



**City of Atlanta
Energy and Climate
Initiatives**

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Director of Sustainability
2/1/2010



Division of Sustainability

Goal

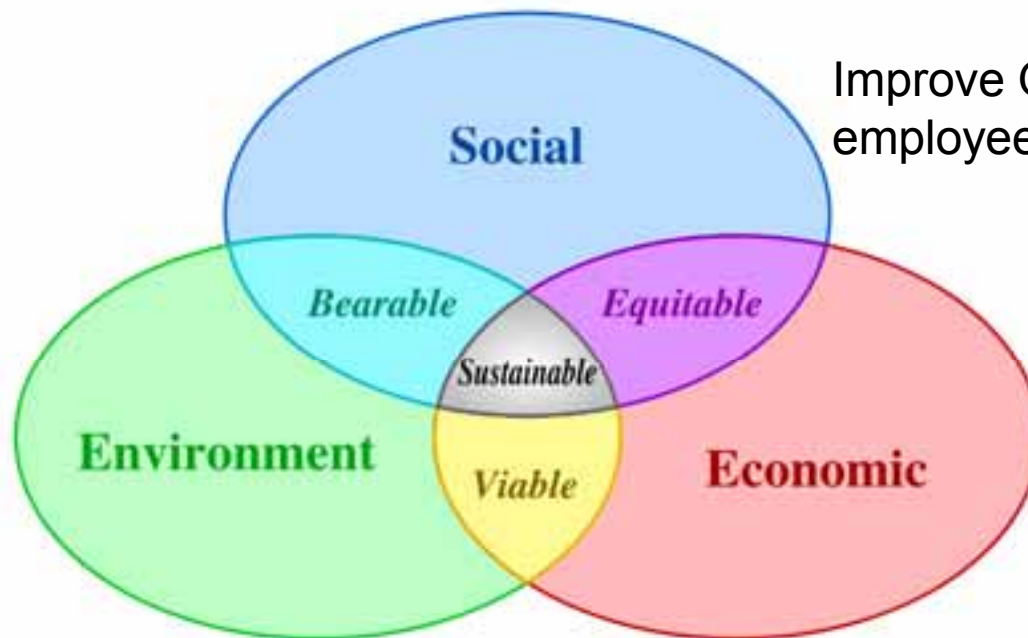
- Reduce the City of Atlanta's Carbon Footprint

Key Objectives

- Significant cost reduction (electricity, natural gas, operations)
- More efficient use of resources (natural and human capital)
- Deployment of sustainable technologies and practices
- City of Atlanta employees and constituents are engaged in sustainable practices



