

**Climate Change Implementation Plan
For
Orange County Government**

**Mayor Richard T. Crotty
and the
Board of County Commissioners**



2-18-08

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1. Orange County Greenhouse Gas (GHG) Emissions Inventory and Forecast Summary

Orange County has prepared an inventory of GHG emissions from its government operations. The GHG emissions levels shown here are gross estimates and do not include community contributions. Overtime, Orange County plans to incorporate overall community emissions into the inventory and work with the community on potential solutions. Orange County will refine and improve this inventory and develop the future community inventory.

The GHG emission inventory and forecast are a requirement for the County's Climate Protection Plan that Orange County has committed to develop. This inventory is being used to develop goals and plans for GHG reductions. It is anticipated that a GHG emissions inventory will become a requirement in future legislation. The Supreme Court recently declared the primary greenhouse gases pollutants to be regulated by United States' Environmental Protection Agency under the Clean Air Act.

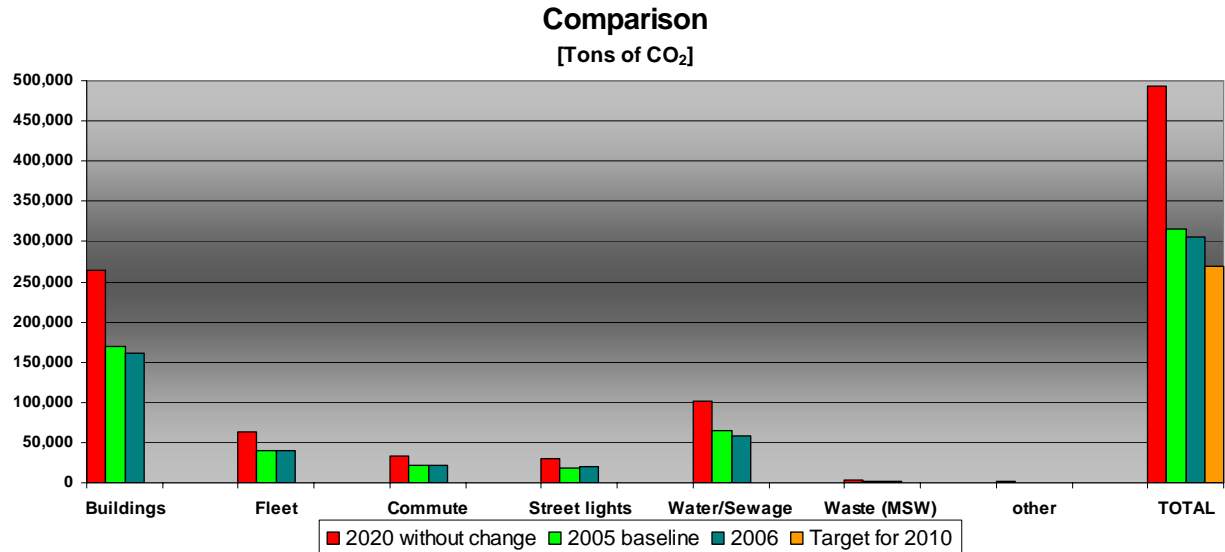
The GHG emissions inventory was developed by first listing all known emission sources and determining the energy and fuel usages, and municipal solid waste landfilled. The GHG emissions were calculated using the Clean Air Climate Protection (CACP) software from ICLEI – Local Governments for Sustainability (www.iclei.org/index.php?id=391). The software calculates GHG as tons per year (TPY) carbon dioxide (CO₂) equivalent. For example, one ton of CO₂ is approximately equal to the volume of the average house.

The CACP software evaluated the following sources:

- Buildings/Facilities (electricity, natural gas)
- Fleet (gasoline, diesel, biodiesel, etc.)
- Employee commute (gasoline)
- Streetlights (electricity)
- Water reclamation and treatment plants (electricity)
- Landfill waste (waste tons/yr, waste composition, methane capture efficiency)
- Other/Miscellaneous

Data was collected and most GHG emissions were determined from actual data (electricity and fleet fuel). The data from natural gas, employee commute fuel use and municipal solid waste landfilled was conservatively estimated. Sanitary landfills that capture and use their methane gas actually reduce the GHG emission calculations. However, since the Orange County Landfill is a municipal landfill, the analyses were not included in the county operation calculations but will be included in community-wide analyses. Next, the forecast was prepared by assuming 3% annual growth in county government, same as Florida's traffic count growth, resulting in 56% GHG increase over 15 years.

The graph below is a summary of the GHG emissions for Orange County government reported in tons.



Current GHG emissions are equivalent to 316,242 TPY CO₂ (Note: More accurate numbers have been obtained for 2005 and the GHG emissions are slightly larger than originally projected. Original projection was 265,000 TPY. All charts and numbers have been adjusted). Further details on these calculations can be obtained from the Orange County Environmental Protection Division.

A better method is needed to track energy use for county-wide emission inventory. The forecast growth over 15 years is 56%, with no changes to baseline 2005 methods. County government needs to take the lead in reducing GHG emissions in Orange County by emphasizing renewable energy, energy conservation, and efficiency efforts. The next step is to develop a community wide plan to reduce GHG emissions.

