

**UPDATE TO GREENSBORO
GREENHOUSE GAS ESTIMATES
2007 TO 2013**

**GREENSBORO CITY COUNCIL
March 24, 2015**

METHODOLOGY FOR GREENSBORO GHG INVENTORY (ICLEI, CACP)

OVERVIEW OF CACP'S CAPABILITY

- ❖ Create GHG and criteria air pollutant emissions for base year
- ❖ Forecast and back-cast emissions growth
- ❖ Evaluate measures to reduce emissions
- ❖ Prepare emissions reduction action plans



GREENSBORO GHG INVENTORY DATA SOURCE

CATEGORIES OF DATA

- ❖ Residential
- ❖ Commercial
- ❖ Industrial
- ❖ Transportation
- ❖ Waste



RESIDENTIAL



COMMERCIAL

TRANSPORTATION



Trash

WASTE

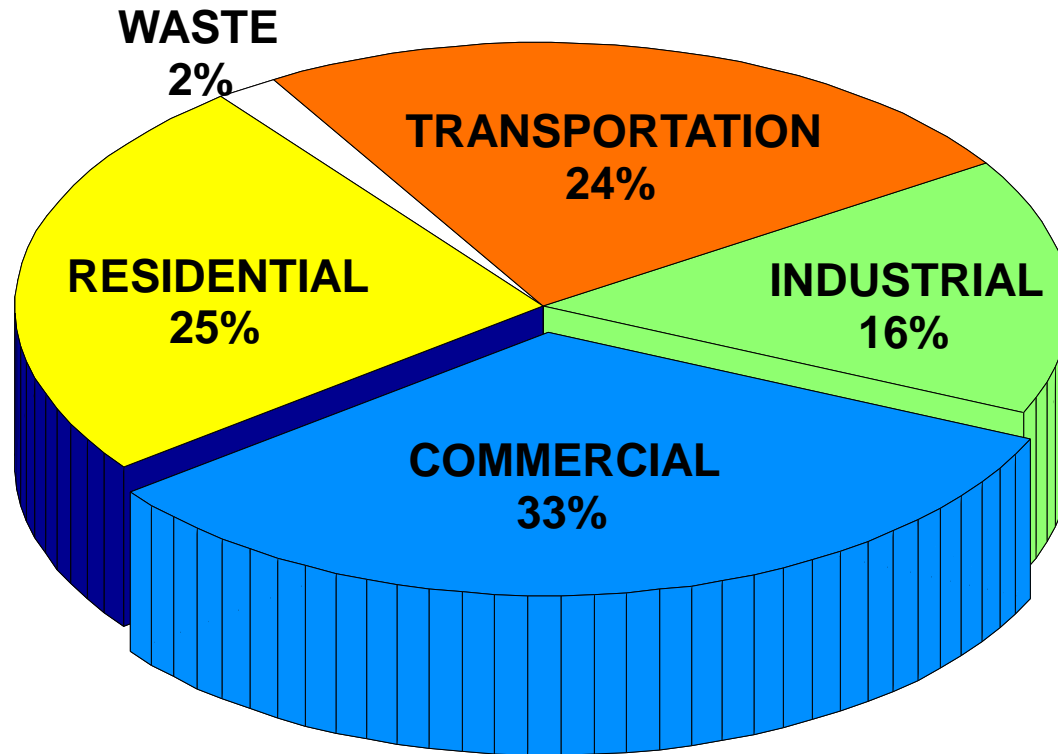


Landfill

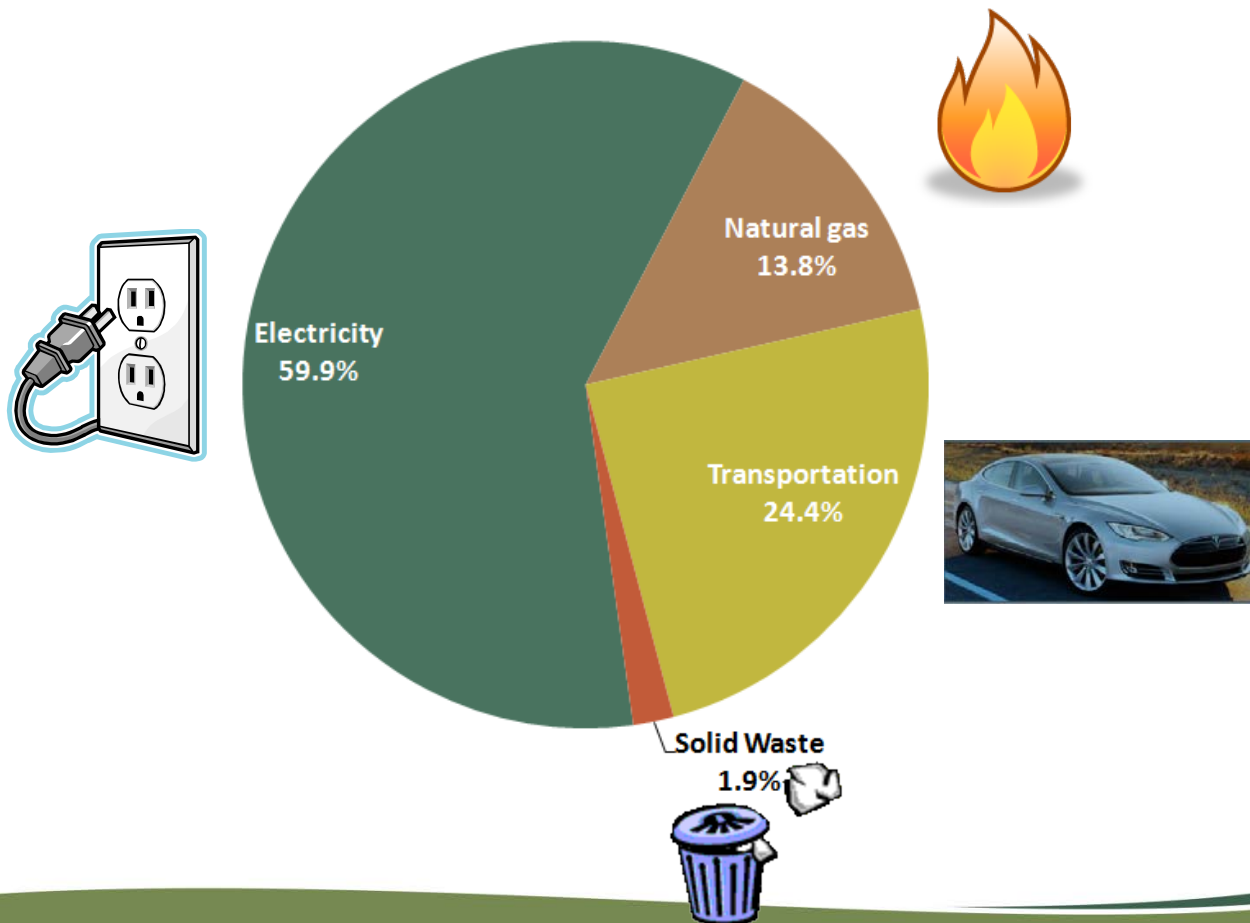
ENERGY CONSUMPTION BY SECTOR AND GHG EMISSIONS BASE YEAR 2007

<i>SECTOR</i>	<i>ENERGY (MMBtu)</i>	<i>EQUIV. CO₂ (tons)</i>
<i>Residential</i>	10,861,686	1,264,199
<i>Commercial</i>	12,224,646	1,659,310
<i>Industrial</i>	6,930,813	840,942
<i>Transportation</i>	17,328,166	1,485,117
<i>Waste</i>	NA	115,844
<i>Total</i>	47,345,311	5,365,412

