



May 1, 2012

## Introduction

On June 24, 2008, the Broward County Board of County Commissioners (Board) accepted the Broward County Government Operations Climate Change Report. The Report summarized early voluntary greenhouse gas (GHG) reduction actions implemented by the County from 1997 through 2007, and reiterated the County's GHG emission reduction goal of 7 percent below 1997 levels by 2015. On June 9, 2009, June 15, 2010, and May 13, 2011, the Board accepted subsequent Government Operations Progress Reports that described GHG reduction actions Broward County Government implemented during 2008, 2009, and 2010, respectively. Broward County government agencies exceeded annual reduction goals each of these years.

In FY2011 (October 2010 – September 2011), Broward County government agencies achieved a net reduction of 5,781 tonnes of GHG emissions from FY2010 levels. This is equivalent to the annual GHG emissions from 1,134 passenger vehicles.

This fourth annual progress report, developed by the Broward County Climate Change Workgroup (Workgroup), describes measures Broward County Government implemented during FY2011, and progress toward achieving the GHG reduction goal.

*Greenhouse gases are expressed in tonnes of carbon dioxide equivalents (eCO<sub>2</sub>): 1 tonne of eCO<sub>2</sub> is equal to the emissions from the combustion of 112 gallons of gasoline.*

Broward County Government operations FY2011 carbon footprint is 250,255 tonnes eCO<sub>2</sub> (Figure 1). To meet the established 2015 GHG emission reduction target of 222,099 tonnes, Broward County government must reduce an additional 28,156 tonnes eCO<sub>2</sub> from 2011 emission levels (Figure 1, page 2). This represents an average annual reduction of 7,039 tonnes.

## 2011 Highlights

Broward County government agencies reported 58 GHG emission reduction measures in FY2011; 10 more than the previous year. A detailed description of the measures, cost savings, environmental benefits, and results are included in this report's **APPENDIX**. The estimated GHG emissions reduction from the ten quantified measures totals 3,026 tonnes eCO<sub>2</sub>, which resulted in an estimated annual cost saving of \$555,160. The following are a few highlights of significant measures implemented:

### Heating Ventilation and Air Conditioning (HVAC) Chiller Replacements at North Mass Transit and Central Homeless Assistance Center:

The electricity use prior to the HVAC upgrades was 988,344 kWh and after, it decreased to 869,743 kWh, a difference of 118,601 kWh annually. This is equivalent to 71 tonnes eCO<sub>2</sub>, and an annual cost savings of \$11,860.



### Mini-hybrid Engineered Machined Products (EMP) Retrofits on BCT buses:

The Transit Division retrofitted mechanically/hydraulically driven cooling system components on 47 county buses with electrically powered devices in order to achieve fuel savings and reduce GHG emissions. EMP retrofits reduce the horsepower draw on the engine, thus improve fuel economy by a minimum of 5 percent. Collectively, the units reduced eCO<sub>2</sub> emissions by 498 tonnes, a cost savings of \$170,511.

**Recycling in County Facilities:** During FY2011, approximately 1,469 tons of office paper, magazines, newspapers, file folders, cardboard, and food and beverage containers were recycled in County



administrative facilities, including the airport, convention center, and parks. By recycling these materials, the County saved more than \$143,399 through avoided disposal. This represents a GHG reduction of 4,731 tonnes which is equivalent to the emissions of 530,381 gallons of gasoline consumed.

## A Word on Greenhouse Gases

Burning of fossil fuels is the primary source of GHG emissions. A key element of any GHG reduction program is the quantification of GHG emissions and reduction measures. The International Council for Local Environmental Initiatives 2009 Clean Air Climate Protection software was used to calculate the GHG generated by energy use, fuel use, and solid waste. FY2011 GHG emissions from Broward County Government operations are shown below.

Broward County's Government operations FY2011 carbon footprint is 250,255 tonnes eCO<sub>2</sub>, a net reduction of 5,781 tonnes eCO<sub>2</sub> compared to FY2010. Approximately 74 percent of the emissions are generated by electricity use at Port Everglades, the Fort Lauderdale-Hollywood International Airport, Wastewater Services, Streetlights and other County facilities; a net decrease of

3 percent compared to FY2010 due primarily to reduced electricity use. To meet the established FY2015 target of 222,099 tonnes, Broward County Government must reduce an additional 7,039 tonnes of eCO<sub>2</sub>, annually (Figure 2).