2. Orange County Targets

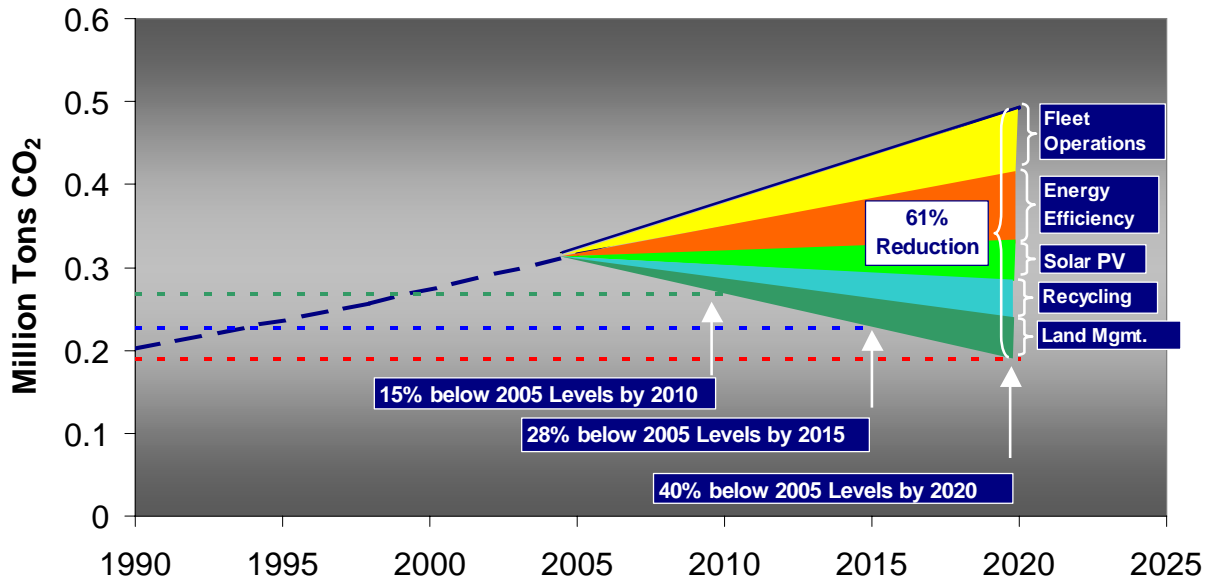
Orange County is setting the following targets for its Climate Change Plan. The reductions are based on 2005 GHG emissions.

- 15% reduction by 2010 = 47,436 TPY less carbon emissions
- 28% reduction by 2015 = 88,548 TPY less carbon emissions
- 40% reduction by 2020 = 126,497 TPY less carbon emissions

The graph below shows the above-mentioned GHG emissions growth forecast over time if no actions are taken and our community continues to grow. The wedges represent the sectors in which Orange County government expects to reduce its GHG emissions.

Greenhouse Gas Emissions Orange County Government

(Updated: 12/04/2007)



3. Orange County Climate Change Protection Plan Goals

The goals below are some of the plans to reach these targeted reductions. Orange County has focused on activities that meet the following criteria:

1. Environmental practices done in-house to support GHG reductions;
2. Incentives and ordinances to foster green practices to reduce GHG; and
3. Educational activities to improve the environment.

Goal 1: Adopt policies to establish and implement a County Renewable Energy Initiative

Objectives:

- A. Apply for grants and commit funds for solar photovoltaic (PV) panels at the Orange County Convention Center (OCCC). This, up to 1-megawatt, system could be the largest array of solar photovoltaic panels in the southeast. This will help the OCCC reduce their energy consumption from fossil fuel.
 - Contact(s): Jerry Daigle, OCCC
Hamp Pridgen, EPD
 - Cost estimate: County \$274,000 (in-kind)
OCCC (CIP) \$3.5M
State of FL \$1.8M

OUC \$1.5M
DOE/FSEC \$156,000 (in-kind)
EDC \$100,000 (in-kind)

- Timeline: Jan 2008 Grant contract signed
- Feb 2008 2nd year grant winners announced (additional funds?)
- Feb 2008 Negotiate agreement with OUC
- Feb 2008 Finalize agreement for DOE grant
- Fall 2008 Begin design & construction
- Feb 2009 Opening ceremony
- Category: Solar
- Measurement:
 - Track Renewable Energy Credits (RECs) and Solar Electric Generated in kilo-watt hours (KWh)
 - % completion of project

B. Develop a program to provide tax incentives and/or tax credits for solar energy manufacturers within the county.

Comment: This goal will now be called “Green to \$Green\$.” It is about more than green--more than optimizing the use of natural resources and being less wasteful. From an economic development perspective, it is also about adding economic value compared to traditional alternatives. The common terminology for this is clean technologies or "cleantech." When it comes to the economy, our goal is cleantech economic development. Cleantech is Green PLUS, adding value by significantly lowering cost and improving profitability. (Goal will be reworded to reflect larger scope).

- Contact(s): John Lewis, Economic Development
Metro Orlando Economic Development Commission (EDC)
- Cost estimate: under evaluation, using existing incentives
- Timeline: on-going
- Categories: Solar, Energy Efficiency & Land Management
- Measurement:
 - Maintain a list of cleantech companies attracted to Orange County
 - Stormwater Treatment Environments, Inc.
 - Sowlar
 - Land Design Innovations
 - ZeroCrete
 - Track startup assistance and partnerships for “green” companies
 - UCF Technology Business Incubator
 - UCF Orange County Venture Lab

C. Retrofit county buildings with renewable energy systems. This supports hurricane mitigation efforts to have decentralized energy available. Evaluate a specific goal of having 15% of power used by county owned buildings from alternative energy sources within 15 years.