Action Plan Highlights



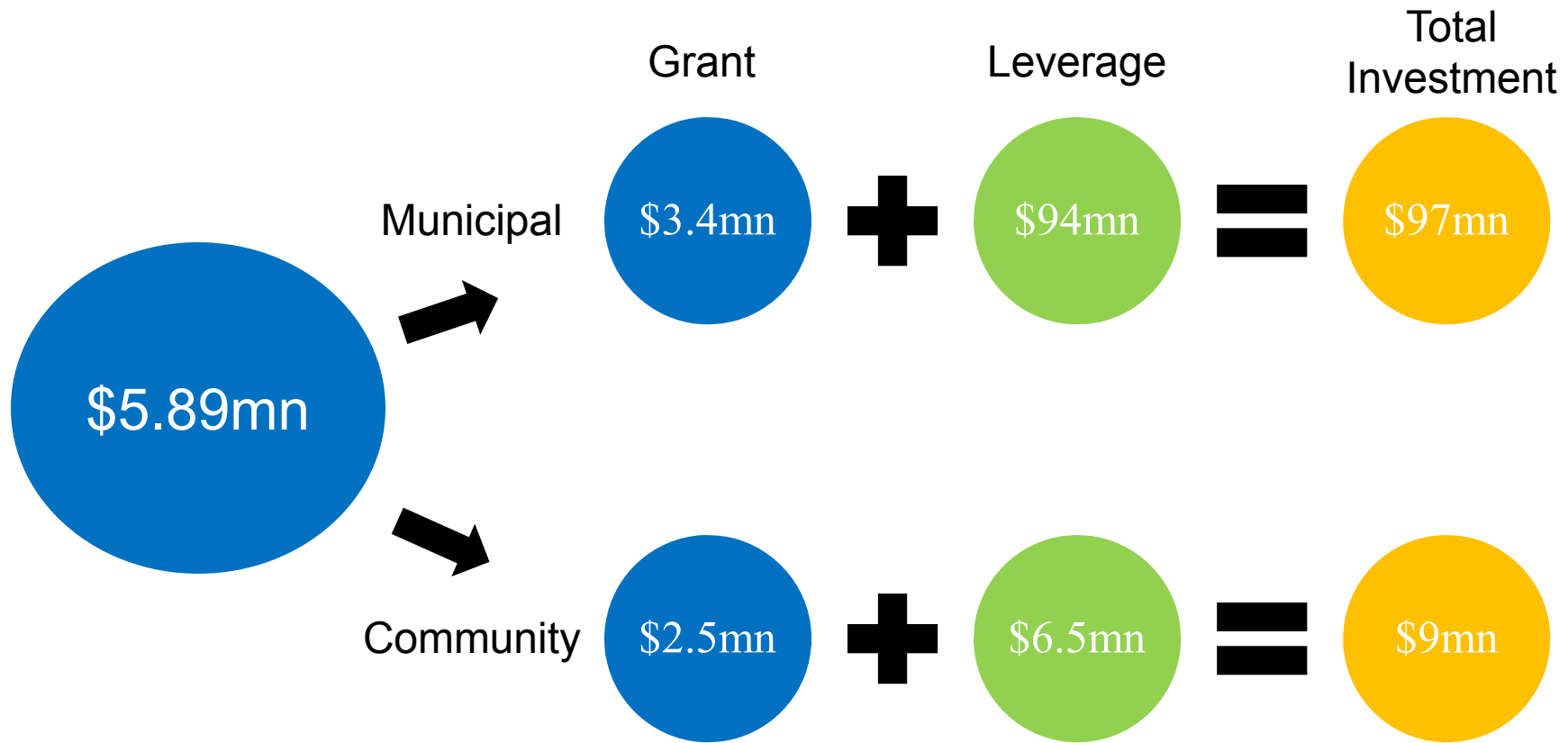
Improve Quality of Life for City employees and constituents

- Reduce GHG emissions
- Reduce energy and water use
- Support green space expansion and improvement

- Reduce City operations costs
- Reduce energy bills for residents and businesses
- Support green business development



Stimulus: DOE Energy Efficiency and Conservation Block Grant (Formula)



Total Investment over \$106 mn



EECBG: Snapshot of Major Projects

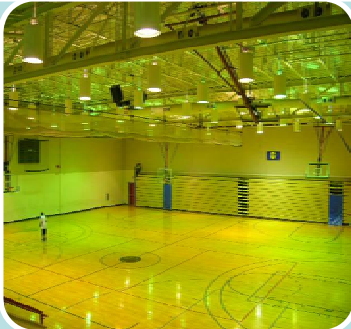
Municipal Projects

- **Building Improvements**
 - Revolving Loan Fund
 - Energy Service Contract
- **Employee training**
 - Facilities managers
 - Permitters, Inspectors, Code enforcement
- **City Vehicle Tracking**
- **LED Signal Retrofit**

Community Projects

- **SHINE:** Residential energy efficiency program
- **Community Climate Action Plan**
- **Support to 5 non-profits**

Atlanta Plans Major Upgrades with Stimulus Funds: Efficiency Upgrades



Lighting

- Replace inefficient lighting with high-efficiency systems
- Install automatic lighting controls
- LED traffic and outdoor lighting



HVAC & Building Envelope

- Automatic controls
- Recommission existing systems
- Reflective or green roofing
- Insulation
- High-performance HVAC, windows & doors



Water Conservation

- Upgrade systems to low-flow faucets, toilets, urinals, showerheads
- Gray water recovery systems would be installed where practical.



Stimulus Funds: Renewable Energy



Solar Thermal

- Solar thermal domestic water heating systems installed on high-profile facilities will educate the public on renewable energy systems and yield significant energy costs savings.



