



## Sustainability Policies in New Orleans, Louisiana

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## EXECUTIVE SUMMARY

New Orleans must improve the programs and laws that encourage sustainability. While the development of the New Orleans Master Plan has outlined long-term actions and goals, the city must take action immediately to improve its greenhouse gas emittance. Greenhouse gases are produced in nearly every sector of daily life. Energy efficient buildings, solid waste diversion, and the cultivation of local agriculture will decrease the amount of greenhouse gases produced by the city. Using the methods of cities like Atlanta, Georgia, Austin, Texas, and Washington, D.C. will allow New Orleans to drastically advance its sustainable practices.

## INTRODUCTION:

Sustainability is the balance of natural resources through conservation. Though New Orleans has an average carbon footprint per capita, life in the city still produces a substantial amount of greenhouse gases. It is especially imperative that New Orleans considers sustainability an issue as the city will otherwise be detrimentally affected by climate change. When increased GHG emissions saturate the atmosphere, natural sources can't sequester them through the process of photosynthesis. The gases are caught in the atmosphere, leading to the GHG effect. The Earth's atmosphere retains more heat and the temperature rises. The amount of greenhouse gases are usually measured in terms of carbon dioxide equivalents (CO<sub>2</sub> e), which compare a certain gas's global warming potential to that of carbon dioxide. Carbon dioxide is the most prevalent gas arising from human activity though other greenhouse gases are more potent.

For New Orleans, an increase in temperature will mean a rise in sea level due to melted glaciers. This increase will adversely affect New Orleans due to the city's proximity to several water sources, its location below sea level, and its characteristic bowl-like shape. New Orleans is also highly susceptible to hurricanes, which could increase in number and intensity. An escalation of hurricane activity would result in a larger insurance expense and in a loss of tourism, one of New Orleans' biggest revenue generators.<sup>1</sup>

Conservative critics argue that it is not the government's place to promote sustainable practices for its citizens. However, local governments like New Orleans sit closest to the people. They already regulate and monitor day-to-day activities and can easily influence and service the public. Also, city governments can lead by example with reductions of their municipal carbon footprint.

New Orleans needs to improve its mitigation and adaptation policies and programs. Mitigation involves the actual reduction of GHG emissions while adaptation is the response to situations stemming from poor sustainability. Mitigation now means less adaptation later, which is beneficial both in terms of money and community well-being.

## I. NEW ORLEANS SUSTAINABILITY

The 2010 Census reported that New Orleans is home to 343,829 people. New Orleans' participation in the Climate Protection Campaign and the International Council for Local Environmental Initiative led to the collection of greenhouse gas emission information. The latest

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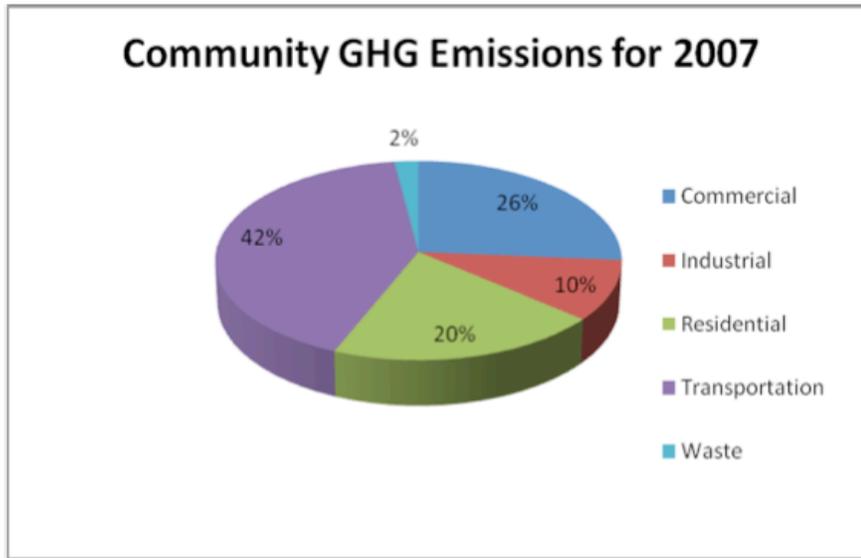


Figure 2: Community Greenhouse Gas Emissions by Percentage

Transportation released 42% of community GHG emissions, with commercial and residential areas following with 26% and 20% respectively. Within the commercial and residential areas, electrical use was the majority source of the emissions.

