City of Atlanta Climate Action Plan

Local Actions and Policies for Reducing City of Atlanta's Greenhouse Gas Emissions

City of Atlanta

Mayor's Office of Sustainability

March 12, 2015

This document was elaborated using the **Statewide Energy Efficiency Collaborative** (SEEC) template. SEEC is an alliance to help cities and counties reduce greenhouse gas emissions and save energy. SEEC is a collaboration among three non-profit organizations and California's four Investor Owned Utilities.

SEEC members are:

- ICLEI-Local Governments for Sustainability USA
- Institute for Local Government
- Local Government Commission
- Pacific Gas and Electric Company
- San Diego Gas and Electric Company
- Southern California Edison Company
- Southern California Gas Company

The City of Atlanta Mayor's Office of Sustainability identified and contacted experts for each focus area described in this document to participate in a Technical Steering Committee. The goal of the Technical Steering Committee is to provide advice for each of the strategies selected. The final list of Climate Action strategies will be submitted to the Atlanta City Council for adoption. Experts from the following organizations have been invited to participate in the Technical Steering Committee:

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2015

Credits and Acknowledgments (TBD)

[Local Government Officials]

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[External Agencies and Partners]

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[Community Stakeholders]

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Introduction

The City of Atlanta is joining an increasing number of local governments committed to addressing climate change at the local level. The City of Atlanta recognizes the risk that climate change poses to its citizens, and is acting now to reduce the greenhouse gas (GHG) emissions, or "carbon footprint", of both its government operations and the community at-large through the innovative programs laid out in this Climate Action Plan. Ultimately, local action is needed to reduce the City of Atlanta's contribution to the problem of climate change and adapt to its current and future effects. This Climate Action Plan takes advantage of common sense approaches and cutting edge policies that our local government is uniquely positioned to implement – actions that can reduce energy use and waste, create local jobs, improve air quality, preserve our local landscape and history, and in many other ways benefit the City of Atlanta for years to come.

Purpose, Scope, and Process Behind the Climate Action Plan

Purpose

By creating a clear course of action so that everyone can have a role in creating and achieving climate and sustainability goals, our Climate Action Plan drives and coordinates local efforts toward a reduction in GHG emissions of 2009 levels by 20 percent in 2020 and 40 percent below 2009 emission levels by 2030.

The Climate Action Plan is a framework for the development and implementation of actions that reduce City of Atlanta's GHG emissions. The Plan provides guiding objectives and strategies to realize City of Atlanta's GHG reduction goal.

Scope

This Plan covers objectives and strategies for GHG emissions resulting from local government and community-wide activities within the City of Atlanta. It addresses the major sources of emissions in the City of Atlanta, and sets objectives and strategies in four focus areas that both the City of Atlanta and community can implement together to achieve greenhouse gas reductions:

- Reduce energy consumption in commercial buildings in 20% by 2020 and 40% by 2030
- Reduce energy consumption in residential buildings in 20% by 2020 and 40% by 2030
- Reduce GHG emissions produced by transportation in 20% by 2020 and 40% by 2030
- Increase waste diversion rate to landfills up to 80% by 2020

The plan also creates a framework for documenting, coordinating, measuring, and adapting efforts moving forward.

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Process

Beginning in 2010, the Atlanta Mayor's Office of Sustainability organized several sessions with city stakeholders that included the participation of more than 300 individuals representing neighborhoods, schools, business, community organizations, and government agencies.

During the programmed sessions, stakeholders prioritized the 10 impact areas and their respective mediation goals using a sustainability matrix. The 10 impact areas are compiled in the Powert to Change initiative, which is summarized in the following page. The impact areas are the following:

- Transportation and Mobility
- Energy Efficiency and Renewables
- Air quality
- Materials Magagement and Recycling
- Water Management
- Land Use
- Community Health and Vitality
- Education
- Sustainability Planning, and
- Growing Business

Once the 10 impact areas and mediation goals were prioritized, the Atlanta Mayor's Office of Sustainability convened several additional sessions with stakeholder groups and experts to validate the 10 impact areas and discuss possible metrics required for each of the areas.

Some of the identified impact areas such as Transportation and Mobility, Energy Efficiency and Renewables, Air Quality, Material Management, and Land Use, have a direct effect on GHG emissions. While the City of Atlanta has already begun to reduce greenhouse gas emissions through a variety of actions identified in Power to Change Impact Areas, this Climate Action Plan is a critical component of a comprehensive approach to reducing City of Atlanta's emissions. This method, developed by ICLEI, is called the Five Milestones for Climate Mitigation. The milestones are:

Milestone One: Conduct a baseline emissions inventory and forecast

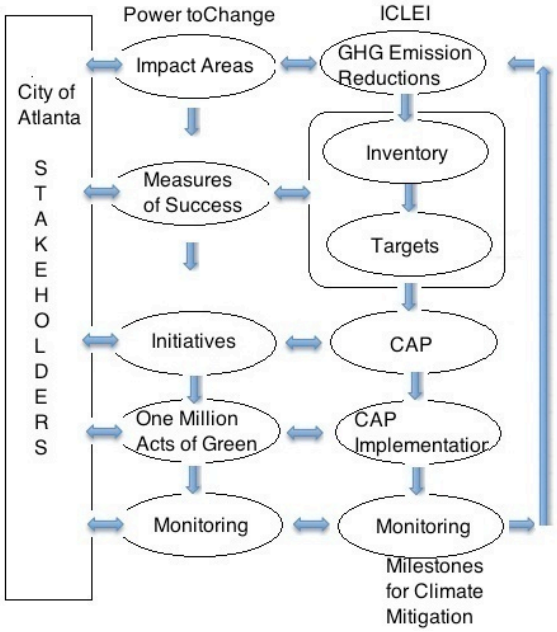
Milestone Two: Adopt an emissions reduction target for the forecast year

Milestone Three: Develop a local climate action plan

Milestone Four: Implement the climate action plan

Milestone Five: Monitor progress and report results

The following diagram shows the correlation between the Power to Change initiatives and ICLEI Milestones for Climate Mitigation:



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Atlanta's 10 sustainability impact areas

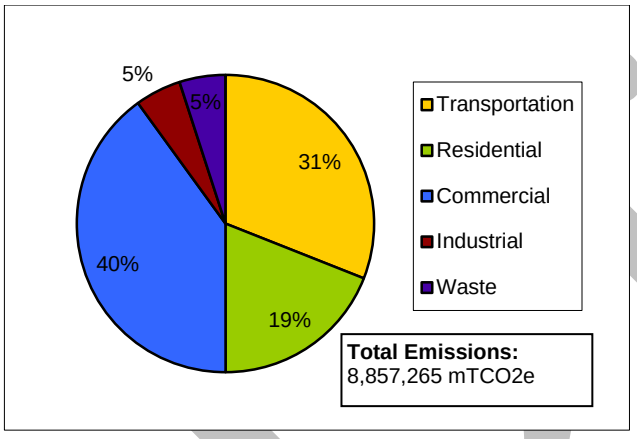
power to change

		goals	priorities
Economic	GROWING BUSINESS	Improve business knowledge of resource use while also accelerating job and economic growth to enhance the City of Atlanta's competitive position within the globalized economy.	**Strong Economy** Competitive economy Sustainable products & services Sustainable operations Business creation Business retention
Economic	SUSTAINABILITY PLANNING	Institute sustainable development through participatory planning. To balance growth with environmental stewardship by collaborating with diversified stakeholders and learned experiences.	**Participatory Planning** Parallel collaboration Strategic perspectives Incremental changes Social connectedness Sustainable operations
Environmental	MATERIALS MANAGEMENT & RECYCLING	Create environmental and economic value to residents and businesses by using less resources and diverting valuable materials from our landfills.	**Sustainable Resource Use** Rethinking purpose Lifecycle management Waste reduction Reuse of valuables Recycling
Environmental	ENERGY EFFICIENCY & RENEWABLES	Reduce energy use through conservation, efficiency best practices, and through the deployment of renewable systems.	**Retrofit & Innovate** Energy efficiency Sustainable site design Alternative fuel access Affordable renewable technologies Energy management
Environmental	WATER MANAGEMENT	Increase watershed protection and preservation practices so that all Atlantans have access to a sufficient supply of clean, healthy water.	**Protect & Conserve** Watershed planning Water security Stormwater management Water quality Water conservation
Environmental	LAND USE	Develop land use policies and programs designed to protect greenspace, sustain our tree canopy, bring brownfields back into productive use, and enhance community livability.	**Smart Growth** Neighborhood revitalization Convenient recreation access Complete communities Robust habitats Cleanup & restoration
Environmental	TRANSPORTATION & MOBILITY	Provide access to safe, efficient and sustainable transportation choices for Atlantans to reach employment, goods and services, and recreational activities.	**Connectivity** Infrastructure improvements Regional planning Non-motorized transit Safe, easy & convenient travel
Social	AIR QUALITY	Improve our regional air quality and foster the improvement of indoor air quality throughout the city.	**Healthy, Breathable Air** Clean commuting Emissions reduction Regional planning Cleaner fuels Green infrastructure
Social	EDUCATION	Provide educational opportunities for all Atlantans to see how far the community has come as well as demonstrate what work remains in creating a more sustainable Atlanta.	**Communitywide Awareness** Public engagement Information access Open creativity Diversity & inclusion Leveraging resources
Social	COMMUNITY HEALTH & VITALITY	Maximize the health and well-being of the community, providing access to affordable sustainable housing choices, nutritious food and efficient transportation.	**Healthy Neighborhoods** Local & healthy food Walkable communities Localized economy Strong, safe neighborhoods Valuable properties

City of Atlanta's GHG Emissions

Through the completion of a local emissions study, or greenhouse gas inventory, the City of Atlanta has determined emissions levels for the community as a whole and for City of Atlanta's government operations. Community-wide emissions represent the sum total of emissions produced within the City of Atlanta limits as well as emissions resulting from electricity use within the jurisdiction, even if said electricity is generated elsewhere. In this way, the community-wide figures represent all emissions for which the community is responsible.