- Contact(s): Tony Aguerrevere, Capital Projects Division
Jody Strickland, Capital Projects Division
Preston Cook, Emergency Management

Hamp Pridgen, EPD

- ❑ Cost estimate: under evaluation
- ❑ Timeline: under evaluation
- ❑ Category: Solar & Energy Efficiency
- ❑ Measurement:
 - Development of a 15 year plan.
 - Track REC's, electric generated in KWh by renewable energy.

D. All new county buildings meet the Leadership in Energy and Environmental Design (LEED) standards (originally established by Mayor Crotty in September 2005 commitments).

- ❑ Contact(s): Tony Aguerrevere, Capital Projects Division
Jody Strickland, Capital Projects Division
- ❑ Cost estimate: initial estimate 8% over typical cost of project which will reduce with time and experience.
- ❑ Timeline: effective immediately.
- ❑ Category: Energy Efficiency
- ❑ Measurement:
 - Number of buildings that are LEED certified buildings.
 - Energy use per square foot compared to non LEED certified buildings County operates.
 - Energy savings in KWh and cost.

E. Partner with electric utilities to develop green power programs. Sell renewable energy credits (RECs) from the OCCC project to generate more alternative energy on county owned buildings.

- ❑ Contact(s): Hamp Pridgen, EPD
Lori Cunniff, EPD
- ❑ Cost estimate: No cost to county, revenue generator
- ❑ Timeline: Spring 2008 Develop funding program with OCCC visitors (see goal 3, objective B)
Summer 2011 Expect first available funds from OCCC project
- ❑ Category: Solar & Energy Efficiency
- ❑ Measurement: Track RECs generated and sold (produced from all new projects).

F. Consider establishing an incentive program to increase solar water heaters and photovoltaic (PV) panels on residential homes and businesses within the county.

- ❑ Contact(s): Lori Cunniff, EPD
Hamp Pridgen, EPD
Lavon Williams, Neighborhood Services
- ❑ Cost estimate: \$100,000 (pilot program). Use remaining Summit funds (expected to be \$40,000 (can use this to launch this FY; use mitigation funds to expand program)
- ❑ Timeline: Launch program April 2008 for Earth Day
- ❑ Category: Solar
- ❑ Measurement:
 - Track the number of residential homes and businesses that apply.

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- Calculate KWh produced from renewable sources

Goal 2: Adopt policies to implement a Green Procurement Program

Objectives:

- A. Develop procedures to ensure Orange County will purchase green products (defined as those that reduce toxic chemicals, reduce GHG emissions, support water and energy efficiency/conservation, are recyclable or made from recycled products and/or support renewable energy sources).
 - Contact(s): Dennis Weatherford, EPD
Johnny Richardson, Purchasing
Elaine Walker, Purchasing
Charlotte Walker, Purchasing
 - Cost estimate: under evaluation
 - Timeline: January 2008 Write guideline (completed)
March 2008 Recommend administrative regulation changes needed
Summer 2008 Bring forward changes
Summer 2008 Begin educational efforts
 - Category: Energy Efficiency & Recycling
 - Measurements:
 - Points toward obtaining/maintaining Green Government status.
 - Percent of cleaning contracts modified to reflect green products.
 - Completion of administrative regulation updates.

- B. Ensure that life cycle economics is a consideration in purchasing products.
 - Contact(s): Dennis Weatherford, EPD
Johnny Richardson, Purchasing
Elaine Walker, Purchasing
Charlotte Walker, Purchasing
 - Cost estimate: under evaluation
 - Timeline: under evaluation
 - Category: Energy Efficiency & Recycling
 - Measurement: to be determined.

- C. Consider allowing a 10% differential for products that are “green” as defined in Objective A.
 - Contact(s): Dennis Weatherford, EPD
Johnny Richardson, Purchasing
Elaine Walker, Purchasing
Charlotte Walker, Purchasing
 - Cost estimate: under evaluation
 - Timeline: Summer 2008
 - Category: Energy Efficiency & Recycling
 - Measurement: development of administrative regulation

- D. Consider alternatives to water bottles at county events.

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- ❑ Contact(s): Dennis Weatherford, EPD
Elaine Walker, Purchasing
Charlotte Walker, Purchasing
 - ❑ Cost estimate: no cost expected
 - ❑ Timeline: implementation has begun
 - October 2008 Provide bulk water containers for all field personnel and reusable water bottles. Pilot currently being tested at EPD events.
 - October 2008 Complete a fiscal and environmental impact analysis for bulk water supply options at events.
 - January 2009 Evaluate banning bottled water for county events.
 - ❑ Category: Energy Efficiency & Recycling
 - ❑ Measurement: Dollars spent on bottled water purchases per year.
- E. Require green cleaning (non-toxic cleaners) in all cleaning contracts upon renewal.
- ❑ Contact(s): Vanetta Valdengo-Blevins, Facilities
Rich Steiger, Facilities
Dennis Weatherford, EPD
Elaine Walker, Purchasing
 - ❑ Cost estimate: under development
 - ❑ Timeline: as contracts come up, green cleaning is inserted.
 - ❑ Category: Land Management (ordinance/procedure changes)
 - ❑ Measurements:
 - Points toward obtaining and maintaining Green Government status.
 - Percentage of contracts that include non toxic cleaners.
- F. Ensure that all paper purchased for the county has a minimum recycled post consumer content of 35%. Also consider paper from alternative sources that are renewable.
- ❑ Contact(s): Dennis Weatherford, EPD
Elaine Walker, Purchasing
Charlotte Walker, Purchasing
 - ❑ Cost estimate: no increase expected
 - ❑ Timeline: Spring 2008 Evaluate if administrative regulation is needed
Spring 2008 Educate staff on requirement
Summer 2008 Prepare a fiscal and environmental analysis of alternative sources of paper produced from alternative renewable sources.
 - ❑ Category: Recycling
 - ❑ Measurement: Percent participation (Audit of paper purchases).

