthly energy costs of tenants or owners on a continuing basis.				
46					
47	<u>6.5</u>				
48	<u>Sustainability/Sequestration – Key West will reduce 1000 tons of greenhouse gasses through better land use planning, and increase the sequestration of 175 tons of carbon dioxide</u>				
49	1. Create a non-profit organization for the planting and maintenance of 10,000 trees, mangroves and other landscaping in Key West. This will provide for a reduction of the city’s “heat island” effect an increase in shade on homes and businesses which reduces cooling bills, and an increase the walk-ability of the city.				
50	2. Establish a certified “Carbon Offset” fund program for home and business owners, event organizers and visitors that accepts donated funds for the tree planting, operated by a non-profit agency and marketed by the City and agency.				
51	3. Promote special events such as “carbon neutral” and “earth friendly” by incentivizing them through the City permitting process. Carbon neutral events may reduce their carbon footprint and then donate to a certified carbon offset fund, like the proposed tree planting fund, to create a neutral event.				
52	4. Use “Smart Growth” principals for all developments and re-developments in Key West. Actively encourage the extensive use of green building techniques in all renovations and new construction.				
53	5. Impart island pride and the ability to take action in every citizen, worker and visitor in Key West through continued marketing, education and outreach to all; apply the principles of total quality leadership to promote continuous commitment to improving the local environment and quality of life. The city and all its associates should serve as role models through deed and words.				
54	6. The City of Key West Planning and Building Departments will promote and suggest energy conservation measures when reviewing new developments and redeveloped properties such as shading buildings with native vegetation, adopting building shapes and orientation to reduce heat gain, shading parking lots with native vegetation around buildings, using white roofs to reduce heat gain, and providing more insulation than the minimum to requirement.				
55	7. The City of Key West will revise the Architectural Guidelines in the Historic District to accommodate white roofs, wind power, solar electric panels and solar water heaters.				

	B	C	D	E	F
1	Operational Measures Matrix				
2		Lead Department	Responsible Party	Start Date	Completion Date
3	<u>Key Educational Points/Responsibilities for Green Coordinator</u>				
4	An overarching educational plan is recommended as a way of obtaining economy of scale discounts on marketing and advertising costs. It is vital to enter partnerships with other community and government agencies to adopt a holistic approach to greenhouse gas reduction. Organizations that will be key to the success of the plan will include the Florida Keys Aqueduct Authority, Keys Energy Services, Naval Air Station Key West, Florida Keys Community College, City Tree Commission, Botanical Gardens Society, Garden Club, grocery stores, Hotel Motel Association, Inn Keepers Association, Monroe County, Chamber of Commerce, Key West Housing Authority, Monroe County School District, Florida Department of Transportation Technical Advisory Committee, and taxi companies.				
5	The four southeastern counties of Florida will be meeting in October, 2009 for the first Regional Climate Leadership Summit. The goal of the meeting will be to enter into a Southeast Florida Regional Climate Change Compact for the purpose of recognizing the need for immediate, collaborative and visionary action to mitigate for and adapt to the consequences of climate change. The Coordinator should meet with staff of these agencies aggregate resources, share successes, training expenses, create purchasing alliances for services and goods. Alliances with Monroe County and Keys municipalities in marketing and outreach can be built to reduce each agency's cost of many similar projects or programs. The TDC has budgeted for substantial funding for marketing the keys as a green destination to capture the socially conscious consumer. Alignment of CAP goals and tourism goals should be considered a priority.				
6	The Green Coordinator will be required to maximize collaborative efforts to bring all initiatives to success under the umbrella program of carbon emission reduction:				
7	Seek alliance and partnership opportunities;				
8	Hire a marketing firm to work on project and develop objectives and performance measures:				
9	Finalize alliances and partnerships and objectives of each partner;				
10	Supervise marketing program and report on performance;				
11	Develop educational programs, objectives and performance measures;				
12	Supervise advertising program and measure performance;				
13	Recommend grant programs;				
14	Provide an annual report of the performance of the program and provide monthly updates to the City Commission.				
15	The educational and outreach portion of this plan is the most important component. It includes outreach to partners, the development of alliances in the community and educational contact with all members of the community. The Coordinator will be responsible to ensure it is fully implemented. The recommended outreach program is detailed in the Education and Outreach Strategy section of the plan as well as in the Initiatives Section.				
16	<u>Education and Outreach Strategy</u>				
17	Each program area in the Climate Action Plan (CAP) has an educational component. The most important aspect of each CAP program is the educational component. Little societal change will occur if a substantial outreach and educational program is not initiated. This plan is intended to be as comprehensive as possible, including multiple areas impacting marketing communications, for the purpose of meeting the goals set by the City Commission. The program includes marketing assessment an outreach strategy and design concept media strategy that itemizes the best combination of outreach strategies to engage the community. The plan will pull together all the elements of the Climate Action Plan to clarify and make consistent the messages being expressed by the City to staff, citizens, decision-makers, customers and other key audiences.				
18	The City of Key West should strive to be known as a community with solutions for climate change. Our position as a major tourist destination provides the community with the opportunity to become a marketing ground for innovation. The community should therefore approach innovators and offer locations to highlight new products to the visitors from around the world.				
19	As the community continues to make progress, tourist marketing efforts should highlight that Key West is the Community with Solutions. This concept should be promoted through such marketing efforts as those by the Tourist Development Council, the Key West Chamber of Commerce, private businesses and the Florida Keys National Marine Sanctuary.				
20	<u>Marketing and Advertising</u>				
21	In order to be successful in reducing carbon emissions citizens have to make changes to lifestyle. It is difficult to modify ones lifestyle for ones personal benefit, none-the-less when people are asked to conserve desirable resources or spend money to make improvements. In order to educate people about climate change, and remove barriers to change a significant effort must be made in what is normally termed marketing and advertising. This plan is intended to be as comprehensive as possible, including multiple areas impacting marketing communications, for the purpose of meeting the goals set by the City Commission.				
22	Marketing is the process of determining who the audience is, determining what the barriers to change are, and what motivates them to take action and not take action. This is not as simple as it seems since most people are not alike. Focus groups and surveys are typically used to assess the motivation in localized areas. The marketing assessment should uncover: Perceived barriers, Why is it in the best interest of the target audience to take action?, How can the barriers be lowered and the benefits increased?, What incentives can be offered to the target audience to take action?, What is the target audience doing instead of the preferred action? And, What are the benefits they feel that they would be giving up?				