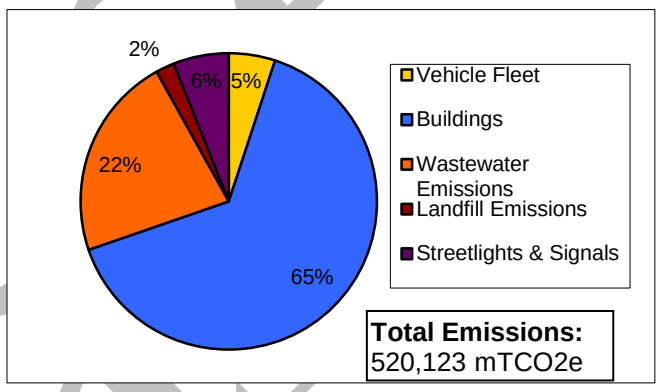
2013 GHG Emissions City of Atlanta Community-Wide



Emissions from the City of Atlanta are embedded within the community-wide totals. For example, emissions from government buildings are included in the commercial sector, and emissions from the City of Atlanta fleet vehicles are included in the transportation figure above. Government operations are therefore a subset of total community emissions.

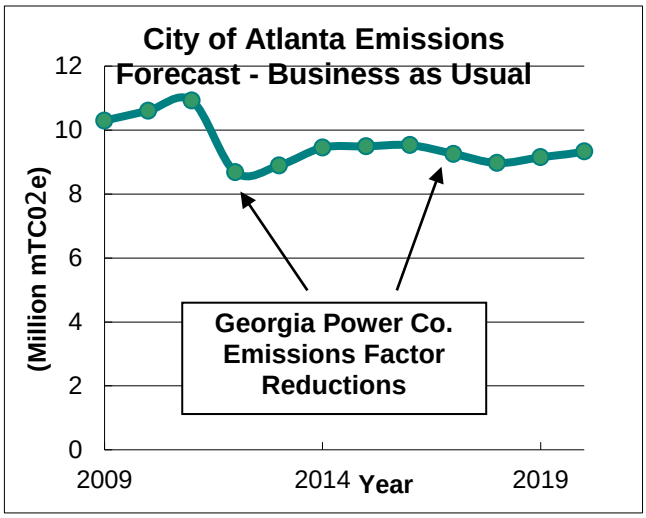
Government emissions include all sources for which the local government exercises direct operational control, including wastewater services, landfills within the city limits (now closed to the public but still sources of GHG emissions), and streetlights.

2013 GHG Emissions - City of Atlanta Operations



The City of Atlanta has also completed an emissions forecast based on projections of current data and expected future trends using the 2013 Georgia Power Integrated Resource Plan (IRP). The emissions forecast is a "Business As Usual" forecast, a scenario estimating future emissions levels, if no further local actions are taken beyond utility plans. The forecast indicates that if we do not take action, GHG emissions will continue to increase regardless of the reductions in emissions by the utility company - Georgia Power. The main factors considered for the expected increase in emission are the increase in population and a consequent increase in the commercial sector.

Projected Growth in GHG Emissions

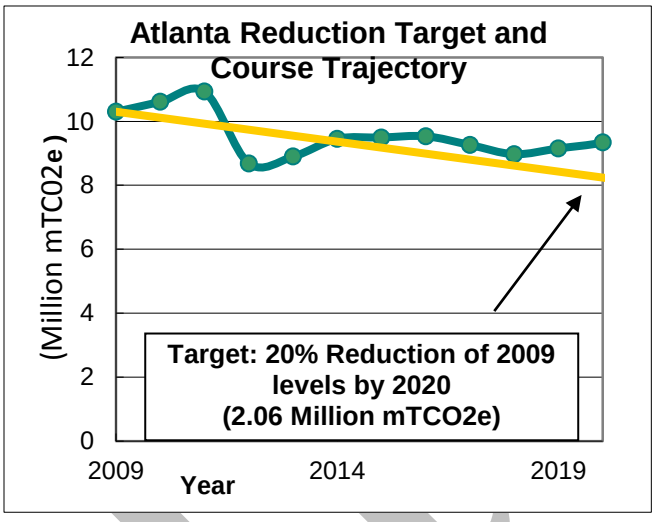


For complete information regarding the 2013 citywide emissions inventory, including methodology and supporting data, please reference to City of Atlanta Emissions Inventory Report located at: http://p2catl.com/publications/2013-greenhouse-gase-ghg-inventory/

City of Atlanta's GHG Reduction Target

The City of Atlanta has set targets to reduce its emissions to 20 percent below 2009 levels by 2020, and 40 percent below 2009 levels by 2030. The combinations of measures that the City of Atlanta has already implemented or has currently planned, and are presented through this Climate Action Plan, are designed to achieve the 2020 targets. The total increase or reductions in emissions by sectors rely on the best information currently available pertaining to population forecasts, future changes to building codes, and vehicle fuel efficiency standards, among other information.

Emissions Reduction Target



The City of Atlanta's targets are consistent with suggested national and international agencies, or proposed in federal legislation. Most local governments have a priority target of 15-25% below 2005 levels by 2020. Targets proposed via federal legislation have sought reductions of 17-20% below 2005 levels by 2020. Almost all sources recommend a reduction of 80% by 2050. The City of Atlanta anticipates being ahead of these short-term recommendations as well as being in line with middle-term recommendations via this Climate Action Plan.

City of Atlanta's Climate Action Plan

In the next chapter we will identify the focus areas within the City of Atlanta Climate Action Plan, the number of strategies within each focus area, and the contribution of each focus area toward the GHG reduction goal. Each focus area has a dedicated section within this document where specific actions (both new and those already employed) are described.

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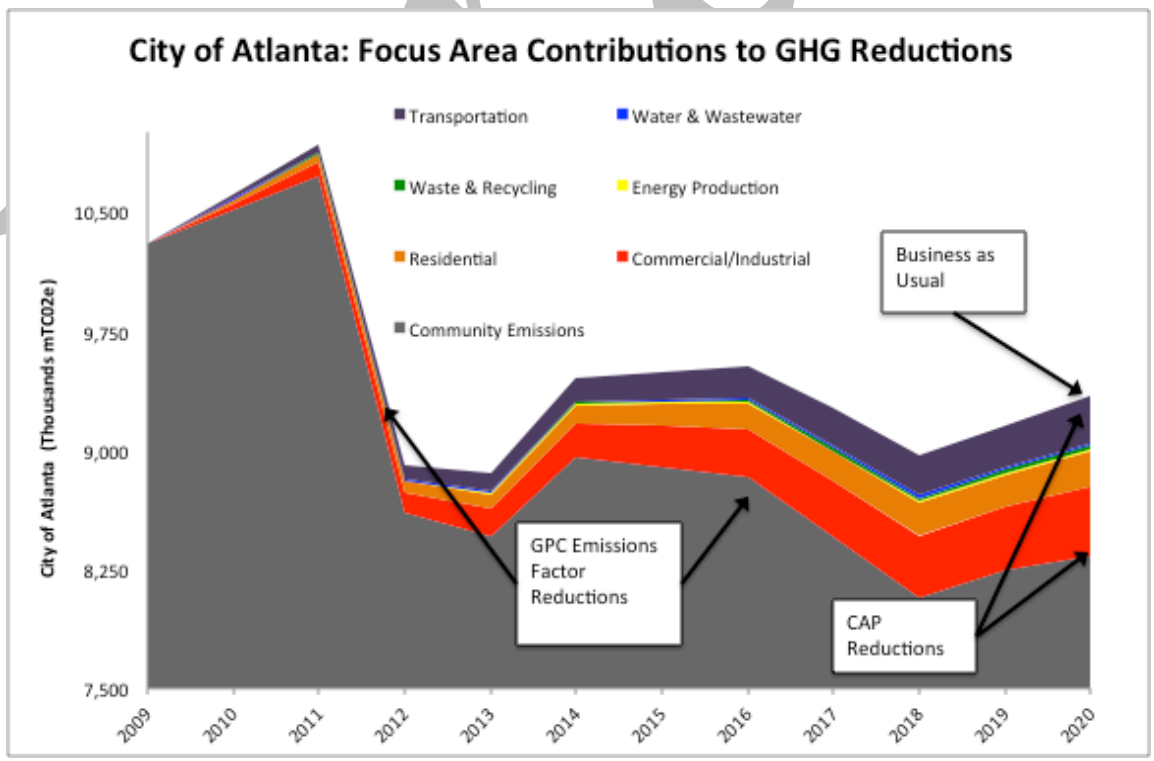
While the City of Atlanta local government cannot address climate change by itself, government policies and practices can dramatically reduce greenhouse gas emissions from a range of sources and help prepare the city for the anticipated impacts of climate change. In addition, the City of Atlanta will assist residents and businesses in their endeavors to reduce emissions through programs explained in this plan. By working together, the City of Atlanta will not only do its part toward achieving a stable climate - we will reap the benefits of healthier air, lower costs for utilities and services, improved transportation and accessibility, create a more vibrant local economy, and many other positive side effects of reducing our carbon footprint.