In the municipal sector, more than half of the GHG emissions came from water and sewage usage, where natural gas contributed the greatest amount of CO<sub>2</sub>e.

As the population dropped by nearly 50% after Hurricane Katrina, the GHG emissions of the city fell too. Therefore, a decrease in CO<sub>2</sub>e in the years immediately following Hurricane Katrina was not indicative of any policy or program changes in the city.

## II. STANDARD RESEARCH AND METHODOLOGY

There is no national standard of measurement of a community's carbon footprint or sustainability. Individual cities and states are free to measure and report their progress, or lack thereof, in any way. Private firms are often hired by states or interest groups to evaluate a group of cities or regions in a comparative study.

## III. APPLICATION CITIES

### A. ATLANTA, GEORGIA

Atlanta, Georgia shares a similar climate with New Orleans. The city is occasionally susceptible to mild effects of hurricanes. In 2009, Atlanta had an estimated population of 540,921.<sup>2</sup> A 2009 report revealed that the municipal operations of the city government emitted 540,000 tons of CO<sub>2</sub>e in the 2008-2009 period. Unfortunately, the only available data describes Atlanta municipal operations or the emissions from Georgia as a whole. The city has committed to expanding their measurement of their carbon footprint and aims to include community wide sources in future inventories.<sup>3</sup>

Program	Function
Sustainable Development Design Standard	requires buildings to meet green standards
Sustainable Home Initiative in the New Economy	offers rebates to homeowners who weatherproof
Reward for Collecting All Recyclables Together	offers financial incentives to recycle
Zero Waste Zone	composts and recycles commercial waste

Atlanta has the greatest number of LEED-certified buildings of Southeastern cities. As of 2007, 134 registered and 24 certified LEED buildings called Atlanta home. In 2003, the City Council adopted a Sustainable Development Design Standard that requires all new and major renovated city-financed construction projects to meet LEED Silver certification requirements.<sup>4</sup> The city housed 102 Energy Star labeled buildings in 2009, which saved the community an estimated \$23.9 million (as opposed to the operations of normal buildings.) These buildings prevented

emission of the equivalent electricity used in 24,000 homes.<sup>5</sup> Energy Star is a U.S. government program that works to reduce green house gas emissions and energy use by power plants.

The city-run Sustainable Home Initiative in the New Economy (SHINE) program grants homeowners rebates for weatherizing their homes. Weather-proof activities includes insulation improvement, weather-stripping, and the replacement of inefficient doors and windows in an effort to decrease heating and cooling usage. Improvements further benefit the homeowner by lowering their annual utility bill.<sup>6</sup>

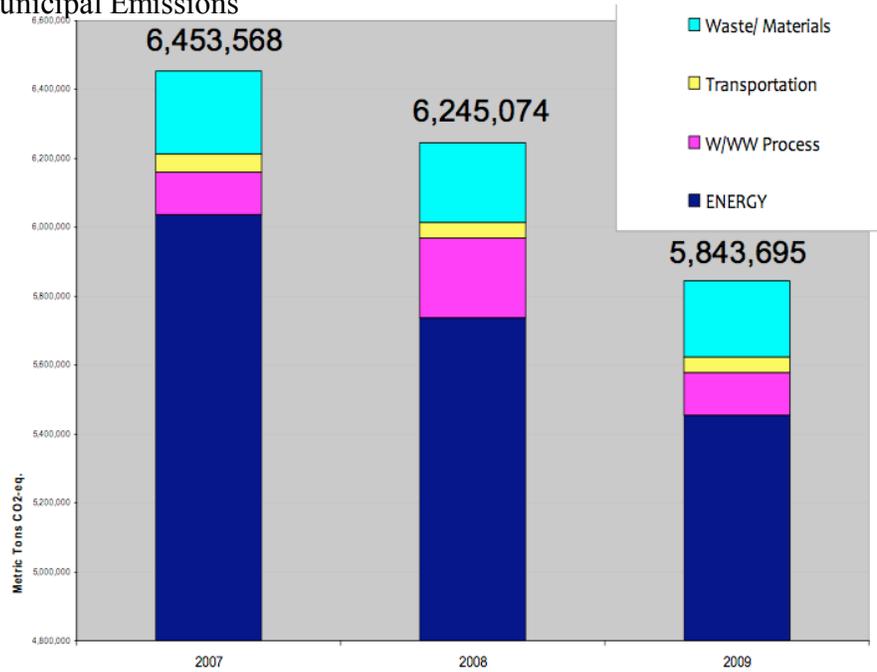
Atlanta employs a curbside recycling program for residential areas. In 2009, the pilot program Reward for Collecting All Recyclables Together (ReCART) was implemented. ReCART provides financial incentives for citizens to recycle. The pilot year ended in November 2010 and will be evaluated to determine if the program should be expanded.<sup>7</sup>