Photovoltaic

- Proposed solar electricity systems would reduce greenhouse gas emissions by displacing coal-based electricity.



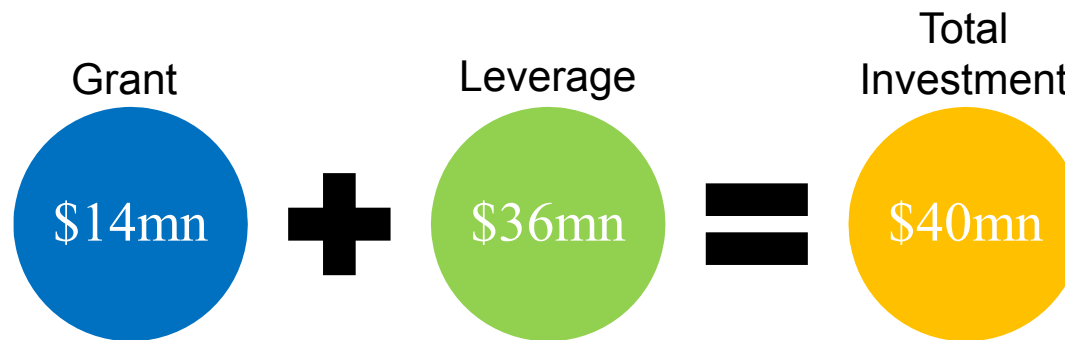
Waste to Energy

- Renewable energy would be recovered from yard waste, landfill gas, wastewater grease and biogas, and used cooking oil.



Stimulus: DOE Clean Cities

Goal: Reduce petroleum consumption through the use of alternative fuels and advanced vehicles (ex. hybrid buses)



Recipients → Public Private Consortium	
1. Division of Sustainability	6. Emory University
2. Dept of Aviation	7. Coca Cola Enterprises
3. Dekalb Co.	8. UPS
4. CTE	9. PS Energy
5. Clean Cities Atlanta	10. Sustainable Atlanta

DOA: \$1.6mn towards purchase of 60 CNG buses and pick ups
Division of Sustainability: \$100k for grant administration



SHINE



Program Overview



Partner with Georgia Power Home Performance with Energy Star Program

- Utilize existing qualified contractor base
- Provide additional rebates to homeowners to undertake qualified energy efficiency improvements
- May be combined with Georgia Power rebates and Federal tax credits



Phase I: Stimulate demand for energy efficiency retrofit work through homeowner rebates

- % of total qualified improvement work
- Currently capped at \$1,000
- Anticipated launch: April 2010



Phase II: Launch a residential energy efficiency improvement financing program

- Currently under development



Enrollment Process

1. Qualify as a Georgia Power Home Performance with Energy Star Contractor
 - Complete application forms
 - Pass background check
 - Complete Building Performance Institute (BPI) certification
 - Offered through Southface
 - Pass field audits with Southface

2. Apply with the City to qualify under the SHINE program
 - Purchase & complete application package (\$25)
 - Secure DUNS number
 - Agree to follow American Reinvestment & Recovery Act provisions
 - Jobs creation reporting
 - Waste stream and State Historic Preservation agreements
 - Energy savings & emissions reduction reporting



Pertinent Links

- Georgia Power Home Performance with Energy Star sign-up
 - http://www.georgiapower.com/energystar/home_performance.asp
- City of Atlanta SHINE
 - http://www.atlantaga.gov/business/rfp_generalfund.aspx?section=Business
- DUNS Number
 - <http://fedgov.dnb.com/webform>