Goal 3: Adopt policies to support Green House Gas Mitigation

Objectives:

- A. Develop a program to mitigate official county travel. Create a fund used for local mitigation efforts such as tree planting and alternative energy.
- ❑ Contact(s): Lori Cunniff, EPD

Randy Singh, Budget

- ❑ Cost estimate: under evaluation, no net increase expected
- ❑ Timeline: Summer 2008
- ❑ Category: Energy Efficiency & Land Management
- ❑ Measurement: Dollars in fund and amount of CO2 mitigated.

B. Offer similar mitigation program at OCCC where conventions can chose to be carbon free. Funds would be used for county projects that support carbon mitigation.

- ❑ Contact(s): Tom Ackert, OCCC
Lori Cunniff, EPD
Gwen Wilson, OCCC
Hamp Pridgen, EPD
Kelly Kwas, Communications
- ❑ Cost estimate: none expected to county
- ❑ Timeline: Feb/March 2008 Develop partnerships
March/April 2008 Market program to OCCC visitors
- ❑ Category: Energy Efficiency & Land Management
- ❑ Measurement: Dollars in fund and amount of CO2 mitigated.

C. Strengthen the Tree Protection and Removal Ordinance to remove some exemptions and increase replacement percentage of trees and consider canopy replacement criteria.

- ❑ Contact(s): Mitch Gordon, Zoning
Alan Marshall, EPD
- ❑ Cost estimate: under evaluation, none expected
- ❑ Timeline: Summer 2008 Ordinance revision ready for review
- ❑ Category: Land Management
- ❑ Measurement: Calculate CO2 sequestering potential of new ordinance as compared with old ordinance.

Goal 4: Adopt Educational Programs at the Community and County levels

Objectives:

A. Host regular workshops to discuss topics related to climate change such as smart growth, transportation, recycling, energy, etc.

- ❑ Contact(s): Lori Cunniff, EPD
Susan Caswell, Planning
Debbie Sponsler, Utilities
Brian Sanders, Transportation Planning
- ❑ Cost estimate: no significant costs expected
- ❑ Timeline: February 2008 Low Impact Workshop hosted
Planning a minimum of 2 per year, schedule under development
- ❑ Category: Energy Efficiency, Solar, Fleet Operations, Land Mgmt. & Recycling
- ❑ Measurement: Record Attendance & number of workshops/year

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- B. Become certified as a Florida Green Local Government by winter 2008. Share success stories to encourage other municipalities and counties to implement similar programs.
- ❑ Contact(s): Lori Cunniff, EPD
John Terwilliger, Administrative Services
All Departments
 - ❑ Cost estimate: \$4,500
 - ❑ Timeline: Winter 2005 Registered (completed)
Winter 2008 Expect certification
 - ❑ Category: Energy Efficiency, Land Mgmt. & Recycling
 - ❑ Measurement: Certification documentation and maintenance
- C. Convene the county's internal Green Ribbon Committee and monitor progress on initiatives.
- ❑ Contact(s): Lori Cunniff, EPD
John Terwilliger, Administrative Services
 - ❑ Cost estimate: none expected
 - ❑ Timeline: ongoing, schedule quarterly meetings
 - ❑ Category: Energy Efficiency, Solar, Fleet Operations, Land Mgmt. & Recycling
 - ❑ Measurement:
 - Maintain certification for green government
 - Number of new programs/ideas successfully implemented
 - Maintain progress on Orange to Green goals
- D. Distribute periodic press releases on green topics to raise community and employee awareness.
- ❑ Contact(s): Lori Cunniff, EPD
Beth Bromfield, EPD
Kelly Kwas, Communications
 - ❑ Cost estimate: No new expenses expected
 - ❑ Timeline: ongoing
 - ❑ Category: Energy Efficiency, Solar, Fleet Operations, Land Mgmt. & Recycling
 - ❑ Measurements:
 - Number of news media coverage
 - Orlando Rock uses biodiesel press conference
 - Focus the Nation – announce PV at OCCC
 - Venues to be built green
 - Consider public awareness surveys (future measure).
- E. Consider car-pooling and bus pass incentives; reduce tolls for carpoolers, preferential parking, etc. to encourage climate friendly commutes among employees.
- ❑ Contact(s): Melinda Martin
Hamp Pridgen, EPD
 - ❑ Cost estimate: under evaluation
 - ❑ Timeline: Transportation survey done
New bicycle rack installed by door at Administration building
Spring 2008 Second survey on car pool and carbon footprint awareness