The Impact on Emissions

The summary figure below depicts a visualization of GHG reductions from 2009 to 2020 and the estimated impact the Climate Action Plan will have on reducing these emissions over time. The reductions are expressed in terms of the estimated impact of each focus area. Taken together, the elements of the Climate Action Plan are capable of reaching City of Atlanta's adopted reduction target – savings are projected to result in total reductions of 2.06 Million mTCO2e by 2020.

Visualizing GHG Reductions



Emissions Reduction Focus Areas

The emissions reduction for each of the focus areas within City of Atlanta's Climate Action Plan is explored in the following pages.

Commercial & Industrial Buildings
Residential Buildings
Energy Production
Waste and Recycling
Water and Wastewater Management
Transportation
Green Spaces/Food Security

In each focus area, a series of objectives with supporting strategies are explored. An *objective* is a goal, end result, or target that supports a focus area, and a *strategy* is a means of realizing the objective.

Each focus area draws on the actions of both the local government and city residents and businesses, although some areas may be largely one or the other.

Government Operations & Community Strategies

Government operations strategies are specific to the internal operations of the City of Atlanta. They apply to buildings the city owns or leases, vehicles used to provide services such as police and fire protection, the maintenance of streets and other infrastructures, recreational activities and cultural events, land use and building regulations, and solid waste collection and disposal. The City is also responsible for the water and wastewater operations and infrastructure within the city limits, and operates the worlds' busiest airport, the Hartsfield-Jackson Atlanta International Airport. Community strategies require involvement and participation from citizens. Each strategy is noted as one or both of these.

Emissions Reductions

Calculating expected emissions reductions for each objective requires making assumptions about degree of implementation, technology, and individual behavioral changes several years into the future. The uncertainty associated with these assumptions makes it difficult to assign exact reduction totals to each objective or strategy. To address this uncertainty and provide a simple, but useful, reference for reduction potential, a series of symbols and percentage ranges has been devised to represent the emission reductions associated with each objective and its strategies. Some other symbols represent the status of each of the strategies.

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Symbol	Meaning
	GHG Emissions - Small Impact: 0-50,000 mTCO2e
	GHG Emissions - Medium Impact: 50,000 to 100,000 mTCO2e
	GHG Emissions - Large Impact: > 100,000 Million mTCO2e
	Early Stage
	Moderate Stage
	Advanced Stage

Other Benefits of Climate Protection Measures

In addition to addressing climate change, measures taken to reduce greenhouse gas emissions have other important benefits. The most obvious of these is the potential for significant cost savings. In 2013, the City of Atlanta replaced all of City Hall's inefficient outdoor lighting with LEDs, reducing annual maintenance costs by $8,000 per year, electricity costs by another $8,000 per year, and abating 36 tons of GHG. Many of the measures in this plan "pay for themselves" quickly by reducing direct costs, such as fuel or energy used, and also indirect costs, such as maintenance. For instance, a "right-sized" vehicle fleet is less expensive to purchase and fuel, also in addition to being less costly to maintain.

A key strategic side-benefit of climate change mitigation activities is enhanced energy security through reduction in total demand. Climate protection measures can also spur business and job growth during the design, manufacture, and installation of energy efficient technologies. Climate change mitigation activities, particularly those related to transportation, help to clean the air by reducing vehicle emissions. Finally, mitigation activities help to engender a greater degree of choice for City of Atlanta residents. For instance, more transit options combined with transit-oriented development practices make for a more vibrant, livable community.

Many of the actions identified here to mitigate GHG emissions will also help City of Atlanta's government, businesses, and residents to adapt to a changing climate. For example, extreme and prolonged heat waves can put considerable strain on the reliability of energy delivery in peak periods, possibly leading to service disruption during times when cooling is most needed. By increasing efficiency across the City of Atlanta, such service disruptions are less likely and the city will be able to better cope with those situations.

The next tables summarize the focus areas, the number of strategies within each focus area, and the contribution of each focus area toward the GHG reduction goal.

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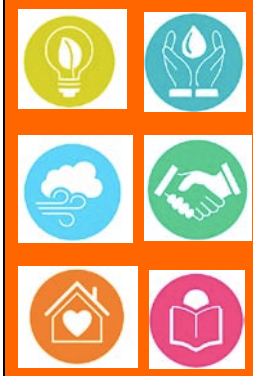
City of Atlanta Climate Action Plan Summary Table – Focus Areas

Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Commercial & Industrial Buildings: **Objectives:** **CB 1 – Benchmark, Disclosure, and Retrofit existing commercial and industrial buildings** **CB 2 – Ensure new commercial and industrial construction is built to maximize energy efficiency** **Power to Change Impact Areas:** 	- Buildings Energy Efficiency Ordinance: Bench Marking – Disclosure (BM) - Code Compliance/LEED Compliance	144,683	1.4%
	- Buildings Energy Efficiency Ordinance: Retro-Commissioning (RCx)	112,302	1.09%
	- Buildings Energy Efficiency Ordinance: Energy Audits (EA)	25,836	0.25%
	- Subsidize Energy Efficient Equipment (Tax credits/low or no-interest loans); Green loans; ESCOS	234,249	2.28%
	- Others: Cool Roofs, Sub-metering, Expand Voluntary Programs, Municipal BM/AU/RCx	172,242	1.67%
Totals		689,312	6.7%

Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Residential Buildings **Objectives:** **RB 1 –Retrofit existing Residential buildings/houses** **RB 2 – Ensure new residential construction is built to maximize energy efficiency** **Power to Change Impact Areas:** 	- Subsidize retrofits – Rebates - Awareness of tax breaks/Utility programs - Code Compliance - HERS - On Bill Financing: Georgia Power financing of EE projects	314,258	3.1%

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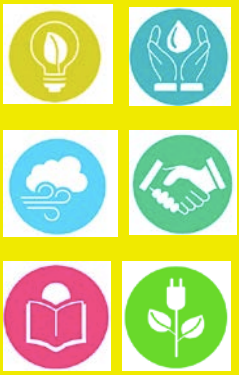
Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Energy Production **Objective:** **Produce clean local energy** **Power to Change Impact Areas:** 	- Enhance support to residents for installing small-scale renewable energy systems - Supply 10% of City of Atlanta local government electricity demand via local renewable generation	102,959	1%

Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Waste and Recycling **Objective:** **Increase diversion from landfill.** **Power to Change Impact Areas:** 	- Promote the use of the Lifecycle Building Center - Educate/Enforce Ordinance #130 – Multifamily recycling; - Educate/Promote Cartlanta Recycling Program - Continue Work with Businesses and Non-Profits to Educate/Implement Recycling Programs - Pay-as-you-Throw	66,931	0.65%

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Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Water and Wastewater Management **Objective:** **Increase efficiency in the use of water and wastewater treatment** **Power to Change Impact Areas:**	- Promote Clean Water Atlanta Initiative - Promote Water Supply and Water Conservation Management Plan 2009	602,589	6%

Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Transportation **Objective:** **Reduce emissions from transportation** **Power to Change Impact Areas:**	- Increase AFV usage and infrastructure - Reduce VMT emissions by creating congestion or emissions pricing policies: o Parking schemes o Increase attractiveness to alternatives (bicycle paths - Scooter parking) o Promote TOD	374,846	3.64%

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Focus Area, Objectives and "Power to Change" Impact Areas	Strategies	Anticipated MTCO2e Reduction by 2020 (mTCO2e)	Percentage of Total Reduction from 2009
Green Spaces/Food Security **Objective:** **Reduce emissions by optimizing green spaces and assuring local food security** **Power to Change Impact Areas:**	- Increase Urban Agriculture/Vertical Farming practices - Reduce Food Deserts - Maintain/Increase Urban Canopy		

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Commercial & Industrial Buildings

Energy consumed in commercial buildings and industrial processes account for 45% of City of Atlanta's total GHG emissions. Improving the efficiency of our commercial building stock, and reducing the energy intensity of the local industrial sector will significantly contribute to achieving City of Atlanta's greenhouse gas reduction target. This chapter focuses on opportunities to retrofit existing commercial and industrial buildings and to ensure that future activities in these sectors are compatible with our community's climate protection goals.

