

Leadership in Florida's Green Local Governments

GREEN  CITIES™ FLORIDA

May 20, 2009

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Orange County
Environmental Protection Division



Presentation Outline

Background

Progress on Orange County goals

- **Renewable Energy**
- **Economic**
- **Transportation**
- **Procurement & Solid Waste**
- **Green Building**
- **Education**

Next Steps



Background

September 2005 Goals:

- Reduce Petroleum Fuel Consumption by 20% over 5 years
- Reduce our use of electricity in County owned buildings
 - New construction meet Green Building standard
 - Join USGBC and FGBC
 - Investigate solar, biodiesel and electronic technology to minimize travel
- Register to become Florida Green Local Government in 3 years

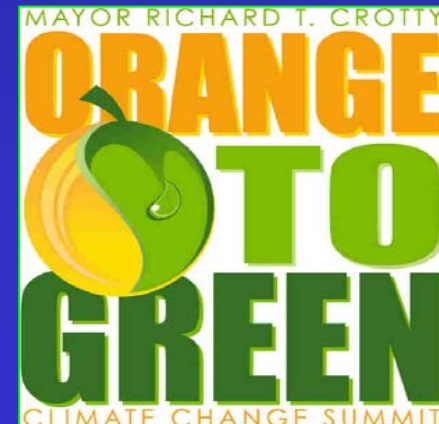




Background

2007 Goals:

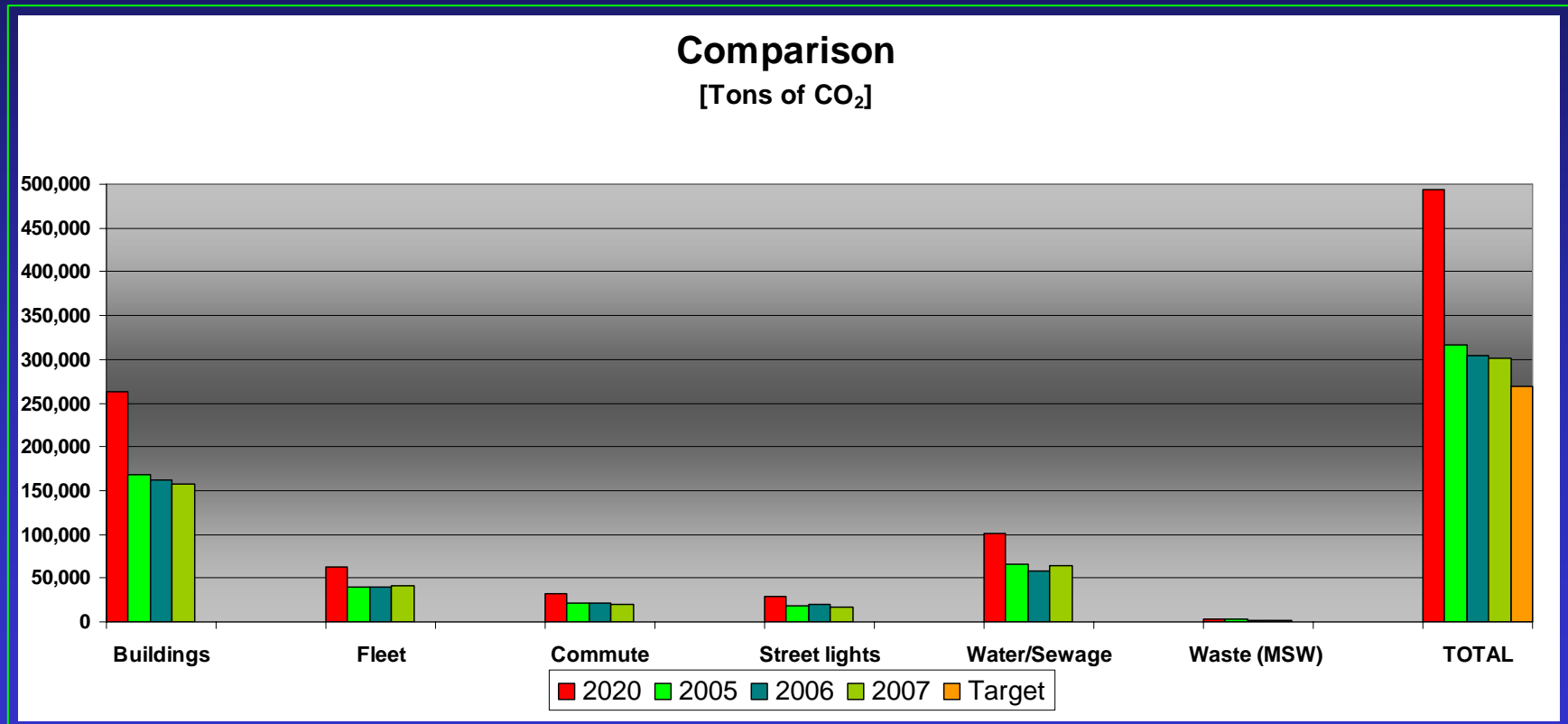
- Join ICLEI- Local Governments for Sustainability
 - July 2007
- Climate Change Summit
 - September 2007
 - Climate Change Plan
 - Announced targets and goals