The city has recently committed to support a Zero Waste Zone in its downtown area. The Zero Waste Zone works to compost food waste from local businesses like hotels and restaurants. Used grease is collected and recycled for the local production of biofuel.<sup>8</sup> The Zero Waste Zone, along with private composting, prevents approximately 34 tons of material from going to a landfill and produces at least 20 tons of compost. The Georgia Recycled Organics Council, a branch of the Georgia Recycling Coalition, promotes composting practices through education and information on organic recycling.

## B. AUSTIN, TEXAS

Austin, Texas shares a similar climate with New Orleans. In 2009, the city had a population of 786,382.<sup>9</sup> The graph below shows the municipal CO<sub>2</sub>e emissions, which totaled 5,843,695 tons in 2009. The graph demonstrates the decrease in CO<sub>2</sub>e emissions after the implementation of the city's Climate Protection Plan.

Figure 1: Municipal Emissions



Source: Austin Climate Protection Annual Program Update 2010

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in 2007, Climate Protection works to municipal operations

and buildings carbon neutral. One goal is to make all of the city owned cars carbon neutral by 2020. It also works to aid the residential and commercial sectors in becoming more energy efficient.<sup>10</sup> The city is home to 55 Energy Star labeled buildings, saving over \$6.2 million per year in utility costs and the electrical equivalent of 4,800 homes.

The City Council passed the Universal Recycling Ordinance, which requires all commercial properties to recycle by 2015. The city has also adopted a Zero Waste plan and supports several initiatives geared at waste management. The WasteSmart Program recognizes local businesses for consistent recycling practices. The Green Neighbor program allows people to track the development of their own eco-friendly habits and provides monetary rewards as their practices increase. This program can also be applied to entire neighborhoods that wish to participate. The Grow Green program targets the education of local gardeners in an effort to purify and conserve water within the city.<sup>11</sup>

C. WASHINGTON, D.C.

Like New Orleans, Washington, D.C. has hot, humid summers and is situated near more than one natural water source. Washington, D.C. had a population of 599,657 in 2009. The total CO<sub>2</sub>e emissions by municipal operations was 719,896 metric tons in 2006.<sup>12</sup> The table below shows the district government’s emissions by their sector totals.

**Table ES.1 2006 District Government Operations Emissions by Sector**

	Sector Total (metric tons CO <sub>2</sub> e)
<b>Buildings &amp; Other Facilities</b>	429,301
<b>Wastewater Facilities</b>	163,454
<b>Streetlights &amp; Traffic Signals</b>	45,586
<b>Vehicle Fleet &amp; Off-Road Equipment</b>	47,829
<b>Employee Commute</b>	33,101
<b>Government-Generated Solid Waste</b>	625

Source: District of Columbia Greenhouse Gas Emissions Inventory 2010

Washington, D.C. has the greatest number of LEED certified and Energy Star labeled buildings of cities its size. In 2009, there were 204 Energy Star labeled buildings, which saved the electrical equivalent of 36,100 homes at the saved cost of \$62.3 million.<sup>13</sup> The city also employs a green roof program, which encourages the replacement of old roofs with energy efficient models. The city offers extensive financial incentives for green living practices by private citizens in different sectors including energy, water, hazard mitigation, and transportation.<sup>14</sup>

The city is renowned for its excellent commuting and transportation options. Mass transit is readily available in the forms of the MetroBus and the Metro Rail. A service called Zipcar allows people to rent a car for several hours or a full day. This transportation service has multiple car locations in various neighborhoods, and has designated parking spots for these cars, typically around important Metro rail stations.

The city’s infrastructure accommodates biking with 45 miles of bicycle lanes and 1,300 sidewalk bicycle racks. Smart Bike DC and Capital Bikeshare are bike sharing services that have operated for two years in Washington. The bikes are docked at certain locations and a membership card is used to access them.

Recycling is required for all commercial establishments, which includes schools, apartment buildings, and churches. The city also has recycling bins in well-traveled public spaces. Washington, D.C. also holds an impressive number of farmer’s markets. The city is among the top pioneers in local food and agriculture.<sup>15</sup>

## IV. RECOMMENDATIONS

### A. ADOPTION OF A STANDARD

A major shortcoming in the field of sustainability is that there is no nationally accepted or regulated standard for states and cities to measure their carbon footprint or results of green investment. This was evident in the comparative analysis of the sample cities in which each of the cities used different criteria and reporting methods for their assessments. Until a national standard is set, New Orleans should formally adopt their own criterion.