City of Atlanta Contact Information

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APPENDIX



EECBG Budget & Leverage

Total Budget By Activity	Municipal				Community			
	Federal	Cost-Share / Match	Leverage	Total	Federal	Cost-Share / Match	Leverage	Total
1) Establish Division of Sustainability	\$ 620,452	\$ 12,840	\$ -	\$ 633,292	\$ -	\$ -	\$ -	\$ -
2) Sustainable Housing Initiative for a New Economy (SHINE)	\$ -	\$ -	\$ -	\$ -	\$ 2,108,787	\$ -	\$ 6,148,561	\$ 8,257,348
3) Municipal Energy Efficiency Audits	\$ 610,000	\$ -	\$ 58,000,000	\$ 58,610,000	\$ -	\$ -	\$ -	\$ -
4) Municipal Energy Efficiency Retrofits	\$ 1,076,125	\$ -	\$ -	\$ 1,076,125	\$ -	\$ -	\$ -	\$ -
5) Landfill Gas RFP	\$ 50,000	\$ -	\$ 8,000,000	\$ 8,050,000	\$ -	\$ -	\$ -	\$ -
6) GPS Fleet Tracking Program	\$ 15,000	\$ 10,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7) GSEA Renewable Energy Education	\$ -	\$ -	\$ -	\$ -	\$ 20,000	\$ 20,000	\$ -	\$ 40,000
8) GIPL Institutional Building Audits	\$ -	\$ -	\$ -	\$ -	\$ 20,000	\$ 87,500	\$ -	\$ 107,500
9) GreenPlate Bag Fee Case Study	\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ 10,200	\$ -	\$ 20,200
10) LED Pedestrian Signal Installation	\$ 600,000	\$ 2,820,795	\$ -	\$ 3,420,795	\$ -	\$ -	\$ -	\$ -
11) Sustainable Building Ordinance Training	\$ -	\$ -	\$ -	\$ -	\$ 249,000	\$ 249,000	\$ -	\$ 498,000
12) Climate Action Plan	\$ -	\$ -	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000
13) GEFA BOC Training	\$ 18,900	\$ 31,188	\$ -	\$ 50,088	\$ -	\$ -	\$ -	\$ -
14) Zero Net Waste	\$ 145,000	\$ -	\$ 25,000,000	\$ 25,145,000	\$ -	\$ -	\$ -	\$ -
15) Hemp Hill Wind Turbine	\$ 15,000	\$ -	\$ 10,000	\$ 25,000	\$ -	\$ -	\$ -	\$ -
16) Energy Efficiency & Conservation Strategy	\$ 231,936	\$ -	\$ -	\$ 231,936	\$ -	\$ -	\$ -	\$ -
Totals	\$ 3,382,413	\$ 2,874,823	\$ 91,010,000	\$ 97,242,236	\$ 2,507,787	\$ 366,700	\$ 6,148,561	\$ 9,023,048





Clean Cities Budget & Cost-Share

Revised Application Budget

Partner	Federal Grant	Local Match	Total
Coca-Cola Enterprises	\$ 609,000	\$ 2,445,600	\$ 3,054,600
UPS	\$ 1,966,360	\$ 3,806,390	\$ 5,772,750
City of Atlanta	\$ 1,687,289	\$ 3,601,142	\$ 5,288,431
Emory	\$ -	\$ -	\$ -
CTE/CCA	\$ 538,259	\$ -	\$ 538,259
Sustainable Atlanta	\$ 63,960	\$ -	\$ 63,960
Georgia Tech	\$ -	\$ -	\$ -
DeKalb County	\$ 7,830,000	\$ 13,818,604	\$ 21,648,604
PS Energy	\$ 2,288,298	\$ 1,009,651	\$ 3,297,949
Totals	\$ 14,983,167	\$ 24,681,387	\$ 39,664,554