Objectives	Supporting Strategies	Supports Adaptation	Community/Government	Reduction Potential
CB 1 – Benchmark/Disclose and Retrofit existing commercial and industrial buildings	- BM - RCx - EA, - Subsidies - Others	Y	Both	
CB 2 – Ensure new commercial and industrial construction is built to maximize energy efficiency	- Code Compliance - LEED compliance	Y	Both	

Objective CB 1 – Benchmark/Disclose and Retrofit existing commercial and industrial buildings	
Benchmark/Disclose and Retrofit existing commercial and industrial buildings larger than 25,000 sqft to achieve a 20% reductions in energy and water use by 2020	

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Strategy CB1-BM	Require Benchmarking and Disclosure of energy use in commercial and industrial buildings exceeding 25,000 gross square feet (10,000 gross square feet for City owned facilities) by 2020	Stage
Benchmark means to input and submit the total energy and water consumed for a property located within the City of Atlanta, as well as other descriptive information for such property as required by the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager, or any additional information required by tools adopted by the Mayor's Office of Sustainability.		

According to the Institute for Market Transformation, benchmarking is the first step towards boosting building energy efficiency. According to the Institute, benchmarking can cut costs because by just knowing how much energy a building consumes, managers can begin to reduce energy consumption and save money.

Benchmarking and transparency data analysis can provide information to city officials to learn about their city's buildings. Based on this information, city officials can be more strategic when setting their priorities and allocating resources, and they can make better, faster progress toward citywide sustainability goals.

Benchmarking also support local economies because building owners may decide to upgrade their buildings, creating jobs for contractors, engineers, and other building professionals.

Strategy CB1-RXc	Retro-commissioning 50% of the existing buildings exceeding 25,000 gross square feet by 2020	Stage
Retro-commissioning means a systematic process for optimizing the energy efficiency of existing base building systems through the identification and correction of deficiencies in such systems, including but not limited to repairs of defects, cleaning, adjustments of valves, sensors, controls or programmed settings, and/or changes in operational practices.		
Retro-commissioning professional means an individual authorized to certify retro-commissioning reports. A retro-commissioning report means a document which includes (but not limited to): (a) Summary retro-commissioning report; (b) Benchmarking output; (c) Testing protocol, including a list of all equipment types tested, a list of the sample rates (percent of each type of equipment tested) for each equipment type tested, the testing methodology, including any diagnostic equipment used, and the test results, and a list of integrated system testing performed; and (d) Master list of findings, including for each, the name of the retro- commissioning measure, a brief description of the measure, recommended corrections, the benefits attained, estimated annual savings (energy and cost), the estimated implementation cost, the net present value, and the simple payback.		

Strategy CB1-EA	Require Energy Audits for buildings exceeding 25,000 gross square feet by 2020	Stage
Energy Audit or audit means a systematic process of identifying and developing modifications and improvements of the base building systems, including but not limited to alterations of such systems and the installation of new equipment, insulation or other generally recognized energy efficiency technologies to optimize energy use performance of the building and achieve energy savings, provided that such process shall be at least as stringent as or comparable to the Level II Energy Survey and Engineering Analysis of the most recent edition of Procedures for Commercial Building Energy Audits published by the American Society of Heating, Refrigerating and Air-conditioning Engineers Inc. (ASHRAE).		
Energy auditor means an individual possessing such certifications as determined by the Department to perform or directly supervise individuals performing energy audits and to certify audit reports. Until such time as there is a US Department of Energy (DOE)-recognized standard establishing qualifications for persons performing energy audits and such standard has been adopted by the Office of Sustainability, an energy auditor and any member(s) of the team that such auditor supervises shall have the certifications or qualifications as the Office of Sustainability deems to be appropriate.		

Strategy CB1-Financing	Rebates/Tax credits or lans/ Subsidizes, On-bill financing	Stage
Rebates/ tax credits/low or no interest loans/ subsidized capital to kick-start early energy efficient efforts -		
Utilize an Energy Services Company (ESCO): ESCOs conduct a comprehensive energy audit for a facility and identifies improvements to save energy. In consultation with the Owner, the ESCO designs and constructs a project that meets Owner's needs and arranges the necessary funding. The ESCO guarantees that improvements will generate energy/utility cost savings sufficient to pay for the project over the term of the contract.		
The Property Assessment Clean Energy (PACE) is a municipal program funded via issuance of public bonds or private lenders. The bounds are secured by a property lien and repaid via special property taxes (also known as Environmental Upgrade Agreements "EUA")		

Strategy CB1-Others	Other Strategies	Stage
Cool Roofs: According to the EPA, cool roofs reduced energy use by transferring less heat to the building below, so the building stays cooler and uses less energy for air conditioning. Cool roofs reduce air pollution and greenhouse gas emissions by lowering energy use, and they improve human health and comfort by reducing air temperatures inside buildings with and without air conditioning, helping to prevent heat-related illnesses and deaths.		
Sub-metering: According to the National Science and Technology Council Committee on Technology, sub-metering of buildings enables the improved performance of new and existing buildings – sub-metering provides the operations and maintenance transparency necessary to enable more efficient management of energy. In addition, sub-metering can drive behavioral change related to energy conservation.		
Expand Voluntary Programs: The Atlanta Better Building Challenge (ABBC) is the major voluntary program in which building owners and managers, with the support of government and non-profit organizations, pledge to save 20% of water and energy by 2020. This program has been extremely successful in Atlanta and should be expanded.		
Municipal BM/AU/RCx: The City of Atlanta is leading by example to reduce energy consumption and emissions thought many initiatives such as submitting buildings to participate in the ABBC and the Advanced Commercial Buildings Initiative (ACBI) designed for small buildings (< 50,000 sqft). The City committed all of its fire stations and recreational centers to the project.		

Objective CB 2 – Ensure new commercial and industrial construction is built to maximize energy efficiency	
Ensure new commercial and industrial construction is built to maximize energy efficiency and include energy efficiency measures available, such as sub-metering	

Strategy CB2-Code Compliance	**Enhance building code enforcement and compliance (i.e., sub-metering) in new commercial buildings to achieve 100% compliance by 2020**	**Stage**
According to the National Science and Technology Council Committee on Technology, sub-metering enables the improved performance of new buildings – sub-metering provides the operations and maintenance transparency necessary to enable more efficient management of energy. In addition, sub-metering can drive behavioral change related to energy conservation.		

Strategy CB2- LEED Compliance	**Require new municipal buildings to meet LEED Silver requirements**	**Stage**
Ordinance #03-0-1693, adopted in December 2003, requires all city-funded projects over 5,000 square feet, or over $2 million, to meet a LEED Silver rating level or higher. Projects exempt from this policy are required to complete a LEED checklist to assess any sustainable design techniques.		

Residential Buildings

Energy consumed in residential buildings accounts for 19% of City of Atlanta's total GHG emissions. Improving the efficiency of our residential building stock will contribute significantly to achieving City of Atlanta's greenhouse gas reduction target, while saving residents money on utility bills and reducing the need for new infrastructure. This chapter focuses on opportunities to retrofit existing residential buildings, increase the quality of new construction, and to ensure that future activities in these sectors are compatible with our community's climate protection goals.

Objective	Supporting Strategies	Supports Adaptation	Community/Government	Reduction Potential
RB 1 – Retrofit existing residential buildings and homes to achieve a 20% reduction in energy use by 2020	- **Subsidize/Rebates** - **Utility programs** - **HERS** - **On-billing Financing**	**Y**	**Both**	
RB 2 – Ensure new residential buildings and homes are built to maximize energy efficiency	- **Code Compliance**	**Y**	**Both**	

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Objective RB 1 – Retrofit existing residential buildings and homes to achieve a 20% reduction in energy use by 2020	
Retrofit existing residential buildings and homes to achieve a 20% reduction in energy use by 2020	

Strategy RB 1 – Subsidize /Rebates	Offer financing incentives for residential energy retrofits	**Stage**
Work with utilities to expand energy efficiency rebates program such as the Georgia Power Energy Efficiency Home Improvement Rebates that expired in 12/31/2012 – The program provided 50% of the cost of whole house improvements up to $2,200 and for individual improvements up to $700 (http://energy.gov/savings/georgia-power-energy-efficiency-home-improvement-rebates). Work with the State of Georgia to expand programs such as the Clean Energy Tax Credit for clean energy equipment installed and placed into service. For clean energy property installed for single-family residential purposes, the tax credit is equal to 35% of the cost of the system (including installation). The credit is subject to various ceilings depending on the type of system. A maximum of $2,500 per residence for domestic solar water heating, a maximum of $10,500 per residence for photovoltaic (PV), active space heating and wind energy systems, and a maximum of $2,000 per installation for Energy Star-certified geothermal heat pumps (http://energy.gov/savings/clean-energy-tax-credit-personal).		