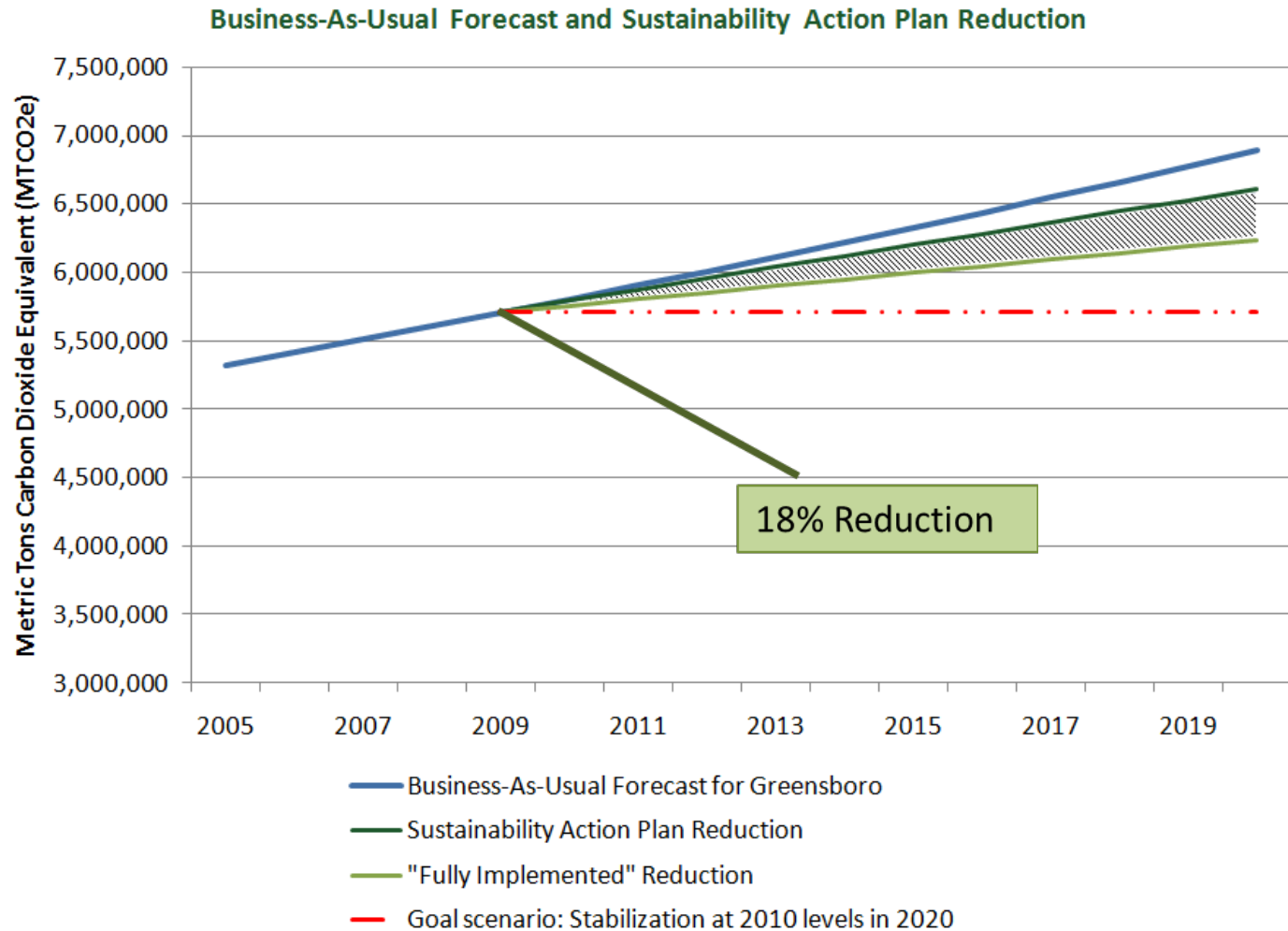
BASE YEAR PERCENTAGE COMMUNITY GHG EMISSIONS BY SECTOR



**City of Greensboro 2007 Emission Sources
(community-wide)
5,517,161 Metric Tons CO₂e**



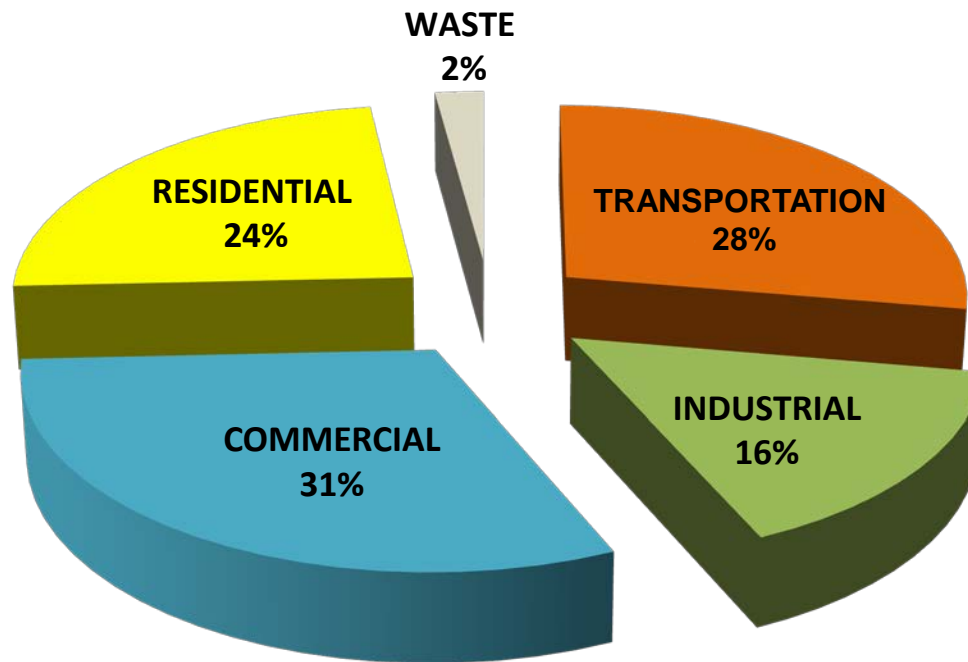
Forecast and Goal



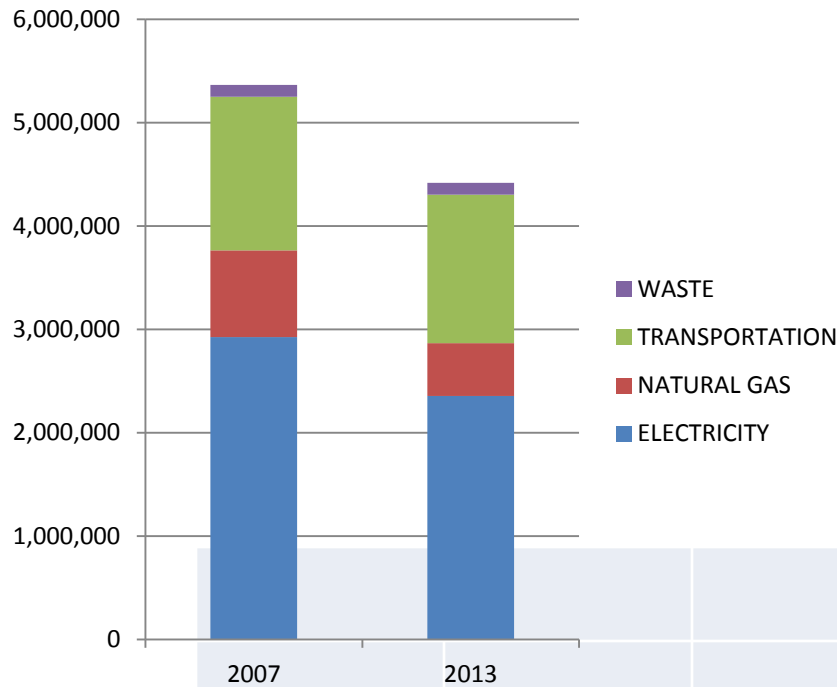
BASE YEAR ENERGY CONSUMPTION BY SECTOR AND GHG EMISSIONS 2013

<i>SECTOR</i>	<i>ENERGY (MMBtu)</i>	<i>EQUIV. CO₂ (tons)</i>
<i>Residential</i>	10,879,527	1,078,827
<i>Commercial</i>	11,851,436	1,335,268
<i>Industrial</i>	3,320,553	453,245
<i>Transportation</i>	16,808,321	1,485,117
<i>Waste</i>	NA	115,234
<i>Total</i>	42,859,837	4,467,691