## Measuring Progress

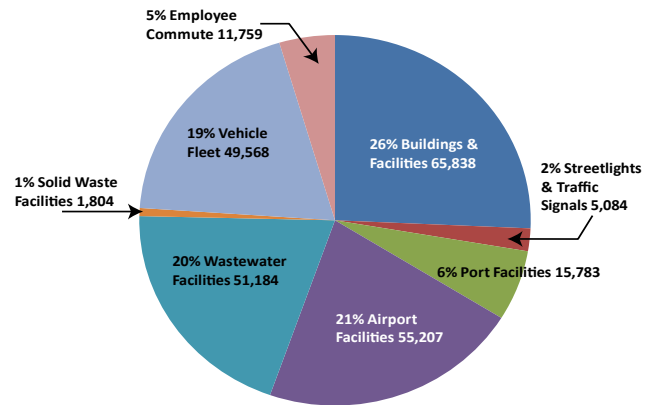
In FY2011, Broward County government agencies reduced annual GHG emissions from existing facilities and operations by 5,781 tonnes eCO<sub>2</sub>, as a result of energy efficiency measures and operational practices.

The Vehicle Fleet sector showed an increase of 5 percent from FY2010. This can be attributed to increased bus routes and service areas such as the I-95 Express bus service from the Miramar Town Center. However, these services result in an overall decrease in communitywide GHG emissions, as buses replace many single passenger vehicles.

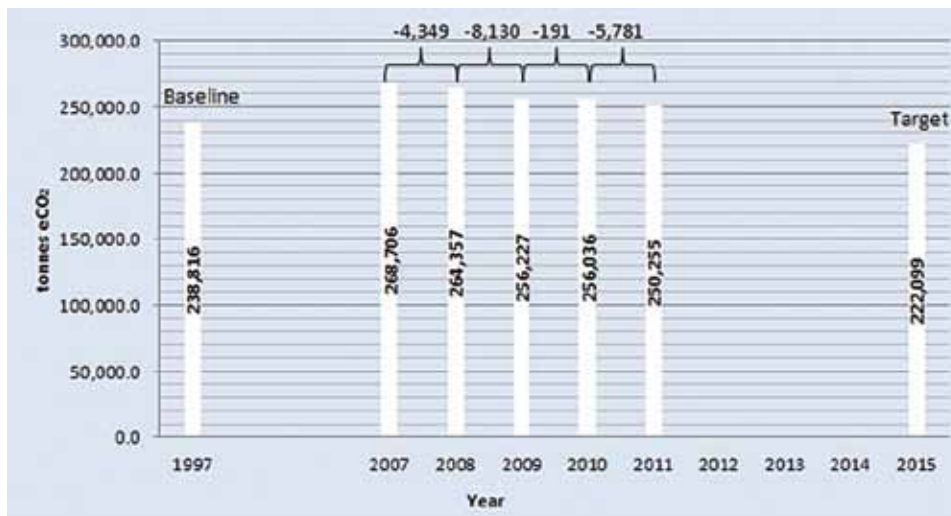
## Future Strategy

Because electricity use by government facilities generate 74 percent of total countywide GHG emissions, the Workgroup

is developing a strategy to work with building managers and tenants to ensure implementation of energy efficiency and conservation practices. Additionally, the Workgroup is releasing a series of online Go Green Tutorials for County employees to raise awareness about the simple steps we can take to reduce the County's carbon footprint while saving taxpayer dollars.



**Figure 1:** FY2011 Broward County Government Operations GHG Emissions by Source Categories.



**Figure 2:** Broward County Government Operations GHG Emissions and Reduction Target

The **Broward County Climate Change Government Operations Workgroup** includes representatives from many County agencies that are organized into committees in the areas of buildings/infrastructure, waste, transportation, natural systems, and policies. The Workgroup Steering Committee meets monthly to identify potential emission reduction actions, propose implementation of selected actions, and share progress made.

For questions or information, call the Pollution Prevention, Remediation and Air Quality Division at **954-519-1260** or visit

[broward.org/pollutionprevention](http://broward.org/pollutionprevention)

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