Evaluate options - ongoing

- Category: Fleet Operations
 - Measurements:
 - Increase in carpooling, & mass transit users among staff
 - Number of incentives created
 - Calculate CO2 emission reduction via survey and track
- F. Develop a fluorescent bulb pledge for Orange County employees to replace non-energy efficient bulbs and to raise awareness of energy conservation at home.
- Contact(s): Lori Cunniff, EPD
 - Cost estimate: \$100 expected cost
 - Timeline: Spring 2008
 - Category: Energy Efficiency
 - Measurement: Number of employees signing pledge (can calc CO2 reduction)
- G. Encourage employees to have an energy audit done on their homes.
Comment: Currently advertised on EPD web page
- Contact(s): Tarzan Frazier, Energy Management
Lori Cunniff, EPD
 - Cost estimate: none
 - Timeline: on-going
 - Category: Energy Efficiency
 - Measurement: Number of employees having energy audit.
- H. Create an educational program in energy management, GHG reductions and general environmental issues. Make this part of the new employee orientation program.
- Contact(s): Melinda Martin, HR
Lori Cunniff, EPD
Rod Lynn, Stormwater Management
Tarzan Frazier, Energy Management
 - Cost estimate: minimal cost expected
 - Timeline: First class offered in March/April 2008, 4 classes per year minimum offered
 - Category: Energy Efficiency
 - Measurement: Number of classes offered/year and attendance.

Goal 5: Adopt policies to support Recycling, Methane Recovery & Biomass Energy

Objectives:

- A. Enforce and/or strengthen the commercial recycling ordinance.
- Contact(s): Debbie Sponsler, Solid Waste
 - Cost estimate: Enforcement of ordinance could cost more manpower
 - Timeline: Fall 2008 Develop expanded Commercial Recycling Program
 - Category: Recycling

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- ❑ Measurement: Tons Per Year Recycled or % of commercial businesses/apartment building offering recycling.
- B. Use OCCC recycling program as an example and implement in all similar operations.
- ❑ Contact(s): Debbie Sponsler, Solid Waste
Brenda Brown, OCCC
Tarzan Frazier, Energy Management
 - ❑ Cost estimate: under evaluation
 - ❑ Timeline: combining with Objective C below
 - ❑ Category: Recycling
 - ❑ Measurement: Tons per Year recycled (combine with Objective C below)
- C. Ensure all county building have recycling programs in place by the year 2009.
- ❑ Contact(s): Tarzan Frazier, Energy Management
 - ❑ Cost estimate: under evaluation
 - ❑ Timeline: Completed by Winter 2009
 - ❑ Category: Recycling
 - ❑ Measurement: Tons Per Year Recycled or % of county buildings with recycling program.
- D. Promote residential recycling so that the current rate of 30 to 35% is increased to 50% by 2012.
- Comment: 30 – 35% is the county-wide (residential and commercial) recycling rate and therefore the objective will be modified to reflect this.
- ❑ Contact(s): Debbie Sponsler, Solid Waste
 - ❑ Cost estimate: under evaluation
 - ❑ Timeline: Summer 2008 Expanded educational program and further develop the timeline through 2012.
 - ❑ Category: Recycling
 - ❑ Measurement: Percent of residential recycling participants or tons/year recycled
- E. Support continued methane recovery at the Orange County Landfill and ensure all new cells recover methane gases rather than flaring.
- ❑ Contact(s): Debbie Sponsler, Solid Waste
 - ❑ Cost estimate: \$35.3 million (not including sale of gas)
 - ❑ Timeline: Currently installing Cell 9
2012 Cell 10 (cells 11 and 12 to follow every 4 years)
 - ❑ Category: Recycling & Energy Efficiency
 - ❑ Measurement: KWh, cubic feet of landfill gas (LFG) collected
- F. Support new technologies for generation of energy from garbage. Set up and encourage pilot programs when feasible.
- ❑ Contact(s): Debbie Sponsler, Solid Waste
 - ❑ Cost estimate: evaluated with each project
 - ❑ Timeline: on-going
 - ❑ Category: Recycling & Energy Efficiency

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- Measurement: KWh

G. Increase existing recycling goals for private landfills.

Comment: current goal in ordinance set at 20%

- Contact(s): David Bromfield, EPD
- Cost estimate: minimal cost to county
- Timeline: Summer 2008 – evaluate modifying ordinance
- Category: Recycling
- Measurement: Ton per year recycled

H. Help establish local markets for recycled construction materials.

Comment: Being expanded to include reuse and other markets than just construction. Example of successful reuse is local company (Chet) that reuses pallets by renting pallet to various companies and ensuring return of pallet for reuse. A pilot program was done to evaluate recycling of gypsum wallboard. At this time, it is not market supported. Recycling of electronics began as a pilot program and is now currently available at Orange County landfill.

- Contact(s): Lori Cunniff & David Bromfield, EPD
John Lewis & George Rodon, Economic Dev/ Mayor's Office
Debbie Sponsler, Solid Waste
- Cost estimate: under evaluation
- Timeline: on-going
- Category: Recycling
- Measurement: number of successfully developed reuse/recycle options, tons recycled

I. Recover methane gas at county wastewater treatment plants or use other technologies to reduce GHG emissions.

Comment: Of the three county wastewater treatment plants, only one plant generates methane gas. Recovery of gas at this plant is planned.

