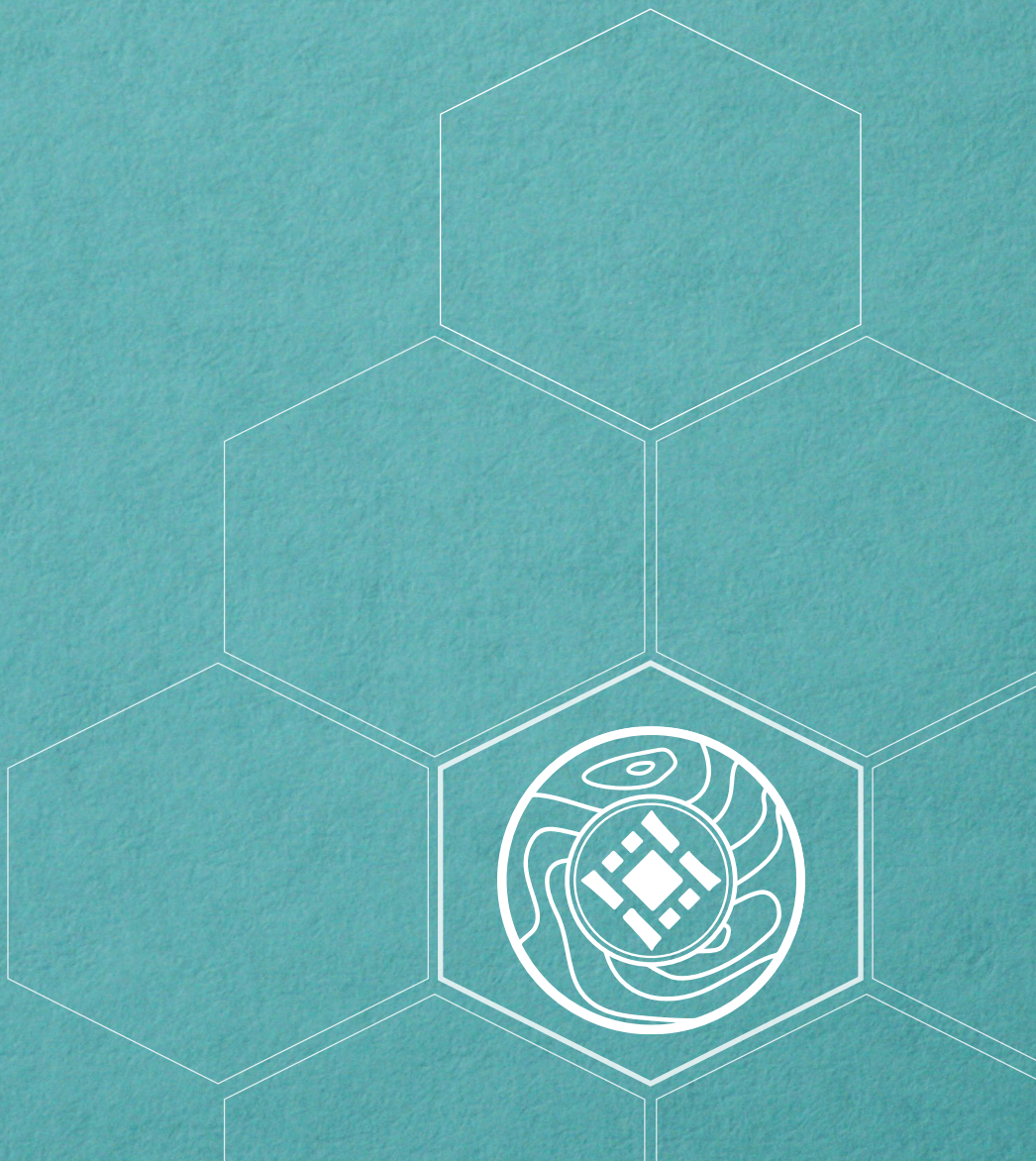
CITY OF SAVANNAH / A SUSTAINABILITY ASSESSMENT

2016

THIS BOOK AND ITS ENCLOSED PAGES CONTAIN THE SUSTAINABILITY ASSESSMENT FOR THE CITY OF SAVANNAH. THE RESULT OF ALMOST TWO YEARS OF WORK, THE SUSTAINABILITY ASSESSMEANT FEATURES A BASELINE COLLECTION OF INFORMATION THAT PROVIDES AN UPDATE ON THE PROGRESS OF BOTH THE COMPREHENSIVE SUSTAINABILITY ACTION PLAN AND A COLLECTION OF DATA FROM A WIDE VARIETY OF CITY SECTORS AND THEIR OPERATIONS.