Projected Success by end of 2009

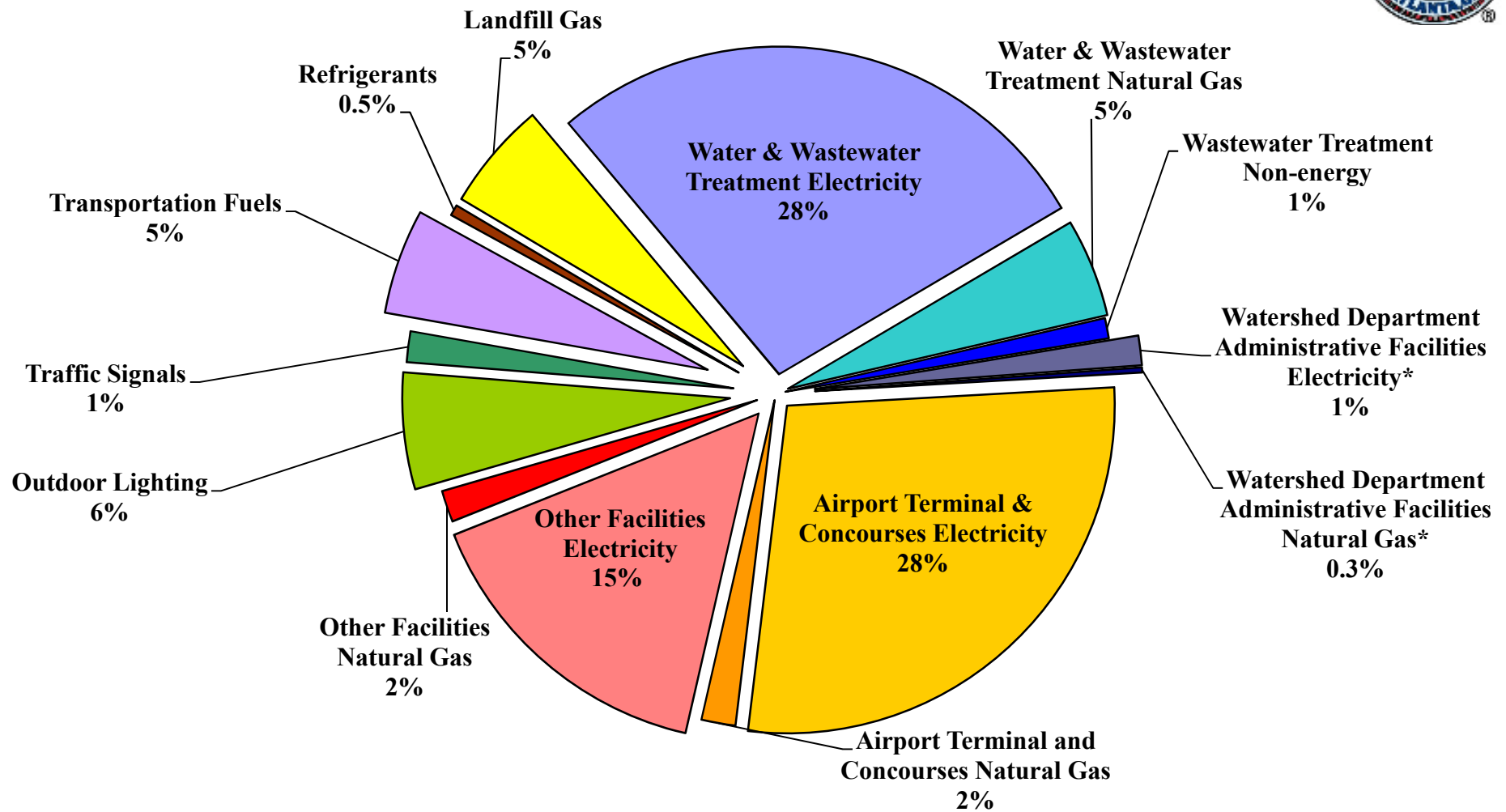
- 10% drop in energy use in general fund facilities through low/no-cost conservation measures, resulting in avoided energy costs of \$300,000-\$500,000 per year
- 5% drop in water use in general fund facilities
- 2 renewable energy demonstration projects
- Major progress towards meeting Governor's Energy Challenge*
- 3% drop in fossil fuels used by municipal fleet yielding \$267,000 Savings
- 30% of employees using a commute alternative
- Recycling in municipal buildings over 50%
- **10% drop in GHG emissions from energy consumption in general fund facilities**

*Governor's Energy Challenge: Reduce energy consumption per square foot in government facilities 15 percent below FY2007 levels by 2020.