- Contact(s): Debbie Sponsler, Utilities
- Cost estimate: Being determined
- Timeline: Contract currently being negotiated
2008-2009 Construction to start
2010 Operational.
- Category: Recycling & Energy Efficiency
- Measurement: KWh

Goal 6: Adopt policies to support GHG reductions in the Transportation Sector

Objectives:

- A. Establish a target that 60% of all county vehicles will be either hybrids or use alternative fuel, by the year 2012.
- Contact(s): Bryan Lucas, Fleet
 - Cost estimate: Ethanol tank cost is \$250,000 (\$100,000 air grant from EPD)
 - Timeline: Spring 2008 – biodiesel contract renewed.

Summer 2008 – Ethanol tank installed
2012 – 60%. Currently on target with 42% in 2008.

- Category: Fleet Operations
- Measurement: Percent of county vehicles either hybrids or ready to use alternative fuels.

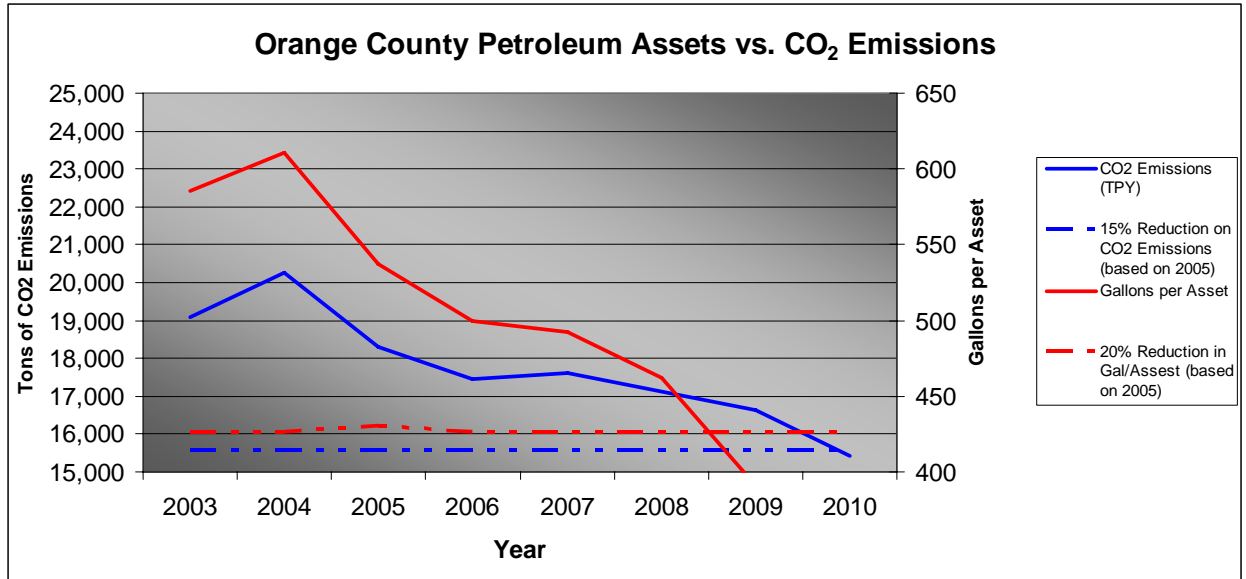
B. Reduce county vehicle miles traveled by using mobile technology in vehicles, such as computers in vehicles connected to office.

Comment: Currently computers are used in vehicles to reduce vehicle miles traveled by Building Safety, Utilities Department, Code Enforcement, Animal Services and EPD.

- Contact(s): Rafael Mena, ISS
Dean Stites, Growth Mgmt -GIS
All Departments
- Cost estimate: Approximately \$2,400 set-up and \$600/year operating per vehicle.
- Timeline: on- going.
- Category: Fleet Operations
- Measurement: Average vehicle miles traveled in fleet as compared to previous average.

C. Reduce petroleum consumption by 20% by the year 2010 (goal originally set in September 2005).

- Contact(s): David Roussel, Fleet
David Rathbun, Fire
- Cost estimate: same as Goal A above which includes ethanol tank \$250,000
- Timeline: On target to meet 20% reduction by 2010
 - Summer 2008 Ethanol tank installed
 - Spring 2008 Biodiesel contract renewed.
 - Spring/Summer 2008 Evaluate county vehicle anti-idling program.
 - Current County partnership with LYNX in pursuit of funding for biodiesel blending facility
- Category: Fleet Operations
- Measurement:
 - Gallons of petroleum usage as compared to 2005 base year.
 - CO₂ Emissions from Petroleum Assets



Note: The graphs do not include the fire department or the sheriff's fuel usage. 2007 and forward data is projected.

D. Support mass transit and multimodal transportation centers.

Comment: TOD Districts will create a mechanism for encouraging the types of higher-density, mixed-use developments that support transit use

- Contact(s): Carla Bell Johnson, Growth Management
Brian Sanders, Transportation Planning
- Cost estimate:
 - Orange County Commitment of \$32.7M (capital) towards Commuter Rail Project; \$3.6M of the County's \$32.7M commitment spent thus far.
 - County commitment of \$37.8M total funding to LYNX in FY 08 (in spite of funding constraints associated with property tax reform, the County worked to minimize budget reductions to LYNX)
- Timeline:
 - July 19, 2007 County was first local funding partner to approve the Interlocal Agreements and funding necessary for the Commuter Rail Project County continuing to partner with FDOT and local governments on development of the Central Florida Commuter Rail Transit System
 - FDOT has completed 30% Design and is currently acquiring right-of-way for Commuter Rail
 - Currently constructing a Transit Superstop in the International Drive Resort Area as an initial phase of a future Intermodal Center
 - Planning for an Intermodal Station at the Sand Lake Road Commuter Rail Station
 - BCC has approved creation of two Transit Oriented Development Overlay Districts surrounding the planned Commuter Rail Stations within unincorporated Orange County (Sand Lake Road and Meadow Woods)
 - Staff is currently initiating a Market Study and Station Area Plan to: 1) define the types of development that will thrive surrounding the County's