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23	An education plan, or more specifically a communications plan, must be developed that creates an outreach strategy and design concept. The plan will determine target audiences; determine which barriers need to be lowered; which target areas need incentives; and what the best way to reach each target audience. The plan will include a media strategy that itemizes the best combination of outreach strategies to engage the community. It will also recommend which other groups in the city should be involved as partners to ensure a successful plan. The plan will pull together all the elements of the Climate Action Plan to clarify and make consistent the messages being expressed by the City to staff, citizens, decision-makers, customers and other key audiences.				
24	A Brand Promise is the guaranteed deliverable that a brand or product provides to a consumer that matters to the consumer and differentiates the brand or product from its competitors. (For example: FedEx = peace of mind; Southwest Airlines = low fares) GLEE Green Business Certification = social conscience. Generally these are the characteristics by which products are identified and differentiated. Product attributes usually comprise features, functions, benefits, and uses. Our total program, we will call "Green Program" for ease of use in this the chapter, will be analyzed to find a thread of benefits, functions, etc. that connects all aspects of the program. We will include in all communications our attributes and inspirational attributes that will deliver the green program promise.				
25	Of critical importance in our marketing communications is the positioning of the "product". This is the way consumers, users, buyers and others view competitive brands or types of products <i>relative to other brands or products</i> . Keeping all our citizens focused on the Key West plan as opposed to the many other green programs that are available will better performance and measurement for the CAP. The positioning of the Green Program will be determined. In order to fully live the new Green Program, it is important that we present voice and personality that is consistent with our attributes. This is how an organization expresses itself to give it character and personality, specifically, voice and personality can include: Words and language used, Attitude and tone conveyed, Ambiance and sound created				
26	It's an important emotional connection for both employees and "customers" to hang on to, differentiating the Green Program from other climate programs or city services, which may cause confusion and subsequent inaction. It is also important that the program's voice and personality be repeated consistently through all communications. With repetition, it creates credibility and trust. It also sets a mood and expectation for the "Green" experience.				
27	A value proposition is directed at customers/users/citizens and is that which sets green living apart, from the status quo. It incorporates the unique, real and credible benefits our plan provides. It should also be sharply defined. The Green Program probably has a number of value propositions, each addressed to a specific target audience. The communications plan will create our value proposition. Once a brand position is agreed upon, key marketing themes and tag lines will be created and deliverables for the program will be agreed upon.				
28	An internal and external launch plan will be developed. It is important to have all of the City's staff on board with the green message. We will want to create passion among employees to act in a Green manner and challenge others to do so. We will ensure consistency of messages both in the media and from staff. Elements of the internal plan include:				
29	Communication and understanding;				
30	Top down support and modeling;				
31	Peer-to-peer support and modeling; and				
32	Reward system.				
33	The external launch plan will include an awareness study to provide a baseline to measure achievement of awareness goals. Then a publicity/public relations plan will be developed, a kick-off event held to implement the new outreach strategy and then monitoring and evaluation of the strategy will occur. It is best to evaluate the process along the way to guide and shape the program. In order to be able to best evaluate the success of the program, it is important to set indicators and baselines during the planning stage so that new data can be compared to the baseline data. The external launch plan will include the following education and outreach strategies:				
34	• Designing websites, distributing electronic newsletters, email messages;				
35	• Creating brochures, print ads, flyers, and postcards for direct mailings, writing newspaper articles;				
36	• Holding/partnering/obtaining space in workshops, festivals or fairs; and				
37	• Designing curriculum or lesson plans for grades K-12.				
38	Components of the publicity/PR plan are divided into the following five areas:				
39	On-going media relations/publishing efforts;				
40	Presence/participation in key events;				
41	Charitable outreach;				
42	Leveraging partnerships; and				
43	Administration.				
44	<u>Program Costs</u>				
45	It is expected that a \$30,000-\$40,000 per year initial marketing and education budget is sufficient for the comprehensive program, which includes all aspects of the Climate Action Plan. The budget can be found from a variety of sources. The CAP includes water conservation efforts to reduce sewage plant emissions and alternative waste programs for solid waste and conservation of freshwater use overland and into storm drains to meet FDEP MS4 rules. The Solid Waste Utility fund may fund any waste related advertisements as well as a portion of the total program creation; the Sewer and Stormwater funds may do the same as well. The General Fund may be tapped and Stimulus grants sought for the program. Partnerships with Keys Energy, the FKAA, Monroe County, and other agencies may also assist in funding the program. Annual maintenance of the program will require funding for new commercials and air/media time/placements. An alliance with the TDC may help fund the program				
46	The web based education program is expected to be in the range of \$10,000 - \$15,000 annually. This will develop an interactive one stop shop for all program elements; providing exceptionally easy instruction in greening homes, businesses, and other information required for us to meet our goals.				