Strategy RB 2- Utility Programs	Offer financing incentives for energy efficiency appliances	**Stage**
Continue working with utilities to provide economic incentives to replace inefficient appliances for efficient ones. As an example, Georgia Power Appliance program offers rebates for the replacement of room air conditioners, refrigerators, clothes washers, and freezers.		

Strategy RB 2- HERS	**Home Energy Rating System (HERS)**	**Stage**
The Home Energy Rating System (HERS) Index is the industry standard by which a home's energy efficiency is measured. It's also the nationally recognized system for inspecting and calculating a home's energy performance. Based on the results, an energy-rated home will receive a HERS Score. The HERS Index Score can be described as a sort of miles-per gallon sticker for houses. In addition to a HERS Index Score, a home energy rating also provides the homeowner an insight as to how the home ranks in terms of energy efficiency.		

Strategy RB 2- Finances	On-bill Financing	Stage
Utilize an Energy Services Company (ESCO): ESCOs conduct a comprehensive energy audit for a facility and identifies improvements to save energy. In consultation with the Owner, the ESCO designs and constructs a project that meets Owner's needs and arranges the necessary funding. The ESCO guarantees that improvements will generate energy/utility cost savings sufficient to pay for the project over the term of the contract.		
The Property Assessment Clean Energy (PACE) is a municipal program funded via issuance of public bonds or private lenders. The bounds are secured by a property lien and repaid via special property taxes (also known as Environmental Upgrade Agreements "EUA")		

Objective RB 2– New Homes	
Ensure new residential constructions are built to maximize energy efficiency and include energy efficiency measures available such as sub-metering	

Strategy RB 2- Code Compliance	Enhance residential building code enforcement and compliance in new residential buildings to achieve 100% compliance by 2020	Stage
Effective January 1, 2011, Georgia's residential energy code is the 2009 International Energy Conservation Code (IECC) with specific amendments to Georgia. Sub-metering: According to the National Science and Technology Council Committee on Technology, sub-metering of multifamily residences enable the improved performance of new buildings – sub-metering provides the operations and maintenance transparency necessary to enable more efficient management of energy. In addition, sub-metering can drive behavioral change related to energy conservation.		

Energy Production

Broadly speaking, the use of fossil fuels for energy (including electricity, heating, transportation, and other uses) is the single largest contributor to greenhouse gas emissions. In the State of Georgia, burning fossil fuel combustion supplies a considerable share of energy for electricity, heating, transportation, and other energy-producing uses. Emissions from fossil fuel combustion for energy, including transportation, represent 95% of the community's total GHG emissions. Energy Production is a cross-cutting focus area in that nearly all activities that take place in the community require energy of some sort. While Georgia Power is working to increase the percentage of electricity generated through renewable sources, opportunities also exist for citizens and the city to produce small-scale renewable energy or fuels, offsetting the need for fossil fuels. This focus area is limited to energy production exclusively – objectives and strategies that focus on end-use energy efficiency are included in other focus area. The programs and projects within this focus area are designed to spur local government and community investment in renewable energy sources including those that produce electricity, heat, and mobile fuels.

Objective	Supports Adaptation	Community/Government	Reduction Potential
EP 1 – Enhance support to residents for installing small-scale renewable energy systems	**Y**	**Both**	
EP 2 – Supply 10% of City of Atlanta local government electricity demand via local renewable generation	**Y**	**Government**	

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Objective EP 1 – Facilitating Renewable Energy Investment	
Build local small-scale renewable energy systems and capacity	

Strategy EP-1A	Encourage community partners to finance and install renewable systems on private facilities	Status
Educate/facilitate dialogue among contractors and private owners to increase renewable capacity		

Strategy EP-1B	Establish energy financing districts; offer renewable energy system financing to small commercial properties	Status
Build Financing Stakeholder Group (community local banks, buildings, finance, legal departments, utility experts); Identify financing vehicles, scope, appropriate funds/financing; Address legal barriers; Establish Program; Conduct Outreach		

Objective EP 2 – Local Government Renewable Energy	
Supply 10% of City of Atlanta local government energy demand via renewable sources	

Strategy EP-2A	Install renewable energy systems on City of Atlanta-owned facilities such that 5% of total energy demand of local government buildings is met.	Status
Install renewable energy systems on City of Atlanta-owned facilities such that 5% of total energy demand of local government buildings is met		

Strategy EP-2B	Execute renewable power purchase agreement with Georgia Power for 5% of total electricity demand of local government buildings	Status
Execute renewable power purchase agreement with Georgia Power for 5% of total electricity demand of local government buildings		

Draft

Solid Waste

City of Atlanta's solid waste is disposed outside of the city limits. Emissions from decaying putrescible material directly contribute 4% of City of Atlanta's total GHG emissions and contribute to emissions in the Transportation sector via hauling of waste to and from facilities and operating). Additionally, embodied energy within the items that we throw away might be harnessed through reuse and recycling of materials. It is in City of Atlanta's long-term interest to expand recycling facilities and enable re-use of construction materials and other goods. This chapter focuses on opportunities to reduce waste, reuse materials, and recycle what cannot be reused.

Objective	Supporting Strategies	Supports Adaptation	Community/Government	Reduction Potential
WR 1 – Building Materials Reuse	**Promote the use of lifecycle building centers to reuse building materials**	**Y**	**Both**	
WR 2 – Divert MSW from landfills (recycling program)	**A. Educate/Enforce Ordinance #130 – Multifamily recycling;** **B - Educate/Promote Cartlanta Recyclin Program** **C - Continue Work with Profits and Non-Profits to Educate/Implement Recycling Programs** **D- Pay-as-you-Through**	**Y**	**Both**	

Objective WR 1 – Reuse of Materials	
Objective	

Strategy WR-1	**Promote the use of the Building Materials Reuse Warehouse for community construction and demolition use (Lifecycle Building Center)**	**Status**
The Lifecycle Building Center is a non-profit organizations that diverts usable building materials from landfills toward opportunities for reuse (http://www.lifecyclebuildingcenter.org/)		

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Objective WR 2 – Divert MSW from landfills (recycling program)	
Divert from the landfill stream 90% of municipal and residential waste by 2020	

Strategy WR-2A	Educate/Enforce Ordinance #130 – Multifamily recycling	Status
City of Atlanta Ordinance #130 requires managers of multi-family units to provide their complex with commercial containers for the recyclables, including at the minimum the materials the City collects as part of its curbside recycling program. The location of these containers cannot in any way impede normal public right-of-ways.		

Strategy WR-2B	Educate/Promote Cartlanta Recycling Program	Status
Educate and promote City of Atlanta's Cartlanta Recycling Program consisting of: Promoting waste reduction, recommending new recycling initiatives, implementing existing waste reduction and recycling programs; and educating City employees and the general public about recycling programs and opportunities by the Recycling Ambassadors Program.		

Strategy WR-2C	Continue Work with Profits and Non-Profits to Educate/Implement Recycling Programs	Status
Maintain educational/recycling programs with profit and non-profit organizations such as Keep Atlanta Beautiful and the Captain Planet foundation.		

Strategy WR-2D	Pay-as-you-Throw	Status
In a pay-as-you-throw program, residents are charged for the collection of municipal solid waste—ordinary household trash—based on the amount they throw away. This creates a direct economic incentive to recycle more and to generate less waste. Traditionally, residents pay for waste collection through property taxes or a fixed fee, regardless of how much—or how little—trash they generate. Pay-As-You-throw (PAYT) breaks with tradition by treating trash services just like electricity, gas, and other utilities. Households pay a variable rate depending on the amount of service they use. Most communities with PAYT charge residents a fee for each bag or can of waste they generate. In a small number of communities, residents are billed based on the weight of their trash. Either way, these programs are simple and fair. The less individuals throw away, the less they pay. EPA supports PAYT because the program provides three benefits: 1. Environmental Sustainability - Communities with programs in place have reported significant increases in recycling and reductions in waste, due primarily to the waste reduction incentive		

created by PAYT. Less waste and more recycling mean that fewer natural resources need to be extracted. In addition, greenhouse gas emissions associated with the manufacture, distribution, use, and subsequent disposal of products are reduced as a result of the increased recycling and waste reduction PAYT encourages. In this way, PAYT helps slow the buildup of greenhouse gases in the Earth's atmosphere which leads to global climate change. For more information on the link between solid waste and global climate change, go to EPA's Climate Change Web site. 2. Economic Sustainability - PAYT is an effective tool for communities struggling to cope with soaring municipal solid waste management expenses. Well-designed programs generate the revenues communities need to cover their solid waste costs, including the costs of such complementary programs as recycling and composting. Residents benefit, too, because they have the opportunity to take control of their trash bills. 3. Equity - One of the most important advantages of a variable-rate program may be its inherent fairness. When the cost of managing trash is hidden in taxes or charged at a flat rate, residents who recycle and prevent waste subsidize their neighbors' wastefulness. Under PAYT, residents pay only for what they throw away.	