It is in our very nature to act only when forced to do so. Marks we've made in tandem today will remain embedded in our world tomorrow. With this information in hand, we may choose more wisely.

START {WHERE} YOU ARE

Savannah, Georgia USA

32° 167” N 81° 1167” W

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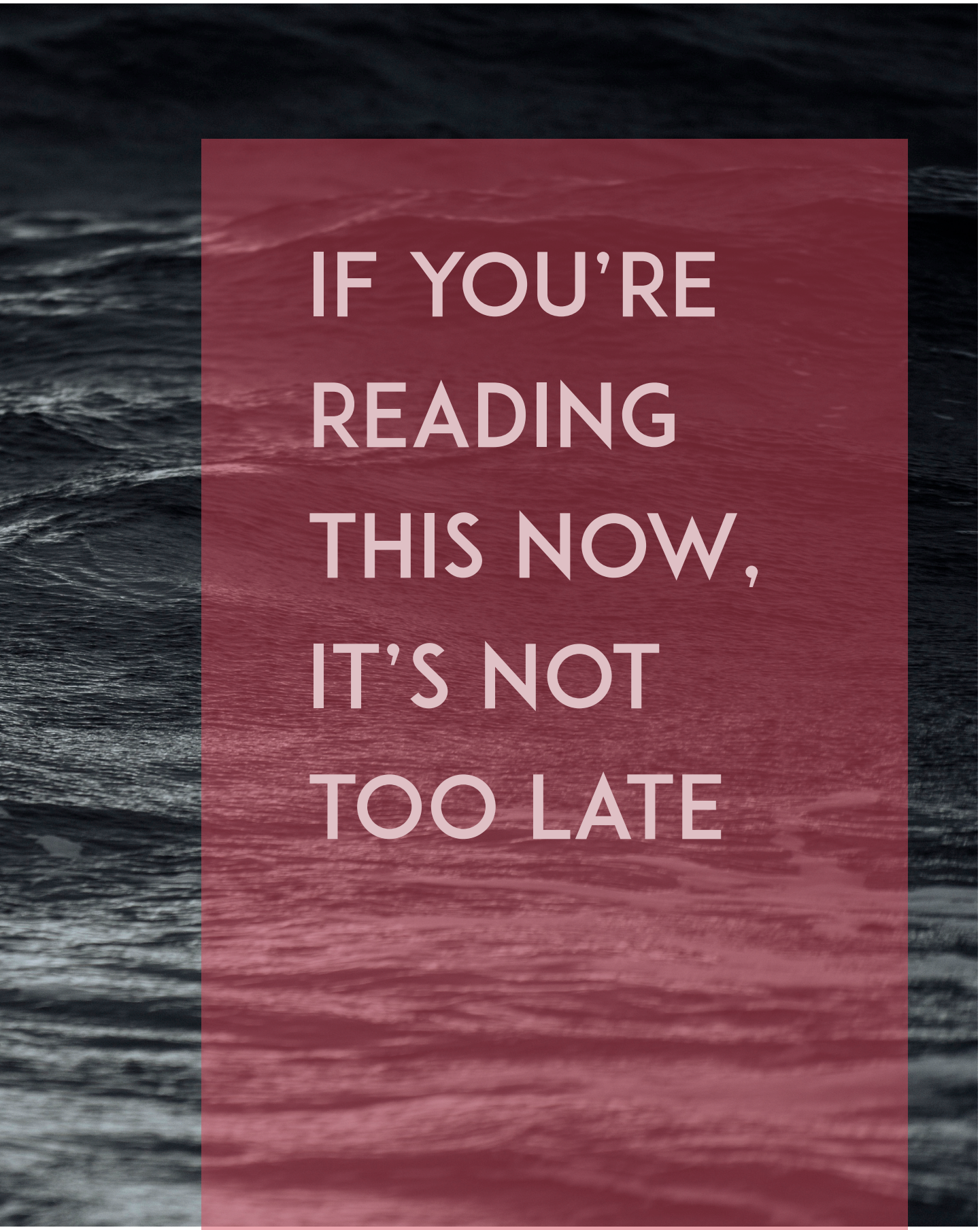
IF YOU'RE
READING
THIS NOW,
IT'S NOT
TOO LATE