Municipal Operations Matrix - Section 10						
Reduce municipal operation emissions by 15% by 2015 through energy conservation and increased non fossil fuel energy use. Following are the specific recommendations:			Lead Department	Responsible Party	Start Date	Completion Date
10. 1. Transportation						
	10.1.1. Increase Ridership on Existing Routes through:					
		10.1.1.1. 76 degree busses				
		10.1.1.2. Clean bus stops (trash containers, cigarette butt dispenser, weekly clean by street sweeper with vacuum)				
		10.1.1.3. Shaded stops				
		10.1.1.4. Weather protection				
		10.1.1.5. Clear bus route map posted				
		10.1.1.6. Schedule posted				
		10.1.1.7. Clear notice on days bus does not run				
		10.1.1.8. Spanish schedules and maps				
		10.1.1.9. Creole schedules and maps				
		10.1.1.10. Bike racks at bus stops (especially at all keys shuttle routes);				
		10.1.1.11. Bike closets (lower keys shuttle routes);				
		10.1.1.12. All stops to be ADA accessible;				
	10.1.2 Advertising and Promotion:					
		10.1.2.1 Alliances with business to provide reduced fares (bulk discount) and pay not to park program;				
		10.1.2.2 Install a pay station for bus ticket purchases at the airport and ferry terminal;				
		10.1.2.3 Promote the US Navy bus fare rebate;				
		10.1.2.4 Have a free, well promoted bus week;				
		10.1.2.5 Have bus field trips with elementary schools;				
		10.1.2.6 Bike storage/facilities at lower keys departure points in Key West;				
	10.1.3 Employee Service Center - promote incentives city and businesses- pay not to park;					
	10.1.4 Partner with businesses to provide bike rentals @ lower keys shuttle stops;					
	10.1.5 Create alliance with businesses to give out discounted or free bus tickets to people;					
	10.1.6 Maintain a commuter route that stops downtown;					
	10.1.7 Create shuttle bus from Front Street to Truman Waterfront, Southernmost Point to Reynolds Street down United to Simonton and back to Front LPG on hybrid;					
	10.1.8 Establish a subcommittee as an authority to oversee private sector and public sector help in promoting and enabling people to use mass transit; and					