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Water & Wastewater Management

The City of Atlanta has three water treatment systems: The Chattahoochee Water Treatment Plant processes water directly from the Chattahoochee river; the Hemphill Water Treatment plant, processes water from a reservoir that it is filled from the river. Together these plants produce 75% of Atlanta's drinking water. The rest of the water for the city is supplied by the Atlanta-Fulton County Water Treatment Plant; this plant also processes water from the Chattahoochee River.

In 2013, the Hemphill Water Treatment Plant was recognized by the EPA as a top finisher in the third-annual Energy Star National Building Competition. The plant was recognized for reducing their energy consumption by over 40%.

During the 2010 legislative session, the Georgia General Assembly enacted the Georgia Water Stewardship Act. Key provision of the Act include:

- Require action by local governments to adopt or amend local ordinances to uniformly restrict outdoor water use for landscapes between 10a.m. and 4p.m. daily, and enforce high-efficiency flow pluming fixtures, including toilets, urinals and showerheads as well as install sub-meters in new multi-unit buildings and high-efficiency cooling towers.
- Complete annual water loss audits by systems
- Collaboration between State agencies that deal with water to enhance programs and incentives for voluntary water conservation and submit annual reports

The implementation of these measures has resulted in a decline in water consumption per capita as shown in the Figure below. Based on the trends shown, water consumption per capita between 2014 and 2020 is expected to be flat, representing savings of 10.62 Million Gallons per Day (MGD) compared to 2009 consumption. These savings in water consumption implies indirect reductions in emissions in approximately 602,589 mTCO2e.

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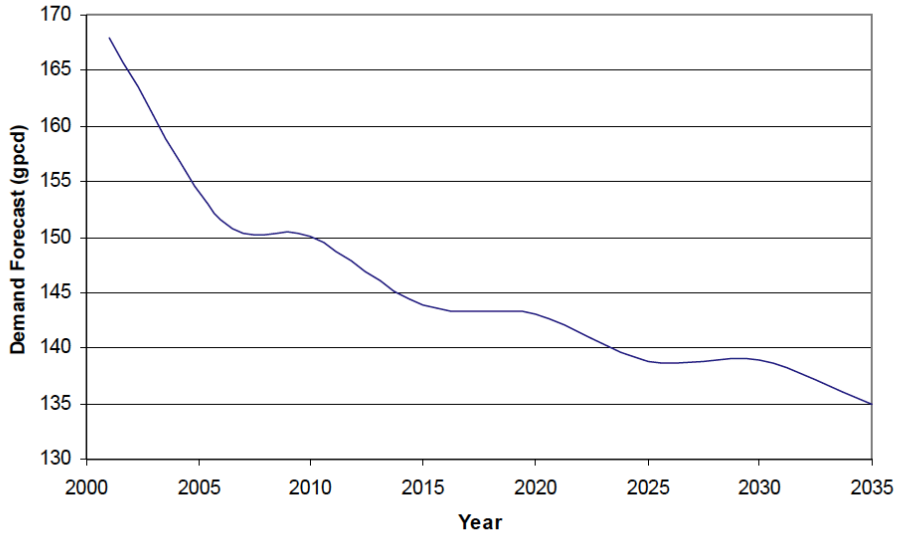
Metro Water District Overall Per Capita* Water Use Trends (2001 – 2035)



* Overall per capita = total water demand supplied by public water systems in the Metro Water District divided by the Metro Water District's population.

Source: Water Supply and Water Conservation Management Plan – 2009 – Metropolitan North Georgia Water Planning District

Objective	Supporting Strategies	Supports Adaptation	Community/Government	Reduction Potential
WW1 – Remediate water pipe leaks by 50% to reduce pumping	**1**	**Y**	**Both**	
WW2 – Reduce 20% of water consumption per capita by 2020	**19**	**Y**	**Both**	

WW 1 – Remediate water pipe leaks by 50% to reduce pumping	

Strategy WW-1A	**Upgrade the mechanical and electrical systems at [Water or Wastewater Facility]**	Status
The City of Atlanta is committed to improving its aged drinking water infrastructure by finding leaks and repairing or replacing those pipes. The Mayor's goal is to reduce system water loss from leakage by 50% (http://www.mydropcounts.org/index.php/whos-conserving/interactive-map/).		

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WW 2 – Reduce 20% of water consumption per capita by 2020	

Strategy WW-2A	Reduce Consumption Strategies	Status
The City is also focused on reducing the water demand among customers in one of the largest consumer groups – Atlanta's multifamily residential communities. This sector currently uses approximately 20% of Atlanta's daily production. Through Atlanta's new multifamily toilet rebate program older water wasting fixtures will be replaced by WaterSense toilets with the potential for saving up to 3 million gallons of water a day. The *Metropolitan North Georgia Water Planning District* was created in 2001 based on the need to regulate the use of water in the region. Its first series of plans were adopted in 2003. Updates of these plans were adopted in May of 2009 and included 19 water conservation measures as follows: o Implement conservation pricing o Implement a program to replace older, inefficient toilets o Educate food services on retrofitting with low-flow pre-rinse spray valves o Require rain sensor shut-off switches on new irrigation systems o Require sub-unit meters in new multi-family buildings o Assess water loss annually and implement program to reduce water system leakage o Provide residential water audit information to residential customers o Distribute low-flow retrofit kits to residential customers o Provide commercial water audits; target high water users o Implement education and public awareness plan o Install High Efficiency Toilets and Urinals in government buildings o Require new car washes to recycle water o Expedited Water Loss Reduction o Family HET Rebates o Point of Use Leak Detection Meters		

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o Private Fire Line Meters o Dedicated Water Conservation Programs o Water Waste Policy, and o High Efficiency Plumbing Fixtures	

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Transportation

Emissions from transportation are a common sight to nearly everyone in the City of Atlanta. Besides emitting greenhouse gases, transportation fossil fuels also produce a host of criteria air pollutants when combusted, reducing local air quality and affecting our health. Transportation accounts for 31% of City of Atlanta's total GHG emissions. This chapter focuses on programs and policies to reduce emissions from transportation and includes design-oriented approaches as well as expansion of alternate modes such as walking, biking, or public transportation to and from the most common destinations in the city.

Objective	Supporting Strategies	Supports Adaptation	Community/Government	Reduction Potential
Reduce Emissions from VMT	- **Fuel Economy Standards** - **Promote AFV purchasing** - **Provide a reliable AFV infrastructure**	**Y**	**Government**	
Reduce VMT	- **Congestion/Emissions pricing** - **Parking Pricing** - **Parking Cash-Out** - **Transit Oriented Development** - **Pedestrian Facilities** - **Transit Investment** - **Bicycle Support Strategy** - **Telecommuting** - **Compressed work weeks**	**Y**	**Government**	

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TR 1 – Reduce Emissions from VMT	
Reduce emissions from vehicles traveling through the Atlanta area by following National and regional regulations to fuel economy standards and promoting the purchase and use of Alternative Fuel Vehicles (AFV) by providing economic incentives and an adequate infrastructure.	

TR 1-A	Fuel Economy Standards	
The Corporate Average Fuel Economy (CAFE) is a federal regulation enacted to improve the average fuel economy of cars and light trucks produced and sale in the USA. CAFE standards will require increase in the efficiency of vehicles of 25% by 2020.		

TR 1-B	Promote AFV purchasing	
Atlanta is one of the largest national markets for Electric Vehicles sales thanks to economic and transportation incentives provided by the State such as a $5,000 tax credit for the purchase of a new Zero Emissions Vehicle and access to HOV lanes. Incentives of this type should be extended and promoted to encourage more drivers to purchase and drive zero emission vehicles.		

TR 1-C	Provide a reliable AFV infrastructure	
The Georgia Environmental Finance Authority offers rebates up to $40,000 to organizations interested in installing EV charging stations in the state. The city should continuo the promotion of these types of incentives to ensure that users have adequate access to an AFV charging infrastructure.		