MUNICIPAL CARBON FOOTPRINT

**City of Atlanta Municipal Carbon Footprint
2007 Total ~ 540,000 metric tons CO₂e**

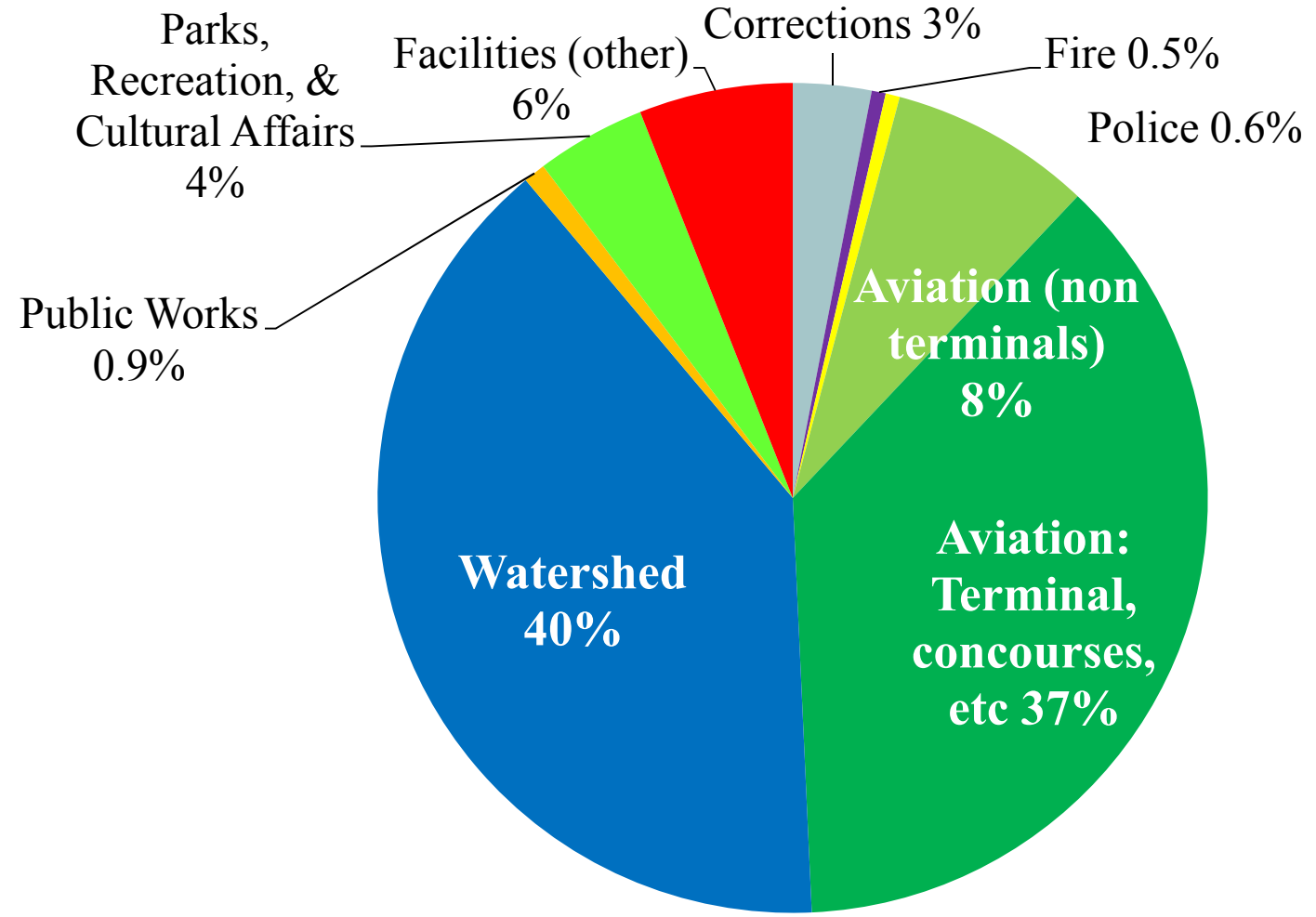


Electricity is Atlanta's Major Source of GHG Emissions

*Watershed Department Administrative Facilities Electricity and Natural Gas based on estimated breakdowns.