Municipal Operations Matrix - Section 10						
Reduce municipal operation emissions by 15% by 2015 through energy conservation and increased non fossil fuel energy use. Following are the specific recommendations:						
		Lead Department	Responsible Party	Start Date	Completion Date	
	10.1.9 Install a solar panel farm above the proposed tour bus parking facilities which will power electric plug in so busses will not idle.					
10.2 Bicycle/ Pedestrian Transportation						
	10.2.1 Install showers at City Facilities to promote biking to work;					
	10.2.2 Pay not to park program;					
	10.2.3 Partner with bike shops to teach people how to fix bikes and rider safety;					
	10.2.4 Enhance grade school bike education;					
	10.2.5 Offer adult bike riding lessons;					
	10.2.6 Create more and interesting bike racks;					
	10.2.7 Use pay not to park profit for bike education program; and					
	10.2.8 Consider seriously promoting bike licensing through licensing department.					
10.3 Other Transportation						
	10.3.1 Promote car pooling on carpooling website;					
	10.3.2 Partner with FDOT for van rideshare program;					
	10.3.3 Promote alternative vehicle fleets (hybrids & electric cars);					
	10.3.4 Phase out city fleet and phase in hybrid and electrical vehicles and bicycles;					
	10.3.5 Seek zip car firm to move into City of Key West;					
	10.3.6 Incentivize electric residential vehicles by free parking spots for electric cars on some spots around Duval Street;					
	10.3.7 Promote 1 car families;					
	10.3.8 Provide incentives for hybrid/ electric taxi's;					
	10.3.9 Install electric car charging stations @ all city garages and in streets with limited driveways;					
	10.3.10 Create and anti-idling program;					
	10.3.11 Track City fleet vehicle idling;					
	10.3.12 Consider Fire Department food shopping by use of watch Commander Vehicle; and					
	10.3.13 Provide pressure indictor caps for tires.					
10.4 Waste Systems						
	10.4.1 Decrease waste hauled from the city through:					
		10.4.1.1	Increased home composting;			
		10.4.1.2	Create a community compost center;			

Municipal Operations Matrix - Section 10						
Reduce municipal operation emissions by 15% by 2015 through energy conservation and increased non fossil fuel energy use. Following are the specific recommendations:			Lead Department	Responsible Party	Start Date	Completion Date
		10.4.1.3 Community recycling in the city limits;				
		10.4.1.4 Increase R4 education;				
		10.4.1.4 Increase R4 education;				
		10.4.1.6 Have a performance based waste management contract;				
		10.4.1.7 Increase number of commercial recycling contracts;				
		10.4.1.8 Decrease in number of recycling complaints;				
		10.4.1.9 Promote commercial recycling and group recycling on streets;				
		10.4.1.10 Create mandatory commercial recycling (currently as low as for \$2.50/ month);				
		10.4.1.11 Provide for adequate recycling @ all city facilities;				
		10.4.1.12 Require recycling in all city leagues and sports agreements;				
		10.4.1.13 Commercial recycling rates lower than trash rates;				
		10.4.1.14 Provide E-Waste drop off in the city limits and promote it;				
	10.4.2 Reduce greenhouse gas emissions through:					
		10.4.2.1 Provide hazardous waste drop off 12 times per year;				
		10.4.2.2 New waste contract cannot stipulate minimum volume of waste or all waste available to vendor;				
		10.4.2.3 New waste contract should require use of a waste to energy facility;				
		10.4.2.4 New waste contract to accept CFC's and fluorescent bulbs curbside;				
		10.4.2.5 Promote waste reduction strategies; green business certifications, recycling, hazardous and E-Waste drop off, light bulb drop off;				
		10.4.2.5 Promote product stewardship though mandatory commercial take-back programs;				
		10.4.2.6. Require staff to consider packaging waste in purchases (forcing the supplier to use less packaging, purchase in bulk);				
		10.4.2.7 Purchase only Energy Star electric products and Epeat (www.epeat.net) electronics;				
		10.4.2.8 Analyze the flaming of methane gas from the landfill, if it reduces significant emissions install it; and				
	10.4.3 Add greenhouse gas emissions as waste product that falls under the Solid Waste Utility to fund emission reduction and sequestration.					
10.5 Sustainability						
		10.4.1 Become Green City Certified;				
		10.4.2 Enhance bike theft prevention though licensing, searching for stolen bikes and prosecution;				

Municipal Operations Matrix - Section 10						
Reduce municipal operation emissions by 15% by 2015 through energy conservation and increased non fossil fuel energy use. Following are the specific recommendations:						
		Lead Department	Responsible Party	Start Date	Completion Date	
	10.4.3 Create solar protection ordinance so new larger buildings do not shade solar systems;					
	10.4.4 Require all city leases to have requirements that lessees are to be green business certified and portfolio manager certified and have recycling;					
	10.4.5 Consider an ordinance to require new construction have solar pool and water heaters;					
	10.4.6 Consider reducing the required number of parking spaces and increasing the number of bicycle spaces or employee showers as incentive for wind and solar energy use;					
10.6 Waste Water Treatment						
	10.6.1 Install diffused air system at plant;					
	10.6.2 Have full A/C system designed for current high efficiency standards by HVAC engineer;					
	10.6.3 Have an ESCO for the full waste water system;					
	10.6.4 Change facility lights to exterior lights to LED's;					
	10.6.5 Add wind powered 250 kw energy to generator unit;					
	10.6.6 Change fleet to alternative energy vehicles;					
	10.6.7 Install cistern water systems for vacuum truck;					
	10.6.8 Installation of compost system for solids;					
	10.6.9 Install chlorine system and provide FKAA water for reclaimed H2O Systems.					
	10.6.10 Look into digester gas recovery; and					
	10.6.11 Develop partnership with FKAA and SFWMD to reduce water use by 10% .					
10.7 Planning and Building						
	10.7.1 Do not approve a variances for reduced open spaces and reduced pervious surface;					
	10.7.2 Modify code to disallow pervious pavement and "pervious bricks" without a healthy grass volume;					
	10.7.3 Modify the comprehensive plan to include the wide array of green incentives into the City of Key West;					
	10.7.4 Identify all capital projects and have them reviewed for green building construction elements;					
	10.7.5 Incentivize alternative transportation for all City facilities and planning department approvals;					
	10.7.6 Incentivize green building components (reduced building fees, faster inspection...);					
	10.7.7 Encourage LED exterior lighting;					
	10.7.8 Enforce bike rack installation at city property and private property;					