A standard allows the city to set goals and track its progress long-term. A standard makes it more feasible to establish an emissions reduction target for the future and greater accountability if this target is not reached. If the same aspects are measured over a long period of time, it remains much easier to compile reports and provide data for outside comparisons. A standard measurement will make it easier for the city to justify and pass laws regulating sustainability practices.

The Carbon Footprint Report published by the City of New Orleans in July 2009 delivered a comprehensive overview of the city's CO<sub>2</sub>e emissions, both by municipal and community sources. The release of greenhouse gases from the city was measured by tons of carbon dioxide equivalent. The release of these gases was divided by type and source.<sup>16</sup> Such a measurement allows New Orleans to identify which sectors need the most improvement. New Orleans should legally adopt this measurement to guarantee the continuation of this type of data and analysis.

### B. RECYCLING AND SOLID WASTE DIVERSION

After Hurricane Katrina, New Orleans lost its curbside recycling program. Phoenix Recycling of New Orleans and SDT Waste and Debris Services provide private recycling for New Orleans citizens who agree to pay a monthly fee of \$15 or an annual fee of \$150. Phoenix Recycling has gained about 5,300 customers across the metro region since its service began in 2007. The only public recycling program New Orleans currently has is drop-off recycling in which citizens can take recyclables to a drop-off site in only a few locations within the city. The drop-off sites have specific hours and do not make it easy for individuals to recycle, especially if they lack transportation. While other cities deplete more than half of their total waste from city landfills through recycling, green waste and composting programs, almost all of New Orleans' solid waste goes directly into landfills.

At the end of February 2011, Mayor Mitch Landrieu announced new contracts with two companies that would renew curbside recycling in the city. The recycling program is expected to go into full effect by June 2011. Citizens can request black recycling bins for their homes that will be picked up on a weekly basis.<sup>17</sup> This is a major step in the right direction for New Orleans.

The Environmental Protection Agency reported that municipal solid waste recycling alone saved nearly 183 metric tons of CO<sub>2</sub>e in 2006 (throughout the United States).<sup>18</sup> In this vein, City Hall of New Orleans has also started recycling. The city should now require that all municipal

facilities establish recycling in the near future, possibly setting a deadline for 2013. Commercial buildings should be encouraged, and eventually required, to recycle as well. A law similar to Austin’s Universal Recycling Ordinance would complete this goal.

The city should also consider recycling bins in public, well-traveled areas. Areas like the French Quarter and the Central Business District, where both citizens and tourists travel on foot, would benefit from recycling bins as they would cut down on the amount of solid waste being sent to landfills as well as litter on the street.

The city should encourage composting by businesses and private individuals. The table below shows the solid waste produced by the city by type. Much of this could be composted (if not recycled).

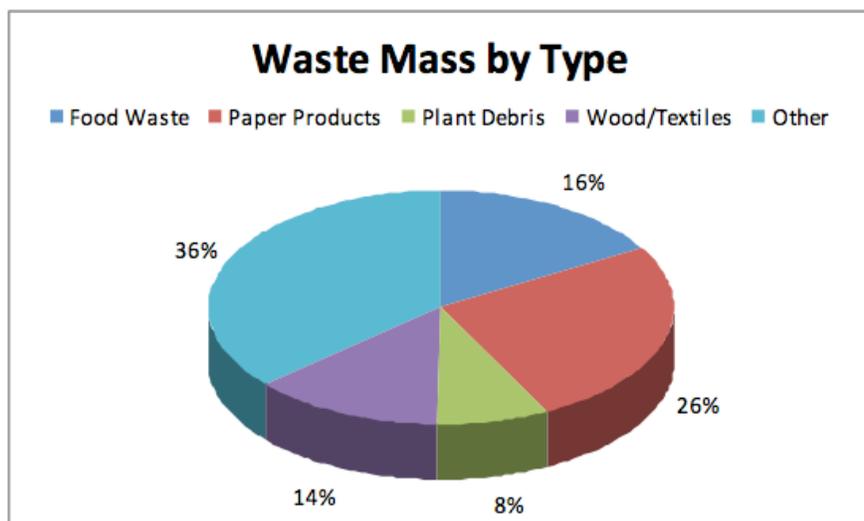


Figure 11: Waste Mass by Type of Waste

Composting, like recycling, reduces the amount of material going into landfills. Decaying garbage emits methane, which is considered twenty-one times as potent as carbon dioxide. The city could eliminate even more methane gas by installing a methane capture system in its landfills.