TR 2 – Reduce VMT	
VMT in Atlanta has been increasing during the present decade from 5,663 million VMT in 2010 to an expected 6,122 million VMT by 2015; however, a new national urbanization trend is emerging across the country as young educated professionals are moving back to urban centers that offer walkability, proximity to work, and cultural density (http://www.thewire.com/national/2014/03/more-americans-moving-to-cities-reversing-the-suburban-exodus/359714/; http://www.bizjournals.com/atlanta/real_talk/2014/10/martas-transit-oriented-development-program-can.html?page=all). Strategies to reduce VMT are classified in: Pricing strategies (such as congestion and emissions pricing), parking management (such as mandatory parking cash-out), land use (such as TOD), alternative modes (such as bicycle infrastructure), and other (such as telecommuting and compressed work weeks).	

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TR 2-A	Congestion/Emissions Pricing	
This policy consists of a fee charged on motor vehicles operating within a Congestion Charge Zone (CCZ) that do not meet certain emission standards. The charge aimed to reduce congestion during rush hours and increase funds for public transit. According to a C40Cities case study, London's congestion pricing cut CO2 emissions by 16% (http://www.c40.org/case_studies/londons-congestion-charge-cuts-co2-emissions-by-16)		

TR 2-B	Parking Pricing	
Parking pricing includes increasing fees at municipal facilities or adding parking meters to previously free on-street spaces. Taxing private-parking operators can also raise the prices of parking in the region. Case studies have shown significant decrease in vehicles usage in the range of 26 to 81 percent (http://www.fhwa.dot.gov/environment/glob_c5.pdf)		

TR 2-C	Parking Cash-Out	
A mandatory parking cash-out policy would require employers who provide subsidized parking to also offer their employees the option of receiving taxable income instead of parking. By having this alternative, employees may option to receive the taxable income instead of parking. Cash-out policies may result in significant reductions in VMT such as the case of Los Angeles Central Business District. A regional example of parking cash-out is taking place in Athens, GA: http://76.12.163.89/programs/transitcommutebenefit.html		

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TR 2-D	Transit-Oriented Development (TOD)	

TOD is a pedestrian-friendly, mixed-use community infrastructure that provides access to public transportation for residents and workers. TODs provide people with options so they can choose where to live, work, play, and socialize. The Atlanta Regional Commission (ARC) in partnership with MARTA, is working to promote TOD at each MARTA station to ensure that these transit stations will have the necessary infrastructure and land uses to support planned and future TODs.

MARTA will be moving forward to partner with private developers to implement its 2015 Transit Oriented Development (TOD) strategy at Brookhaven, King Memorial, Avondale Estates and Oakland City stations.

An important strategy to develop TOD projects is to alter zoning in the city, when it is necessary, to support more mixed land use (to improve jobs-housing balance and shorten trip distances).

TR 2-E	Pedestrian Facilities	

Pedestrian-oriented measures can have an immediate effect in encouraging pedestrian activities and reducing VMT.
Connect Atlanta, the city's first Comprehensive Transportation Plan (CTP), includes guidelines for the location and design of sidewalks and other pedestrian amenities in new developments. There will also be guidelines for developed areas that reflect current land use and proximity to community facilities

http://web.atlantaga.gov/connectatlanta/

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TR 2-F	Transit Investment

Connect Atlanta, the city's first Comprehensive Transportation Plan (CTP), includes ninety-five (95) miles of rail transit and high-frequency bus transit. It also includes existing proposals to extend MARTA's West rail line to I-285 and construction of a Bus Rapid Transit line from the HE Holmes station to Fulton Industrial Boulevard and the implementation of the planned BeltLine transit facility and the Peachtree Street Streetcar. In addition the study team is proposing high-frequency bus service, streetcar and light rail lines in several other major corridors in the city.

http://web.atlantaga.gov/connectatlanta/

TR 2-G	Bicycle support strategies

Connect Atlanta, the city's first Comprehensive Transportation Plan (CTP), includes 200 miles of bicycle lanes. A core set of bicycle lanes is proposed that will link key travel corridors to activity centers; a secondary set of bike lanes will link neighborhoods. The bicycle network will be developed by restriping existing streets and by creating bike lanes as part of new construction and street widening.

http://web.atlantaga.gov/connectatlanta/

TR 2-H	Telecommuting

Despite some countervailing effects, such as exacerbating trends toward increased geographical dispersion of residents, the US DOE suggests that the net benefits of telecommuting are positive. Some additional positive effects of telecommuting are employee effectiveness and productivity, higher morale and job satisfaction, decreased absenteeism and sick time, and decrease overhead costs such as office space.

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TR 2-I	Compressed Work Hours

This program allows individuals to work more hours per day and fewer days per week. For example, working 10 hours during 4 days a week. This program can be as effective as telecommuting as workers reduce their round-trips to work.

Cross Reference Table between CAP Initiatives and ARC Transportation Study*

Objective	Supporting Strategies (CAP)	ARC Study: Recommended Goals	ARC Study: Recommended Actions
Reduce Emissions from VMT	- **Fuel Economy Standards**	Goal 3: Support the use of cleaner & more fuel-efficient vehicles and alternative fuels	- Support Federal and state investments in R&D to decarbonize transportation vehicles and fuels by 2050, not only in the U.S. but worldwide - Encourage conversion of public fleets into clean efficient vehicles - Continue to fund retrofits for cleaner diesel engines on buses, heavy-duty trucks, and locomotives - Outlaw and enforce unnecessary idling
	- **Promote AFV purchasing**		
	- **Provide a reliable AFV infrastructure**		
Reduce VMT	- **Congestion/Emissions pricing**	Goal 2: Reduce VMT by supporting alternative modes and implementing transportation pricing measures	Adopt transportation pricing policies that discourage SOV travel (congestion pricing, parking pricing, mileage-based user fees, etc.)
	- **Parking Pricing**		
	- **Parking Cash-Out**		
	-Transit Oriented Development **(Alter zoning in the city when required to support mixed land use)**	Goal 1: Promote sustainable development through integrated land use and transportation strategies	- Shift from sprawl to compact development - Continue LCI program - Increase involvement in ARC's Green Communities Program - Support development around transit stations - Promote infill development - Tie state and federal transportation funds to support sustainable development
	- **Pedestrian Facilities**	Goal 2: Reduce VMT by supporting alternative modes and implementing transportation pricing measures	Target bike/pedestrian projects in areas that will reduce number of vehicle trips. Include improvements in sidewalks, crosswalks, bicycle lanes, and lighting.
	- **Bicycle Support Strategy**		
	- **Transit Investment**		Increase safe, reliable public transportation, including higher occupancy of existing transit buses and rail vehicles.
	- **Telecommuting**		- Increase programs and incentives to maximize carpooling and vanpooling - Continue to encourage employers to adopt TDM strategies
	- **Compressed work weeks**		- Continue to encourage employers to adopt TDM strategies

*** Olivares, E. (2010). Taking the Temperature: Transportation Impacts on Greenhouse Gas Emissions in the Atlanta Region. Atlanta Regional Commission.**

Draft

Green Spaces - Food Security

Urban Agriculture in Atlanta

There are at least 85 active community and school gardens in the City of Atlanta and at least 10 urban farms. A diverse coalition of stakeholders works to build a more sustainable food system for Atlanta. These stakeholders include community organizations, nonprofits, universities, government agencies, individuals, and corporations. The Georgia Organics Organization holds bi-monthly meetings with approximately 30 to 40 stakeholders attending each meeting to build local food production and supply through comprehensive grower education and outreach programs. Georgia Organics also catalyzes demand on the consumer and business end by fostering market opportunities for local food.

Atlanta Food Deserts

Food deserts are parts of communities where residents have low access to healthy and affordable foods due to distance from supermarkets and grocery stores and low-income. According to the US Centers for Disease Control and Prevention, "limited access to nutritious food and easier access to less nutritious food may be linked to poor diets and, ultimately, to obesity and diet-related diseases."

Using the Food Desert Locator, created as part of national campaign "Let's Move", Georgia Tech [1] calculated 7,778 Atlanta residents living in a food desert (see diagram below) and 4,036 children and 705 seniors having difficulty obtaining healthy Food.

Food deserts can exacerbate GHG emissions because people living in these areas are required to travel long distances to obtain healthy and affordable food.