Municipal Operations Matrix - Section 10					
Reduce municipal operation emissions by 15% by 2015 through energy conservation and increased non fossil fuel energy use. Following are the specific recommendations:		Lead Department	Responsible Party	Start Date	Completion Date
	10.7.9 Consider changing parking ratio for less car parking and more bike parking;				
	10.7.10 Require waste contractor to approve waste recycle area for all DRC approvals;				
10.8 City Commission					
	10.8.1 Direct City Manager to allocate 25% of energy savings (fuel and electric) to staff bonus;				
	10.8.2 Create mandatory reduction, reuse and recycling programs for all city facilities;				
	10.8.3 Enforce existing and improve codes that require building owner to maintain the sidewalks and right of way in front of their building. This will reduce city maintenance and landscape as well as contractor vehicle emissions (and contractor costs);				
	10.8.4 Add greenhouse gas emissions a waste product that falls under the Solid Waste Utility to fund emission reduction and sequestration;				
	10.8.5 Promote product stewardship though mandatory commercial take-back programs;				
	10.8.6 Only give grants to organization which are green certified and for construction projects, that have green components projects;				
	10.8.7 Create an education and outreach program with the assistance of a marketing and advertising firms that meets the goals of the Climate Action Plan;				
	10.8.8 Create an ordinance that all flat roofs must be highly reflective, and				
	10.8.9 Have the City Manager report on City government goal progress.				
10.9 Facilities					
	10.9.1 Perform commercial grade energy audits of all City owned buildings;				
	10.9.2 Implement the cost effective audit recommendations initially;				
	10.9.3 Hire an energy manager to perform energy audits;				
	10.9.4 Have written Standard Operating Procedures for the management of every building owned by the city;				
	10.9.5 Phase out the use of desk top PC's and use thin clients by 2015;				
	10.9.6 Install central surge protectors to eliminate the need for at desk systems;				
	10.9.7 Hire an ESCO make recommendation for the waste water treatment system;				
	10.9.8 Install electric charging stations at all utility parking city with electric metering;				

Municipal Operations Matrix - Section 10						
Reduce municipal operation emissions by 15% by 2015 through energy conservation and increased non fossil fuel energy use. Following are the specific recommendations:						
			Lead Department	Responsible Party	Start Date	Completion Date
	10.9.9 Create and train associates on paper reduction program;					
	10.9.10 Enforce existing "Green Policies" in all facilities;					
	10.9.11 Obtain GLEE Green Business certification for all buildings;					
	10.9.12 Have all city buildings EPA energy portfolio certified;					
	10.9.13 Require all electronics and electronic equipment in city buildings to be energy star rated;					
	10.9.14 Create a building and departmental tracking system to track energy, money and carbon saved by departments and develop a recognition system;					
	10.9.15 Install more and accessible bike racks at all city facilities;					
	10.9.16 Trim all plants to make a walkway and bikeways accessible at all city buildings;					
	10.9.17 Apply for water and energy conservation grants;					
	10.9.18 Change park and ride to LED & solar power;					
	10.9.19 Replace street and parking lot lights with LED's;					
	10.9.20 Create cisterns at all large city facilities to supply street sweepers and water buffalos;					
	10.9.21 Install occupancy sensors in selected offices bath and conference rooms;					
	10.9.22 Install insulation in un-insulated conditioned spaces;					
	10.9.23 Paint all roofs that are dark, white (ROI 1.5 yrs);					
	10.9.24 The City shall publish monthly the energy use for the last 24 months in a local publication;					
	10.9.25 Install window film or shade covers on select city windows on west face; and					
	10.9.26 Install shade trees on west side of buildings; and					
	10.9.27 Ensure all exit signs are lighted by LED's.					