Commuter Rail stations, 2) create a vision/master plan for these areas, and 3) identify regulatory measures that will facilitate TOD

- Category: Fleet Operations & Land Management
- Measurement:
 - Dollars allocated in budget to support mass transit
 - Transit oriented development

E. Increase the number of miles of bicycle trails and roadside bicycle lanes.

Comment: The Parks & Recreation Division has completed 37.9 miles of trails. The Public Works Department has completed 65.5 miles of on-road bicycle lanes located on roadways maintained by Orange County.

- Contact(s): Susan Caswell, Planning
Brian Sanders, Transportation Planning
Matt Suedmeyer, Parks & Recreation
- Cost estimate: Cost to construct a recreational trail is \$1 million per mile. The cost for roadside bicycle lanes is incorporated into each road improvement.

Comment: The location of the future bicycle lanes and multi-use paths are represented by future major roadway projects, which can be viewed on InfoMap under the Transportation directory. Orange County is in the process of mapping the existing bicycle and multi-use paths.

- Timeline:
 - The Pine Hills Trail Phase 3 project (along Clarcona Ocoee Rd. from Pine Hills Rd. to Apopka-Vineland Rd.) is the only project to be completed within the next few years. This trail is approximately 3 miles long. It currently designed and will be going to bid with in the next few months and construction will take 2 years.
 - Future trail possibilities include the following:
 - Little Econ Greenway Phase 3 (1 mile)
 - Little Econ Greenway Phase 4 (1.2 miles)
 - Shingle Creek Trail Phase 1 (3.7 miles)
 - Pine Hills Trail Phase 1 (2.3 miles)
 - Pine Hills Trail Phase 2 (2.3 miles)
 - The Transportation Element of the Comprehensive Plan anticipates approximately 320 miles of future on-road bicycle lanes and 38.5 miles of multi-use paths (off road but within the road right-of-way, designated use for peds and bikes) within the year 2030.
- Category: Fleet Operations
- Measurement: % increase.

F. Participate in a pilot program for plug-in hybrid vehicles.

- Contact(s): Lori Cunniff, EPD
David Roussel, Fleet
- Cost estimate: \$30,000 (applied for grant assistance)
- Timeline: Spring 2008 Grant awards announced
- Category: Fleet Operations
- Measurement: Number of Plug in hybrid vehicles in fleet reported annually.

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- G. Continue to support hydrogen projects as feasible, such as testing of the OCCC 12-passenger hydrogen buses.
- Contact(s): John Terwilliger, Administrative Services
David Roussel, Fleet
 - Cost estimate: Current cost is minimal due to partnerships
 - Timeline: on-going
 - Category: Fleet Operations
 - Measurement: Number of hydrogen vehicles being tested by county.

Goal 7: Adopt policies to support Green Buildings

Objectives:

- A. Commit to LEED certification on a minimum of three new county buildings. Train staff to become LEED Accredited Professionals. Certify a minimum of five county employees by 2009.
- Contact(s): Bob Olin, Building Safety
Susan Caswell, Planning
Vanetta Valdengo-Blevins, Facilities
Tony Aguerrevere, Capital Projects
Dennis Weatherford, EPD
 - Cost estimate: Estimate \$800 per employee
 - Timeline: Currently 2 employees certified
Summer 2008 expect another 3 to obtain certification
Ongoing awareness and training
 - Category: Energy Efficiency
 - Measurement: Number of buildings LEED Certified and number of employees LEED certified
- B. Support revision of the building code and/or energy code to support greater efficiencies. Support state effort and consider adopting local ordinance as needed.
Comment: County staff will support revision of Florida Energy Code, and attend Florida Building Commission meetings as needed. County lobbyist to support code revisions.
- Contact(s): Bob Olin, Building Safety
 - Cost estimate: May have costs in travel budget
 - Timeline: on-going
 - Category: Energy Efficiency
Measurement: estimate average CO2 emission reductions as a result of new regulations.
- C. Create incentives to support green building and green development, for private sector such as reduced fees, expedited permit review.
- Contact(s): Bob Olin, Building Safety
Susan Caswell, Planning
 - Cost estimate: None expected

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- ❑ Timeline: March/April 2008 – present resolution to BCC on Orange to Green Development Program.
 - ❑ Category: Energy Efficiency
 - ❑ Measurement: Green Government Points.

Number of developers using incentive program

D. Continue to use green materials, especially in renovations, such as low volatile organic compound containing paints and coatings, carpets and carpet adhesives and composite wood, energy efficient light fixtures and mechanical systems.

- ❑ Contact(s): Rich Steiger, Facilities
Hazen El-Assar, Traffic Engineering
John Hightower & Joe Donovan, Fire
- ❑ Cost estimate: Some materials may cost more, some may save money.
- ❑ Timeline: on-going
- ❑ Category: Energy Efficiency
- ❑ Measurements: Reduction in energy costs/use
Estimated CO₂ emission reduction potential.