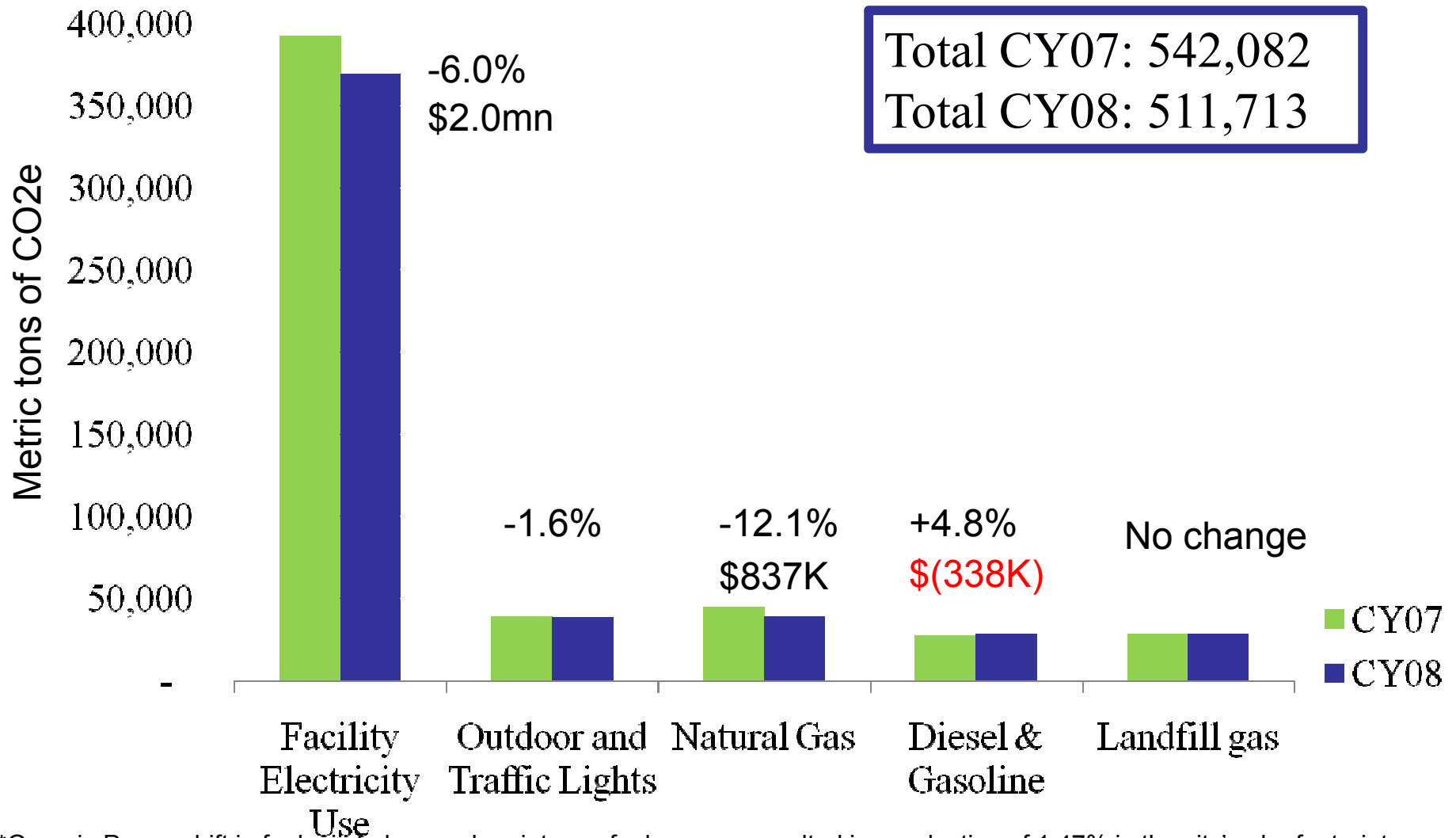
CY 2007 Facilities: 85% of Total Electricity Demand By Dept of Aviation & Department of Watershed Management