Inventory Update

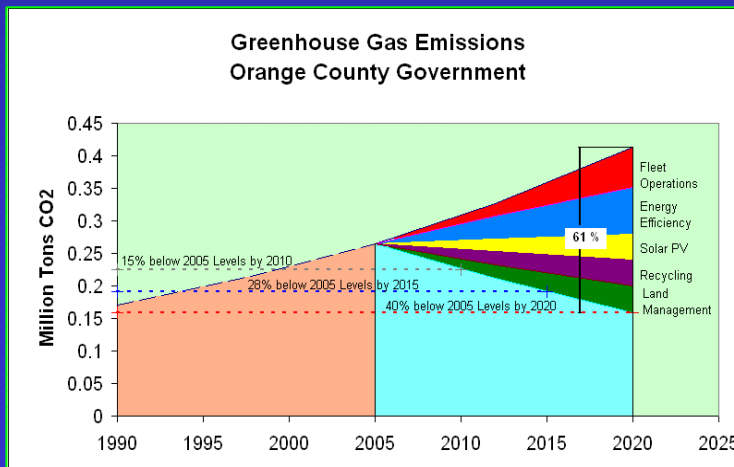
Results in Tons Per Year (TPY) of CO₂ Equivalent





Set up Goals & Targets

- ❑ Adopt policies to establish and implement a County Renewable Energy Initiative.
- ❑ Adopt policies to implement a Green Procurement Program.
- ❑ Adopt policies to support Green House Gas Mitigation.
- ❑ Adopt Educational Programs at the Community and County levels.
- ❑ Adopt policies to support Recycling, Methane Recovery and Biomass Energy.
- ❑ Adopt policies to support GHG reductions in the Transportation Sector.
- ❑ Adopt policies to support Green Buildings
- ❑ Formalize partnership agreements



Targets

- 15% reduction by 2010
- 28% reduction by 2015
- 40% reduction by 2020



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Goal: Renewable Energy

1 MW system at OCCC



Partners:

- State of FL \$2.5 Ml
- OUC \$1.5 Ml
- DOE/FSEC \$156,000 (in-kind)
- EDC \$100,000 (in-kind)
- County \$274,000 (in-kind)
- OCCC \$3.8 Ml



Goal: Renewable Energy

- **Renewable Energy Fund**
 - **Funding Source:**
 - **Sale of RECs**
 - **Carbon Offsets – events**
 - **Future – energy efficiency tax credits?**
 - **Support:**
 - **Solar Water Heater incentives**
 - **Projects that reduce carbon footprint**





Goal: Economic Opportunities

Green to \$Green\$

Cleantech Economic Development

Cleantech = Green + Innovation + Value Added





Goal: Green to \$Green\$

Cleantech Economic Development

Cleantech Industry Segments

Energy Generation

Solar
Biofuels
Hydro/Marine
Wind
Geothermal

Energy Storage

Fuel Cells
Advanced Batteries
Hybrid Systems

Energy Infrastructure

Infrastructure
Management
Transmission

Energy Efficiency

Lighting
Buildings
Glass

Transportation

Vehicles
Logistics
Structures
Fuels

Water & Wastewater

Water Treatment
Water Conservation
Wastewater Treatment

Air and Environment

Cleanup/Safety
Emissions Control
Monitoring/Compliance
Smart Production

Materials

Nano
Bio
Chemical

Manufacturing

Advanced Packaging
Monitoring & Control
Smart Production

Agriculture

Natural Pesticides
Land Management
Aquaculture

Recycling & Waste

Recycling
Waste Treatment

Source:





Orlando Sentinel articles

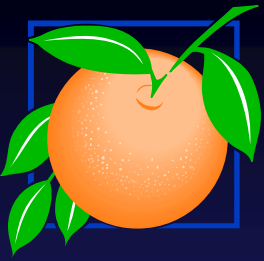
April 2009

**Orange could land new solar plant, up to
3,600 jobs**



**Solar-panel plant and headquarters could
bring 3,600 jobs to Orange County**

Green energy facility would increase scientific developments near airport



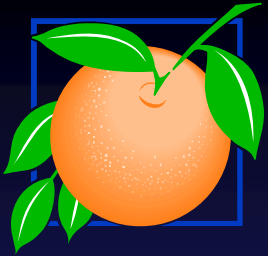
Goal: Green Transportation

Bicycle Usage

- Off-Road Bicycle Trails
 - 39.5 miles constructed
 - 10.5 miles future possibilities
- On-Road Bicycles Lanes
 - 66.5 miles constructed
 - 358.5 miles planned



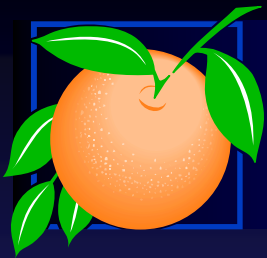
West Orange Trail



Goal: Green Transportation Vehicles/Rolling Stock

- Promote the purchase of fuel efficient vehicles
- 42% of Orange County's Rolling Stock can be powered by Alternative Fuels
- Total Rolling Stock – 1,898
 - Bio-Diesel Powered - 683
 - Hydrogen - 2
 - Hybrids – 31
 - Flex Fuel – 75
- On Target for 60% by 2012





Goal: Green Transportation

Biodiesel & Ethanol Use

AUG. 17-23, 2007

Orange County expands use of alternative fuels

New ethanol fueling facility should pay for itself in less than three years.

TIFFANY BECK | STAFF WRITER

ORLANDO — Orange County is cutting back its petroleum fuel use to help stop global warming.

In order to do that, it will begin building its first E85 ethanol fueling facility as early as next month. E85 ethanol is a mix of 85 percent ethanol and 15 percent gasoline, and can only be used in certain types of cars with special engines, known as flexible fuel vehicles. Orange County has 72 such vehicles.

Further, the county will expand the use of biodiesel and E10 ethanol to all 13 of its fueling facilities and 1,894 county vehicles. E10 ethanol is 10 percent ethanol and 90 percent gasoline, which can be used in any gas-powered vehicle.

"Orange County uses 2.6 million gallons of fuel a year, and we want all of that to be some kind of alternative fuel," says Bryan Lucas, administrative and fiscal coordinator for Orange County fleet management.

The E85 facility, which will be the fourth in the state, should be completed in January or February as part of Mayor Richard Crotty's push to make the county a green government.

The facility will be built at the coun-

ty's fleet management site at 4400 Vineland Road in Orlando, and will consist of one 12,000-gallon tank, two pumps and a roofed canopy.

The county is still negotiating on construction costs with Merritt Island-based Gasoline Equipment Systems Inc., which will design and build the facility. Tony Aguerrevere, manager of Orange County Capital Projects Division, says the project will cost about \$275,000 and is conservatively projected to pay for itself through savings in 2½ years.

The county received a state grant of about \$100,000 to use toward the construction project, with the rest coming from general budget funds and fleet management cash reserves, says Lucas.

Lucas says the county hasn't estimated the savings it will realize from using alternative fuels. However, E85 ethanol's prices fluctuate and can range from costing the same per gallon as regular gasoline to as much as 40 cents per gallon cheaper, says Jennifer Tharpe, spokeswoman for NASA, whose Ken-

nedy Space Center has the next-closest ethanol fueling facility.