E. Encourage all county sponsored or financially supported projects to build green.

- ❑ Contact(s): Ajit Lalchandani, County Administrator
Tony Aguerrevere, Capital Projects
- ❑ Cost estimate: unknown, anticipated increase
- ❑ Timeline: on-going
- ❑ Category: Energy Efficiency
- ❑ Measurement: Estimated CO₂ emission reduction potential.

F. Develop a program to reward water conservation. This could include creating water conservation credits when a new permit demonstrates less water will be used.

Comment: Water conservation technologies and devices for new developments are reviewed and if 20% water reduction is realized, applicant receives reduced capital charges. Additionally, there are programs for toilet retrofits, shower head replacements, commercial spray valve replacements and an irrigation lab for educational purposes. More information is available on Utilities web page.

- ❑ Contact(s): Debbie Sponsler, Utilities
- ❑ Cost estimate: \$350,000 annual cost
- ❑ Timeline: completed
- ❑ Category: Energy Efficiency
- ❑ Measurement: Estimated gallons of water saved

Goal 8: Formalize partnership agreements

Objectives:

A. Identify jurisdictions on a regional and even worldwide basis to partner in formal agreement to reduce greenhouse gases. Encourage local municipalities to develop local

climate action plans to work together on this issue. Consider establishing a “sister” city in the United Kingdom to share ideas and plans.

Comment: Currently have agreement with City of Orlando & OUC. Provided as Attachment A.

- ❑ Contact(s): Erin Waldron, Mayor’s Office
Lori Cunniff, EPD
John Lowndes, County Attorney’s Office
- ❑ Cost estimate: none expected
- ❑ Timeline: on-going
- ❑ Category: Energy Efficiency
- ❑ Measurement: Number of local municipalities and sister cities.

B. Partner with various agencies that have the ability to support this Climate Change Plan and can assist in reducing greenhouse gases. Explore partnerships with Orlando Orange County Expressway Authority to encourage the use of alternative fuel vehicles and/or car pooling.

- ❑ Contact(s): Erin Waldron, Mayor’s Office
Lori Cunniff, EPD
- ❑ Cost estimate: under evaluation
- ❑ Timeline: on-going
- ❑ Category: Energy Efficiency
- ❑ Measurement: Number of partnerships

4. Conclusion

Although climate change is a global issue, counties can be part of the solution. The major sources of greenhouse gas emissions are linked to land use and transportation planning, energy use, building code and waste management practices, all of which are influenced by local governments. Local government decisions affect the sustainability of our communities. Local businesses and citizens participate in the selection of services and products, and the overall processes and use of resources that shape our communities.

We all desire a livable community. Counties that take action to reduce global warming pollution routinely receive local, regional and national acclaim as to the best places to raise a family, do business and live a healthy lifestyle. Orange County is setting the pace for a livable sustainable community. In September 2007, Orange County announced its Climate Change Plan at Mayor Crotty’s Climate Change Summit.

This is the first commitment for Orange County to begin to reduce GHG emissions. Orange County has been implementing energy efficiency measures for several years and has had a commitment since 2005 to reduce petroleum consumption.

This Climate Change Implementation Plan outlines goals for Orange County. This plan includes timelines, estimated costs, a description of financing mechanisms when known, and

an assignment of responsibility to departments and staff. This plan also incorporates public awareness and education efforts.

At this time, Orange County is able to document a 2% decrease in its CO₂ equivalent emissions from government operations, regardless of growth. Orange County will continue to monitor and verify the results. Monitoring and verifying progress on the implementation of measures to reduce or avoid GHG emissions is an ongoing process. At a minimum, targets and goals will be evaluated at least every three years.

Finally, the next step is to develop a community greenhouse gas reduction plan. Community involvement in this project is both necessary and desired. By working together, Orange County will become a more livable sustainable community, which can be one of the best places to raise a family, do business and live a healthy lifestyle.

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Attachment A

Environmental Partnership Pledge
October 12, 2007

Partnerships

Whereas, Orange County, the City of Orlando and Orlando Utility Commission recognize the importance of partnering on environmental initiatives to protect our air, water and land resources to reach the goal of creating a cleaner environment.

And so, we pledge to work together on these important issues to provide real solutions at the local level.

Regional Leadership

Whereas, this partnership will serve as the catalyst for leveraging our leadership position to build regional partnerships, share resources and promote environmental stewardship that will foster positive environmental changes.

And so, we pledge to demonstrate our commitment to sustainable principles and take a leadership role in environmental design, energy efficiencies, water conservation and the use of new fuels by sharing best practices to encourage participation.

Sustainability

Whereas, these efforts will put Orlando, Orange County and all of Central Florida on a course towards implementing renewable power opportunities, adopting alternative fuels, and enacting resource conservation programs to ensure the long-term sustainability of our communities.

And so, we pledge to take the necessary steps to develop policies, implement programs and secure investments that will support this plan.

Community Engagement

Whereas, we pledge to protect our natural resources, encourage environmentally-friendly lifestyles and business practices and engage everyone who lives, works and visits Central Florida in the effort to “go green”

And so, we pledge to work together and provide opportunities for our residents and visitors to become educated, empowered and involved in our region as one of the most environmentally-conscious destinations in America.

Buddy Dyer, Mayor, City of Orlando

Richard T. Crotty, Mayor, Orange County

Lonnie Bell, President, Orlando
Utilities Company