Total Municipal Carbon Footprint down 5.6%* between CY07 and CY08

Electricity use remains largest source of emissions ~80% of total



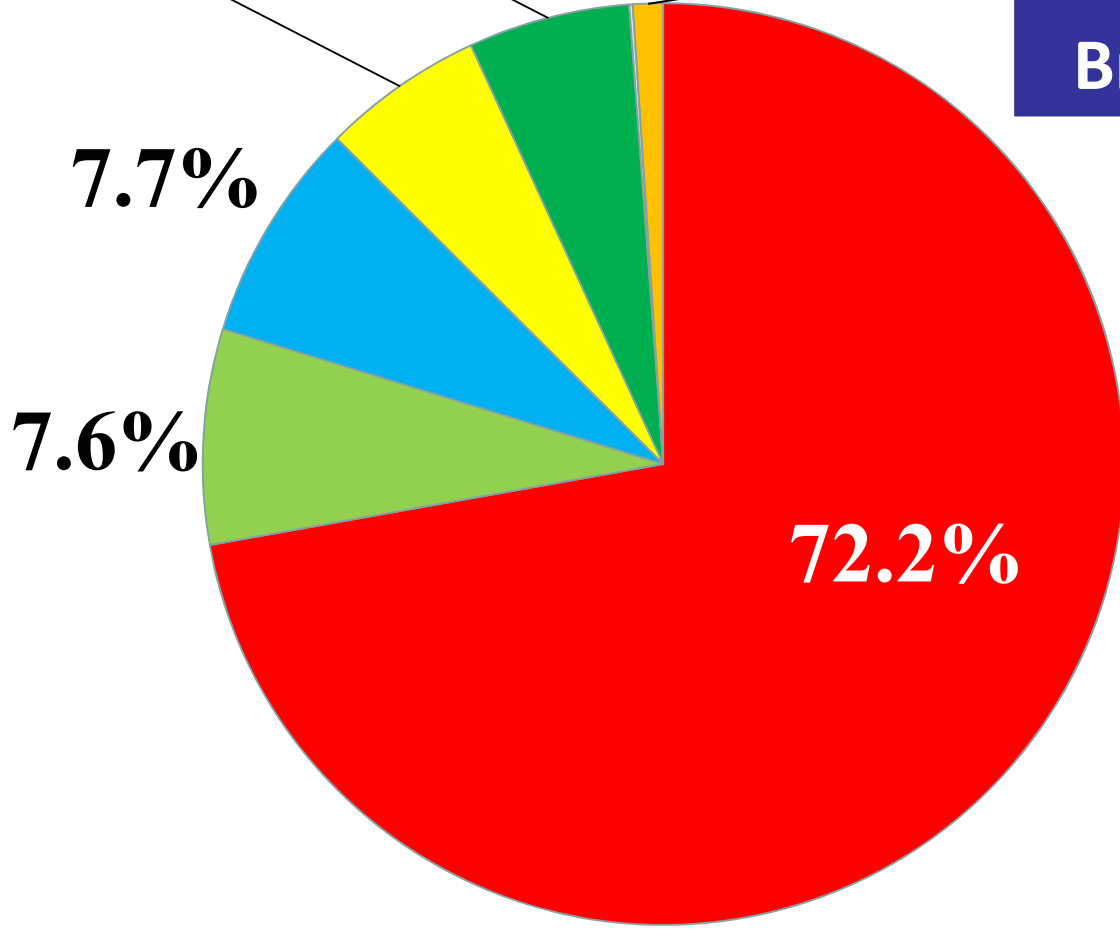
*Georgia Power shift in fuel mix to less carbon intense fuel sources resulted in a reduction of 1.47% in the city's ghg footprint
Note: Refrigerants and waste water treatment emissions measured but not shown here. They compose 1.2% of total footprint. 21



Electricity Use Continues to be Leading Source of Emissions

5.7% 5.7% 0.1% 1.1%

Sources of Emissions Breakdown for CY 2008



- Facility Electricity Use
- Outdoor and Traffic Lights
- Natural Gas
- Diesel & Gasoline
- Landfill gas
- Refrigerants
- Waste Water Treatment



Major Actions in CY08 Driving GHG Reductions

- 1.47% due to Georgia Power shifting its power generation fuel mix to less carbon intense fuel sources.
- 9.5% reduction in electricity use by DWM (related to 11% reduction in volume of drinking water and wastewater treated)
- 58% reduction in natural gas use in AATC due to replacement of gas chillers with electric
- 4% reduction in electricity use in other departments, including 10% savings in City Hall due to 4-5 months of aggressive savings measures undertaken by OEAM.