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2	CAT Implementation Matrix - Section 9				
3		Lead Department	Responsible Party	Start Date	Completion Date
4	Commercial Climate Challenge				
5	This program will engage Key West’s business community to reduce their greenhouse gas emissions. The City will act as a catalyst developing alliances and partnerships throughout the community, funding organizations, non-profit and other governmental agencies to assist local businesses in meeting their goals. Appendix 7 exhibits two showcase examples of local businesses engaging in high quality reduction measures. It is expected a variety of organization will provide education and materials and the City will provide an interactive web site collating all required information needed to easily select emissions reduction measures and report results. Some measures require city policy changes, action and purchases or infrastructure modifications. Initiative includes:				
6	9.1.1: Expand employee commuter benefits. Commuter benefits with the largest potential impact on greenhouse gas emissions are transit subsidies, vanpools, and cash in lieu of parking. Other commuter benefits include tele-working, virtual working, bike lockers and showers, preferred car pool parking, compressed work schedules, shuttles, and rideshare matching. National studies show 0.5 mtCO2e saved for every employee covered by the EPA’s “Best Workplace for Commuters” program;				
7	9.1.2: Increase green fleets Expected Outcome: 200 Hybrid vehicles; 200 EV;				
8	9.1.3: Implement green building improvements such as green roofs, landscaping, etc weatherization 5% reduction CO2e x 200; Expected Outcome: 100 White roofs, 200 trees for shade, 200				
9	9.1.4: Tie the agencies CEO salary to the energy savings;				
10	9.1.5: Encourage large user agencies to use shared savings/performance contracting;				
11	9.1.6: Every commercial building to perform self energy audit building commission audit;				
12	9.1.7: Reduce paper consumption (less haul down, create, haul out less purchasing costs);				
13	9.1.8: Work will all government agencies to implement green office audit for all public offices with milestones, goals, timelines, produce recognition system to staff (2% red x 600);				
14	9.1.9: Partner for use of GLEE’s Green Business Certification as part of challenge for continued annual improvement;				
15	9.1.10: Require all Businesses that are leased to be energy star profile rated to encourage owners to improve leased buildings;				
16	9.1.11: Offer workplace recycling, 4 mtCO2e saved per ton of waste recycled. Expected outcome: recycle 4,000 tons (-16 mtCO2e);				
17	9.1.12: Pay as you throw trash (incentivize composting, recycle, reduce) offer electronic waste, lamp waste, battery waste;				
18	9.1.13: Plastic beer mugs;				
19	9.1.14: Provide a commercial revolving loan fund for weatherization;				
20	9.1.15: Establish an energy museum to provide viewing of green businesses and building initiatives;				
21	9.1.16: Provide green purchasing guide lines to businesses including energy star equipment;				
22	9.1.17: Partner with USN to reduce electric use by 10%;				
23	9.1.18: Encourage use of LED Christmas lights; and				
24	9.1.19: Awards will be given to businesses that take the challenge and report energy savings.				
25	Progress indicators: reduction in commercial energy use				
26	➤ Number of bus passes				
27	➤ Number of bike tax credits reported				
28	➤ Increase in commercial recycling accounts				
29	➤ Number of commercial alternative energy permits issues				
30	➤ Number of white roofs reported				
31	Expected Outcome: Reduce energy use by 15% in 600 businesses				
32	9.2				
33	Residential Climate Challenge				
34	This program will engage Key West residents to reduce carbon emissions through a program of education in the areas of home energy use and transportation. Homeowners will be encouraged to use clean energy through installation of residential alternative energy systems or purchase of clean power from Keys Energy Services.				
35	9.2.1: Create a model in home energy display system which will enable families to see home energy use and cost in real time on electric displays. Expected outcome: 7,000 residents will reduce home energy use by 10%;				