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HELLO

EXECUTIVE SUMMARY

This Sustainability Assessment is a primary step towards completing the City of Savannah's larger effort to develop a Comprehensive Sustainability Action Plan (CSAP). It provides a baseline understanding of the current state of sustainability in the City of Savannah, and serves to inform our process of identifying the goals and strategies that will be included in the CSAP.

The Sustainability Assessment data includes:

• Our assessment introduces you to the purpose and background of the CSAP, including the planning framework and policy guidance that initiated this project.

• The Sustainability Assessment data includes:

o An inventory of existing sustainability efforts and metrics within the City of Savannah to determine what sustainable practices and policies are already in place and their impacts

o Feedback from City staff and community residents to understand the perceived progress of sustainability in the City

o A 2014 inventory of Greenhouse Gas emissions split out by City operations and the community to identify the areas with the greatest opportunities for emissions reduction

This Assessment provides the basis for setting our Greenhouse Gas (GHG) emission reduction targets as well as a foundation to develop our goals and strategies for moving forward with municipal and community-wide sustainability efforts. Through this effort, the City of Savannah strives to provide services that promote a healthy environment and community lifestyle for citizens, encourage community engagement, increase operational efficiency and cost savings, and conserve natural resources for current and future generations.

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PUBLIC INFORMATION OFFICE 2016

PURPOSE & BACKGROUND

The City of Savannah, through the Environmental Services & Sustainability Office, is developing a Comprehensive Sustainability Action Plan (CSAP) to guide its efforts in improving social equity, environmental quality, and economic vitality. It will focus on City operations and the community health. Developing the CSAP is a complex, multi-phase project that requires data from across many operational areas and sectors of the community. This document provides a progress report on the first phase of the planning process- conducting a sustainability assessment.

The Environmental Services & Sustainability Office role is to provide services that create and maintain a healthy environment for citizens, provides operational cost savings through environmental compliance support, and promotes resource reduction policy and community engagement. While our office has direct impact on operations through research and development of pilot projects, we also engage our business and non-profit stakeholders to achieve larger outcomes. With this directive, the primary objectives of the office are to:

- To develop, maintain, and track a City-wide plan that establishes high level goals and sustainable activities to create a greener Savannah.
- To provide technical assistance and develop pilot projects that identify cost savings, resource conservation, and promote a healthy environment.
- To assist with environmental compliance efforts in regulated activities of City operations.
- To foster a culture of community sustainability and resiliency through education, outreach and engagement.
- To develop external funding and leverage partnerships to support City sustainability goals.

This Sustainability Assessment is a baseline study that analyses our existing conditions and the current state of sustainability efforts in the city. Our analysis includes social, economic and environmental quality indicators – the triple bottom line of sustainability. Global, national, state and local policy context are also assessed to support our recommendations.

AREAS OF FOCUS

PLANNING FRAMEWORK & GUIDANCE

The primary goal of the plan is to reduce greenhouse gas emissions from government operations while assessing adaptation measures that can build a healthier, more resilient city in five major areas. Each area has corresponding indicators that measure the impact of various actions and reduction strategies on greenhouse gas emissions and community health and wellness.

The areas addressed by the plan include:

- Outreach & Education- Public education and staff trainings to support sustainability
- Water Resources- Efficient water use, water quality and stormwater management
- Transportation & Mobility- Safe and efficient fleet, transit, walking and biking infrastructure
- Built Environment & Energy- Reduced electrical, heating and cooling energy use in buildings
- Green Space & Community Health- Improved green space, healthy food access and low-impact development
- Solid Waste- Improved recycling, composting, alternative disposal and reuse options