### C. GREEN LEED BUILDINGS

New Orleans needs to invest in more energy efficient buildings. In the United States, buildings consume 39% of the energy and 74% of the electricity produced each year. Energy efficient buildings would cut down on greenhouse gas emissions and save the community money in utility usage. The city should amend its building code to establish mandatory green building standards for future construction. The Leadership in Energy and Environmental Designs developed by the U.S. Green Building Council provides excellent guidelines. The U.S. Green Building Council’s own headquarters is an example of the green potential of these buildings. The Headquarters building eliminates up to 50% of energy use, 40% of water use, and 95% of waste salvaged from being dumped in landfills.<sup>19</sup>

LEED certifications are available for three different levels of sustainability. Certifications are available for schools, residential, commercial, and pre-existing buildings. Certification guidebooks are relatively inexpensive to purchase. The price increase in building a LEED certified building varies with different types of construction and the certification level. The average cost is somewhere around a 5% increase, and the majority is under a 10% increase.<sup>20</sup> Objections from contractors and construction companies to any green regulations can be countered with the future lower operating costs of the building and higher future capital value.

The city should convert inefficient features, like lights and toilets, of its municipal buildings to more environmentally friendly models. Future construction and major renovations should be LEED certified. The city should also consider the benefits of green demolition in any future projects.

#### D. LOCAL FOOD AND AGRICULTURE

The local production of food and agriculture should be encouraged by the city of New Orleans. When food is manufactured, transported, and sold, large amounts of greenhouse gasses are emitted. Local food requires less material for storage because it does not need to be shipped across the country. Local agriculture allows cities and communities to become more self-sufficient and circulates money back into the regional economy. Farmer's market revenues are re-spent locally throughout the region. Sustainable agriculture involves food production methods that are healthy, do not harm the environment, respect workers, humane to animals and give fair wages to farmers.

To encourage the growth of local industry, the city should remove zoning barriers to urban gardens. New Orleans should consider the establishment of community gardens on blighted and abandoned property. Partnerships with private organizations that strive to provide local agriculture for lower-class neighborhoods would greatly benefit the city and its residents. The New Orleans Food and Farm Network (NOFFN) works with individuals, organizations and growers to support sustainable growing practices. NOFFN has worked with lower-class parts of New Orleans, such as Hollygrove, to improve quality of food and life for citizens through engagement in the local food and agriculture industry.<sup>21</sup>

Continued support for programs like the Fresh Food Retailer Initiative will nurture the growth of local agriculture. The FFRI program awards grants and loans to organizations like the NOFFN and local businesses that wish to improve the availability of local food.

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<sup>1</sup> Moore.

<sup>2</sup> <http://www.census.gov/>

<sup>3</sup> Sustainable Atlanta

<sup>4</sup> [http://www.atlantaga.gov/mayor/energyconservation\\_sustainabledesign.aspx](http://www.atlantaga.gov/mayor/energyconservation_sustainabledesign.aspx)

<sup>5</sup> <http://www.energystar.gov/>

<sup>6</sup> <http://www.sustainableatlanta.org/>

<sup>7</sup> <http://www.atlrecart.org/>

<sup>8</sup> [http://www.atlantaga.gov/media/nr\\_zero\\_wastezone\\_021411.aspx](http://www.atlantaga.gov/media/nr_zero_wastezone_021411.aspx)

<sup>9</sup> <http://www.census.gov/>

<sup>10</sup> <http://www.ci.austin.tx.us/acpp/default.htm>

<sup>11</sup> [http://www.ci.austin.tx.us/site/environmental\\_portal.htm](http://www.ci.austin.tx.us/site/environmental_portal.htm)

<sup>12</sup> District of Columbia: Greenhouse Gas Emissions Inventory

<sup>13</sup> <http://www.energystar.gov/>

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<sup>15</sup> <http://www.green.dc.gov/green/cwp/view,a,1231,q,463333.asp>

<sup>16</sup> Moore.

<sup>17</sup> [www.nola.com](http://www.nola.com)

<sup>18</sup> Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices

<sup>19</sup> <http://www.usgbc.org>

<sup>20</sup> Miller

<sup>21</sup> New Orleans Food Policy Advisory Committee