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36	9.2.2: Residents will be challenged to “turn it up a notch”. Each degree one raises on A/C thermostat there A/C energy use goes down 3%;				
37	9.2.3: Create a marketing program to reach every resident to promote green issues;				
38	9.2.4: Create partnerships with Keys Energy Services to provide enhanced home energy audits and installation of limited weatherization items;				
39	9.2.5: Partner with the Florida Keys Aqueduct Authority and South Florida Water Management District to reduce water use by 10% through education, grants, rain barrels and other measures;				
40	9.2.6: Promote walking and bike riding to work and school;				
41	9.2.7: Initiate a revolving loan fund weatherization projects;				
42	9.2.8: Promote use of Key West Transit;				
43	9.2.9: Promote white roof program;				
44	9.2.10: Promote “ClimateCulture.com” to K-12 children;				
45	9.2.11: Promote use of LED holiday lights;				
46	9.2.12: Promote recycling and enforce the code; and				
47	9.2.13: Awards will be given to residents who enter the challenge and show excellent progress.				
48	9.2.14: Consider Ordinance requiring rental unit owners transfer leases with clean a/c filter and no leaking faucets and toilets				
49	Progress Indicators:				
50	➤ Increase in recycling rate				
51	➤ Reduction in residential energy use				
52	➤ Increase in bus ridership				
53	➤ Increase in bike use				
54	➤ Number of permitted solar and wind energy installations				
55	Expected Outcome: 15% reduction in residential energy use in 7,000 homes; 5% reduction in 2000 homes.				
56	9.3				
57	<u>Incentivize Energy Conservation</u>				
58	This program aims to create the conditions under which energy users will be able to use and purchase energy with greater choice and efficiency. It is proposed energy conservation measures will be sought out by energy users since it is cost effective or socially inviting. This will be accomplished through showcasing alternative energy systems and providing incentives to reduce energy use.				
59	9.3.1 Monroe County School District will install 25KW wind power generator;				
60	9.3.2 Keys Energy Services will partner with NOAA to install wind generators;				
61	9.3.3 Install two 250kw wind energy generators;				
62	9.3.4 Keys Energy Services will partner with NOAA to install solar project;				
63	9.3.5 Implement a tiered rate for electricity consumption for homes and businesses that consume above average amounts of electricity. Develop means to avoid the inequitable impacts on low-income residents. Use additional fund balance to fund alternative energy projects;				
64	Create a peak time energy system that reduces construction of new power plants and encourage energy savings;				
65	City to create incentives if a developer uses solar, or wind energy;				
66	Consider a utility tax for electric and propane which will provide a revolving loan fund and incentivize conservation;				
67	Encourage the FKAA to enhance its rate structure to disincentivize water use,				
68	Develop an alliance of building and education professionals to promote green building technologies and needed education; and				
69	Create an energy museum to show visitors energy savings initiatives.				
70	Progress Indicators:				
71	➤ Decrease in energy consumption rate				
72	➤ Number of wind turbine systems installed				
73	➤ Number of alliances actively working				
74	➤ Number of energy audits requested				
75	➤ Additional funding realized and invested in alternative energy and conservation				
76	Expected Outcome: 4,000 residents will seek energy audits, 400 permits for solar or wind installations will be issued.				
77	9.4				

	A	B	C	D	E
78	<u>Key West Transit Challenge</u>				
79	This project will enhance the usability of the City bus system and encourage the use of it over personal motor vehicles.				
80	9.4.1 Establish a sub committee as an authority to oversee private sector and public sector help in promoting and enabling people to use an alternatives to the car;				
81	9.4.2 Create a spectacular marketing program;				
82	9.4.3 Provide sufficient bike rack at bus;				
83	9.4.4 Bike storage/ service centers (sears town and old town garage);				
84	9.4.5 Bike racks at all Keys Shuttle stops;				
85	9.4.6 Install bike enclosure at KEYS shuttle stops as requested (install 4 as trial units);				
86	9.4.7 Upgrade all bus stops;				
87	9.4.8 Install schedules and maps at each bus stop;				
88	9.4.9 Install rain/shade covers at each stop;				
89	9.4.10 Ensure all stops are ADA accessible;				
90	9.4.11 Bike storage/ service centers (sears town and old town garage);				
91	9.4.12 Initiate free bus weeks in coordinated with reduced parking weeks or days in old-town;				
92	9.4.13 Consider outsourcing a fixed down town route to a franchise train/trolley type vendor; and				
93	9.4.14 Create bus training school field trips.				
94	Progress Indicators:				
95	➤ Number of bus riders				
96	Expected Outcome: Increase ridership by an average of 100 commuters daily				
97	<u>9.5</u>				
98	<u>Bicycle Pedestrian Challenge:</u>				
99	This project will promote walking and biking to reduce vehicle miles traveled by enhancing the walk-ability of the island, through programs and improved bike trails, routes and sidewalk infrastructure.				
100	9.5.1 Provide sufficient bike racks at bus stop;				
101	9.5.2 Increase bicycle parking around city;				
102	9.5.3 Establish a sub committee as an authority to oversee private sector and public sector help in promoting and enabling people to use an alternatives to the car;				
103	9.5.4 Install bike enclosure at KEYS shuttle stops;				
104	9.5.5 Complete the bicycle pedestrian plan(authorized by Commission resolution);				
105	9.5.6 By 2011, install handicap ramps at all existing sidewalks on the bicycle pedestrian plan, trim trees and bushes away from sidewalk so that pedestrians and young cyclers can use sidewalk;				
106	9.5.7 Re-write the city ordinance to make it clear that the homeowner is responsible to maintain the trees in front of the property and to ensure that the trees do not protrude into the sidewalk;				
107	9.5.8 Maintain all marking on path and bicycle lanes; improve as needed;				
108	9.5.9 Provide a repair inventory for all sidewalks with cracks greater then 1/25 of an inch and maintain on annual basis;				
109	9.5.10 TV shows and commercials encouraging people to ride bikes throughout town;				
110	9.5.11 Bicycle link on website to show all the bicycle and pedestrian routes in town;				
111	9.5.12 Quarterly walk/ bike to work day;				
112	9.5.13 Have continuous safe routes to schools programs for all grade school children encouraging children to ride there bikes and walk to school;				
113	9.5.14 Have schools provide extra credit or gifts to children who get their parents to walk/bike with them to school;				
114	9.5.15 Ensure all bicycle racks are installed to meet the City Code and developments requirements for bicycle parking;				
115	9.5.16 Remove stop signs where unwarranted, limit new stop sign placement to those that comply with the state warrant for traffic control, have licensed professionals determine the need for stop signs;				
116	9.5.17 Driver education program wrt bicycling on the city television station and PSA,s;				
117	9.5.18 Maintain all intersections with trees and objects clear between 30 inches and 10 feet in height;				
118	9.5.19 Provide an annual update of sidewalk repair program;				
119	9.5.20 In the LDR requirements for automobiles with the corresponding increase in bike/ moped requirements;				