PERCENTAGE COMMUNITY GHG EMISSIONS BY SECTOR 2013



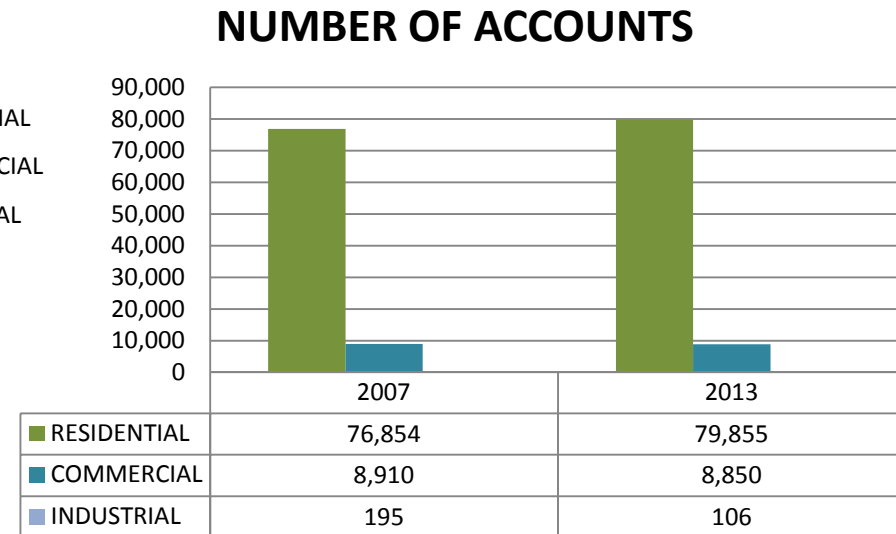
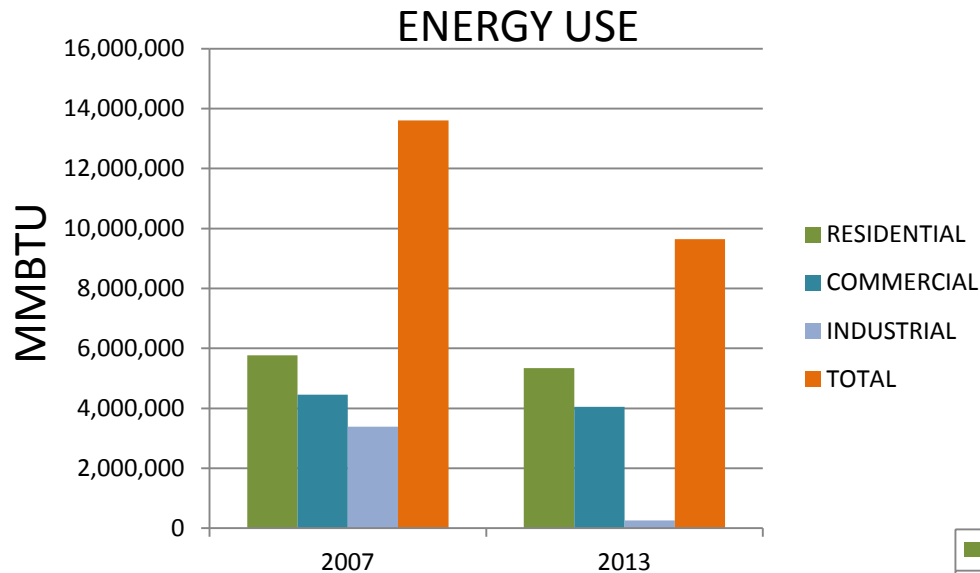
TONS OF CO2 EQUIVALENT



GREENHOUSE GAS SUMMARY 2007 TO 2013

				CHANGE	
	2007	2013	SECTOR	PER CAPITA	
ELECTRICITY	2,924,049	2,355,537	-19%	-21%	
NATURAL GAS	840,402	511,803	-39%	-44%	
TRANSPORTATION	1,485,117	1,435,277	-3%	-3%	
WASTE	115,844	115,421	0%	0%	
	5,365,412	4,418,038	-18%	-20%	

NATURAL GAS



	<u>RESID</u>	<u>COMM</u>	<u>INDUST</u>	<u>TOTAL</u>
Number of users	4%	-1%	-46%	
Per Capita use	-11%	-9%	-86%	
Energy Use	-7%	-9%	-92%	-29%

TRANSPORTATION

	2007	2013	% CHANGE
VEHICLE MILES TRAVELED (VMT)	2,287,689,697	2,216,102,230	-3%
POPULATION	247,183	279,639	13%
PER CAPITA VMT/DAY	25	22	-14%

REPRESENTS A GREEN DIVIDEND OF
\$150 MILLION FOR THE CITY
AS DESCRIBED BY THE CEO'S FOR CITIES

CITY OPERATIONS

	2007	2013	% CHANGE
ELECTRICITY	141,272,415 kWh	138,268,964 kWh	-2%
NATURAL GAS	833,383 Therms	1,038,336 Therms	25%
TOTAL	565,360 MBtu	575,607 MBtu	1.8%

Contributing Factors to Reductions of Energy Use and Greenhouse Gas Production

- **Energy Conservation in the Residential and Commercial Sector**
- **Reduced number of Industries that are less energy intensive**
- **Conversion of the Duke Energy fleet away from coal fired plants**
- **Reduced vehicle miles traveled in Greensboro**