In about three weeks, the county will begin taking bids to find a contractor to supply the ethanol and biodiesel fuel for its facilities.

Meanwhile, Crotty plans to hold an Orange County Climate Change Summit on Sept. 25 where

he will announce the county's greenhouse gas emissions reduction goal. That and the announcement of the ethanol facility are part of a larger initiative launched in 2005 to reduce Orange County government's electrical consumption, build more green buildings and reduce petroleum fuel use by 20 percent by 2010.

"We're concerned about carbon emissions and climate change and are taking all these steps to do our part to be good stewards of taxpayer dollars and the environment," says Lori Cunniff, manager of Orange County's Environmental Protection Division.

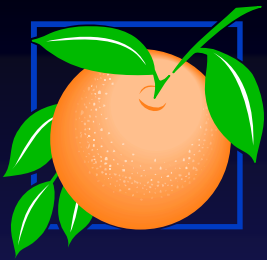
TIFFANY BECK can be reached at (407) 241-2894 or via e-mail at tbeck@bizjournals.com.



Ethanol Tank installed

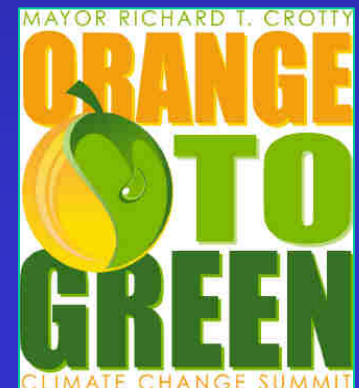


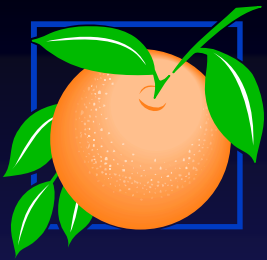
LED Traffic lights



Goal: Green Procurement

- Guidebook written
- Cleaning contracts
- Water bottles
- Paper – 35% post consumer



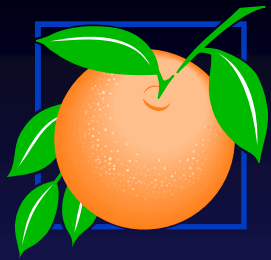


Goal: Recycling & Solid Waste

Curbside Recycling

- Green Bin
 - Aluminum & tin cans
 - Glass bottles & jars
 - Drink boxes & milk/juice cartons
 - Plastic containers with a 1 or 2 symbol
- Orange Bin
 - Newspapers
 - Brown paper bags
 - Magazines
 - Catalogs
 - Corrugated cardboard



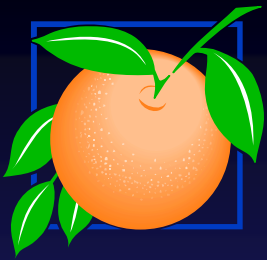


Goal: Recycling & Solid Waste

Methane - Landfill

- 2007 – approximately 1.4 billion cubic feet of LFG utilized for energy generation.
- LFG collection system being installed in phases of Cell 9 and planned for all future cells.





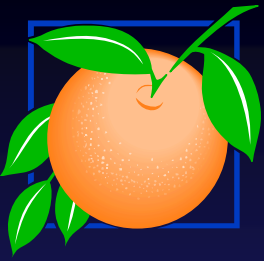
Goal: Recycling & Solid Waste

Methane – Wastewater Treatment



Biogas Project

Methane Gas Recovery at Wastewater Treatment Plant



Goal: Green Building

Energy Efficiency



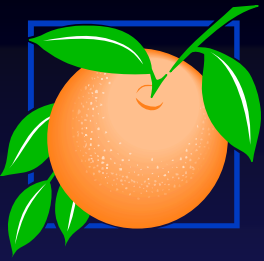
**New Energy Efficient
Chillers at Public Works**



**New energy efficient lighting at
the Administration Center**



**Energy efficient light colored
roof at the new Sheriff's central
Operations Center**



Goal: Green Building

Orange to Green Development Program

- Green Carpet Service
- Expedited Permitting & Development Review
- Community Recognition
- Design Awards