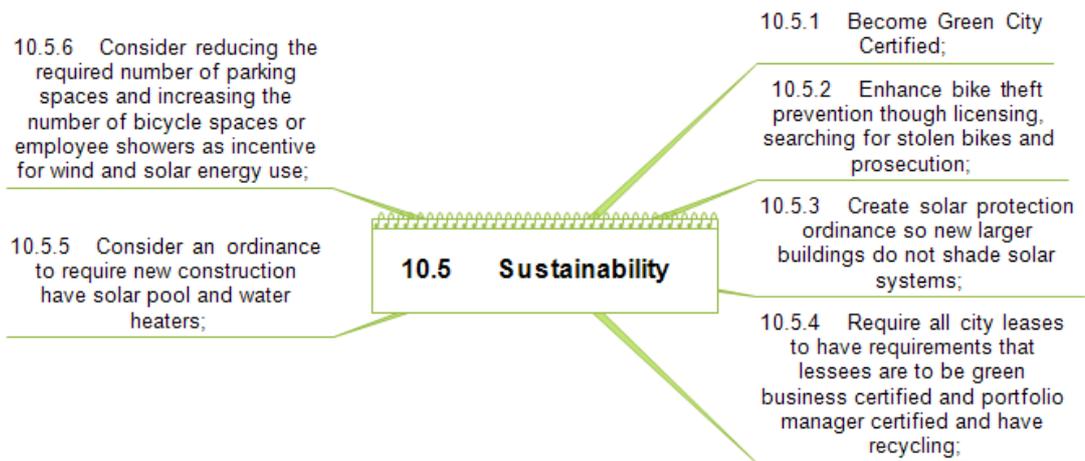
	A	B	C	D	E
120	9.5.21 Creation of a new bike path/routes filling of gaps in the existing bike path/routes;				
121	9.5.22 Improvements in current bike path/ routes. Curb cuts, directional signage, street marking, signals – the list is not all-inclusive;				
122	9.5.23 Portable trailer for large bike racks for festivals and TDC to promote Key West as a bike friendly town;				
123	9.5.24 Bike storage/ service centers (sears town and old town garage);				
124	9.5.25 More or better ways to rack bikes;				
125	9.5.26 Comprehensive traffic planning to improve bike traffic flow(connecting routes to popular destinations ensuring the shortest bike route possible); and				
126	9.5.27 Removal of excess stop signs or marked crossing and replacing them with traffic calming devices.				
127	Progress Indicators:				
128	➤ Number of bikes on trails/routes				
129	➤ Number of bikes in racks				
130	➤ Value of savings on pay not to park programs				
131	Expected Outcome: Increase the number of bikes commuting to work and school by 2015				

A_{ppendix 2}

Sample Coordination Meeting Mapping

Sample Meeting Agenda Based on City Commission Approved Climate Action Plan

Sample Meeting Map



Sample Meeting Agenda Based on City Commission Approved Climate Action Plan

I. 10.5.1 Become Green City Certified;

Who will be involved and how? What are the benchmarks? When can they be accomplished? By whom?

II. 10.5.2 Enhance bike theft prevention through licensing, searching for stolen bikes and prosecution;

Who will be involved and how? What are the benchmarks? When can they be accomplished? By whom?

III. 10.5.3 Create solar protection ordinance so new larger buildings do not shade solar systems;

Who will be involved and how? What are the benchmarks? When can they be accomplished? By whom?

IV. 10.5.4 Require all city leases to have requirements that lessees are to be green business certified and portfolio manager certified and have recycling;

Who will be involved and how? What are the benchmarks? When can they be accomplished? By whom?

V. 10.5.5 Consider an ordinance to require new construction have solar pool and water heaters;

Who will be involved and how? What are the benchmarks? When can they be accomplished? By whom?

VI. 10.5.6 Consider reducing the required number of parking spaces and increasing the number of bicycle spaces or employee showers as incentive for wind and solar energy use;

Who will be involved and how? What are the benchmarks? When can they be accomplished? By whom?

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ppendix 3

Sample Gant Chart of Performance Actions