[1] http://arkfab.gatech.edu/content/atlanta%E2%80%99s-food-deserts

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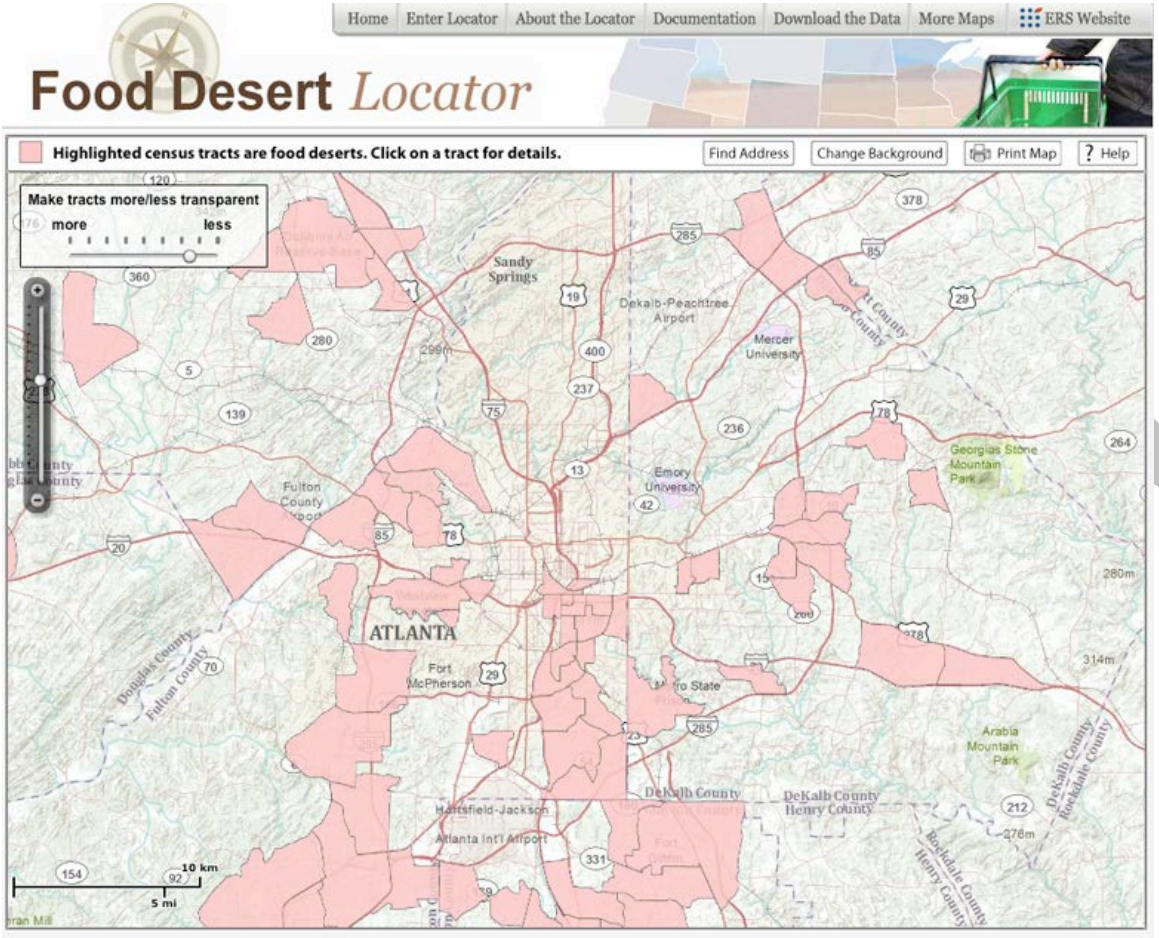

Website- USDA-ERS Food Desert Locator: www.ers.usda.gov/data/fooddesert/fooddesert.html

Objective	Supporting Strategies	Supports Adaptation	Community/Government	Reduction Potential
Increase Urban Agriculture/Vertical Farming practices	**- Urban Agr. Ordinance**	**Y**	**Both**	
Reduce Food Deserts	**- Mobile Markets**	**Y**	**Both**	
Maintain/Increase Urban Canopy	**- Tree Protection Ordinance**	**Y**	**Both**	

GA 1– Increase Urban Agriculture/Vertical Farming Practices	
Work with stakeholders including community organizations, nonprofits, universities, government agencies, individuals, and corporations to promote urban agriculture practices and vertical farming	

GA 1-A	Power to Change – Community Health & Vitality	Status
Establish at least 40 new edible gardens by 2015 and increase this number in 20% each year after		

GA 1-B	Vertical Farming Events	Status
Program workshops in which the academia and he business sector collaborate to address Atlanta's food security concerts using vertical farming alternatives		

GA 2– Reduce Food Deserts	
Develop projects to address the problem of Atlanta's food deserts.	

GA 2-A	Power to Change: Mobile Markets	Status
Work with the public and private sectors to bring local healthy food within ½ mile of 75% of all residents by 2020: http://news.medill.northwestern.edu/chicago/news.aspx?id=214221		

GA 3– Maintain/Increase Urban Canopy	
Maintain and increase the canopy of the City of Atlanta	

GA 3-A	Tree Protection Ordinance	Status
Work with the City's Community Development/Human Resources committees to ensure that the Tree Protection Ordinance is in accordance with city development to ensure that there is not net loss of tree canopy within the city limits		

GA 3-B	Work with Non-Profit / Education	Status
Work with non-profit organizations (e.g., Trees Atlanta) and with educational institutions to promote and support the planning of new trees.		

Draft

Next Steps

While some of the actions within the City of Atlanta Climate Action Plan are well underway, over the coming months, the City of Atlanta will engage with community members, businesses, institutions, and other stakeholders through a Climate Action Planning Task Force to prepare for any prerequisites or additional actions needed to begin Plan implementation.

These prerequisite actions include:

- Creating citizen advisory groups for programs that require considerable community engagement.
- Gathering bids for contracted services and equipment.
- Making necessary changes to local policies or existing programs.

Immediate Steps

- Create a Technical Steering Committee and adjust objectives and strategies according to their recommendations
- Adjust CAP with recommendations and present it to City Council for adoption
- Develop a program for the implementation of strategies
- Hold stakeholder engagement meetings and provide CAP updates (e.g., Sustainable Atlanta Round Table – SART, presentations at local Universities, etc.)

Draft

Methodology

The framework selected for this Climate Action Plan (CAP) was based on the Statewide Energy Efficiency Collaborative (SEEC) template[2]. SEEC is an alliance to help cities reduce greenhouse gas emissions and save energy. SEEC is a collaboration effort among three non-profit organizations and California's four investors Owned Utilities.

Atlanta follows ICLEI's Five Milestones for Climate Mitigation. This CAP document meets milestone three: Develop a local climate action plan.

For calculation of City of Atlanta's greenhouse gas emissions see *City of Atlanta Greenhouse Gas Emissions Inventory 2013* at:

http://p2catl.com/publications/2013-greenhouse-gase-ghg-inventory/

Projections for the City of Atlanta GHG Emissions were estimated using SEEC projections adjusted by emissions factors provided by the tool Forecasting Sustainable Energy and Environment (ForeSEE)[3]. This tool is a spreadsheet cost-benefit model developed to inform policy dialogues regarding distributed energy policy options.

City of Atlanta GHG reduction targets were selected to be consistent with suggested national and international agencies, or proposed in federal legislation. Most local governments have a priority target of 15-25% below 2005 levels by 2020. Targets proposed via federal legislation have sought reductions of 17-20% below 2005 levels by 2020. Almost all sources recommend a reduction of 80% by 2050.

Estimated reductions for commercial and industrial buildings, and energy production, were calculated using ForeSEE.

Reductions for the residential sector were estimated using Georgia Tech's version of the National Energy Modeling System (GT-NEMS)[4].

Waste and recycling reductions were estimated using projections of existing waste emissions and desired targets by 2020.

Water and wastewater reductions were estimated using existing consumption trends and projections in the "*Water Supply and Water Conservation Management Plan – 2009*" by the *Metropolitan North Georgia Water Planning District*.

Transportations reduction strategies followed guidelines by the Federal Highway Administration[5]. Reductions in VMT emissions were calculated using Atlanta Regional Commission (ARC) historical data and 2020 projections. Food security reductions were estimates using data from Georgia Organics[6].

[2] http://californiaseec.org/
[3] Cox, W. (2014). Sustaining the City- Understanding the Role of Energy and Carbon Dioxide Emissions in Sustainable Development in Major Metropolitan Areas. Georgia Tech.
[4] Brown, M., & Wang, Y. (2013). Estimating the Energy-Efficiency Potential in the Eastern Interconnection. Oak Ridge National Laboratory.
[5] U.S. Department of Transportation. (1998). Transportation and Global Climate Change: A Review and Analysis of the Literature.
[6] www.georgiaorganics.org

Draft

Brown, M., & Want, Y. (2013). *Estimating the Energy-Efficiency Potential in the Eastern Interconnection.* Oak Ridge National Laboratory.

Cox, W. (2014). Sustaining the City Understanding the Role of Energy and Carbon Dioxide Emissions in Sustainable Development in Major Metropolitan Areas. Georgia Tech.

Olivares, E. (2010). *Taking the Temperature: Transportation Impacts on Greenhouse Gas Emissions in the Atlanta Region.* Atlanta Regional Comission.

U.S. Department of Transportation. (1998). Transportation and Global Climate Change: A Review and Analysis of the Literature.

Draft