RESOLUTION
of the
ORANGE COUNTY BOARD OF COUNTY COMMISSIONERS
Regarding
ORANGE COUNTY'S "ORANGE TO GREEN"
DEVELOPMENT PROGRAM

RESOLUTION NO. 08- ____

WHEREAS, Orange County ("the County") is committed to being a leader in reducing greenhouse gas emissions, energy efficiency, and environmental protection, and in September, 2007, began development of a Local Climate Action Plan; and

WHEREAS, the County has set a goal of adopting policies that support green building and green development within the private sector; and

WHEREAS, the County recognizes the importance of reducing building impacts on human health and on the environment; and

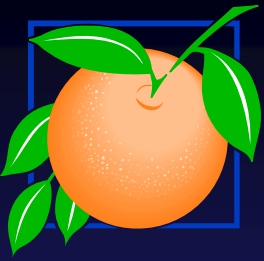
WHEREAS, the County is committed to high performance building practices which protect the quality of our natural resources and provide both employees and the public with safe and healthy environments; and

WHEREAS, the County wishes to encourage development of such high performance buildings; and

WHEREAS, to achieve these goals, the County has developed its "Orange to Green" Development Program (OGDP), a copy of which shall be kept on file with the Orange County Growth Management Department; and

WHEREAS, the County is a member of the United States Green Buildings Council (USGBC); the Florida Green Building Coalition (FGBC); and the International Council for Local Environmental Initiatives - Local Governments for Sustainability (ICLEI); and

WHEREAS, encouraging building projects to incorporate green building measures is necessary and appropriate to achieve the benefits of green building in the County; and

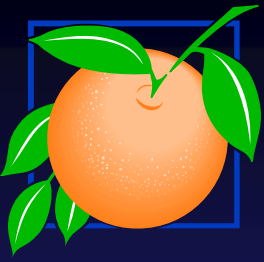


Goal: Green Building

Land Use Sector

- **Smart Growth Patterns**
- **Promote Infill**
- **Promote Mixed-use**
- **Promote Transit & Pedestrian Development**
- **Reduce the Number of Cars on the Road & Vehicle Miles Traveled**

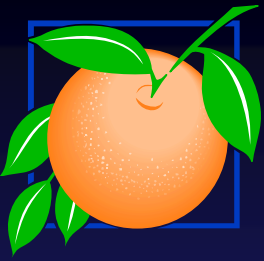




Goal: Education

Orange County Convention Center

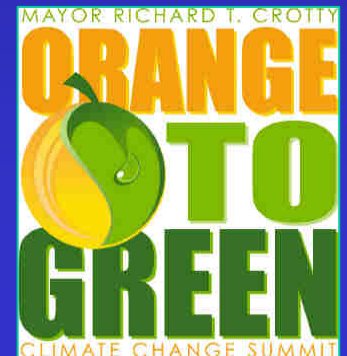
- ISO 14001 registered facility
- Utilizing Green Seal™ certified cleaning products
 - Irrigating with reclaimed water
 - Applying Florida Friendly planting principles
 - Pilot testing waterless urinals and low-flow faucets
 - Energy Efficiency Upgrades – LEDs, window film
 - Climate Change Education Center



Goal: Education



- Workshops: Low Impact Development , Rain barrel, Composting, Florida Friendly Yards
- Water Conservation Programs
- Fluorescent bulb pledge
- Energy audits
- HR Training program
- Green Ribbon Committee – internal
- Solar City partner – external
- State wide promotion on energy efficiency, solar & alternative energy





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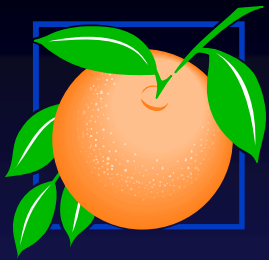
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Next Steps



Next Steps

- Take advantage of stimulus \$**
- Share & learn with other municipalities**
- Follow Climate Change Plan & continue to reduce footprint**
- Educate, educate, educate!**



Questions?

Lori Cunniff
Environmental Protection Division
www.ocepd.org