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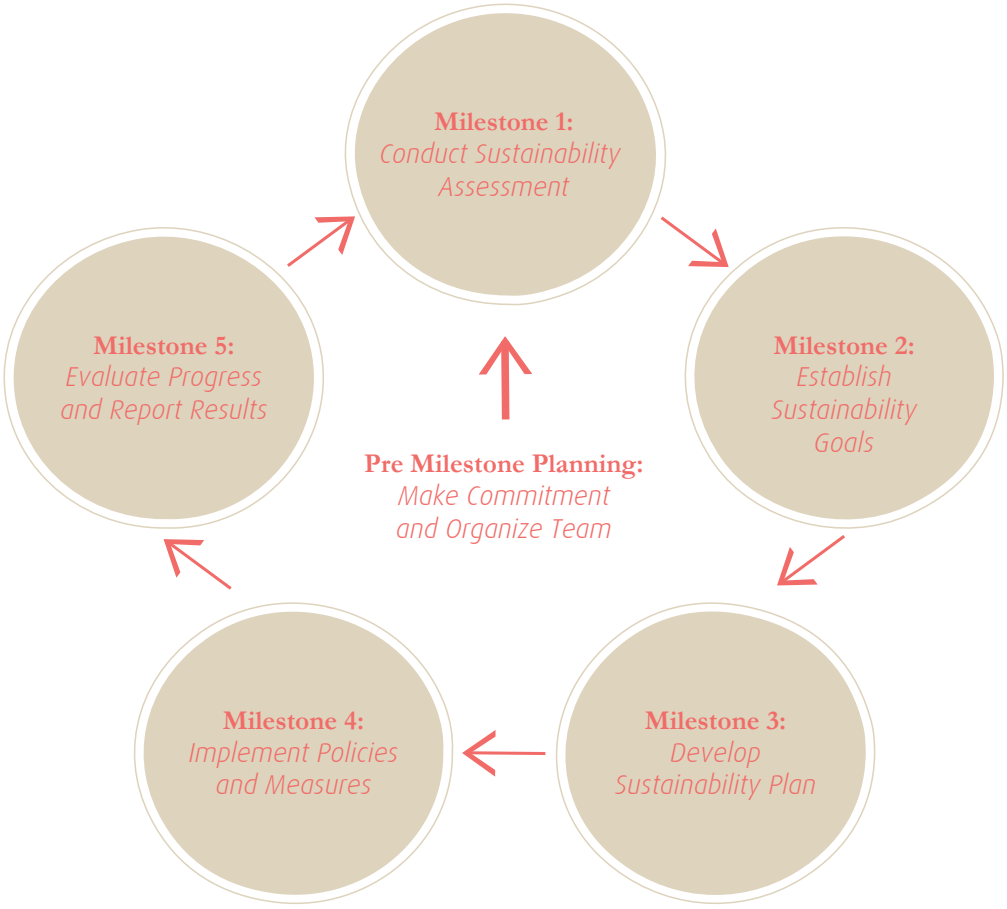
PLANNING FRAMEWORK & GUIDANCE (CONTINUED)

These five areas are consistently recognized as critical to municipal sustainability planning efforts. They are also consistent with the key areas identified by the "Greenest County in the State of Georgia" JOIN road map, developed by the Chatham Environmental Forum, which was adopted by the City of Savannah in 2008. The City is using the International Council for Local Environmental Initiatives (ICLEI) – Local Governments for Sustainability framework to guide development of the CSAP, which outlines a set of milestones in the CSAP development process, from pre-planning to evaluation and reporting results of the final plan (see image below).



In November 2015, the City of Savannah became one of the first 100 U.S. cities to officially join and commit to the Compact of Mayors. The Compact of Mayors is an international coalition of mayors and city officials pledging to reduce local greenhouse gas emissions, enhance resilience to climate change, and track their progress publicly. The City's commitment to the Compact was highlighted at the United Nations COP21 Climate Talks in Paris. Cities contribute one third of Greenhouse Gas (GHG) emissions and therefore have responsibility for reducing our impact on climate change.

L + R Photography x Carlo Stotmeister

PURPOSE & BACKGROUND

The Compact requires the following:

1. Assessment & Reporting (within 1 year):

- Inventory municipal and community-wide greenhouse gas (GHG) emissions
- Identify climate risks
- Publicly report through the Compact

2. Create Reduction Targets and Establish System of Measurement (within 2 years):

- Set reduction targets for GHG emissions by sector and operational area
- Develop a system of measurement and tracking
- Publicly report through the Compact

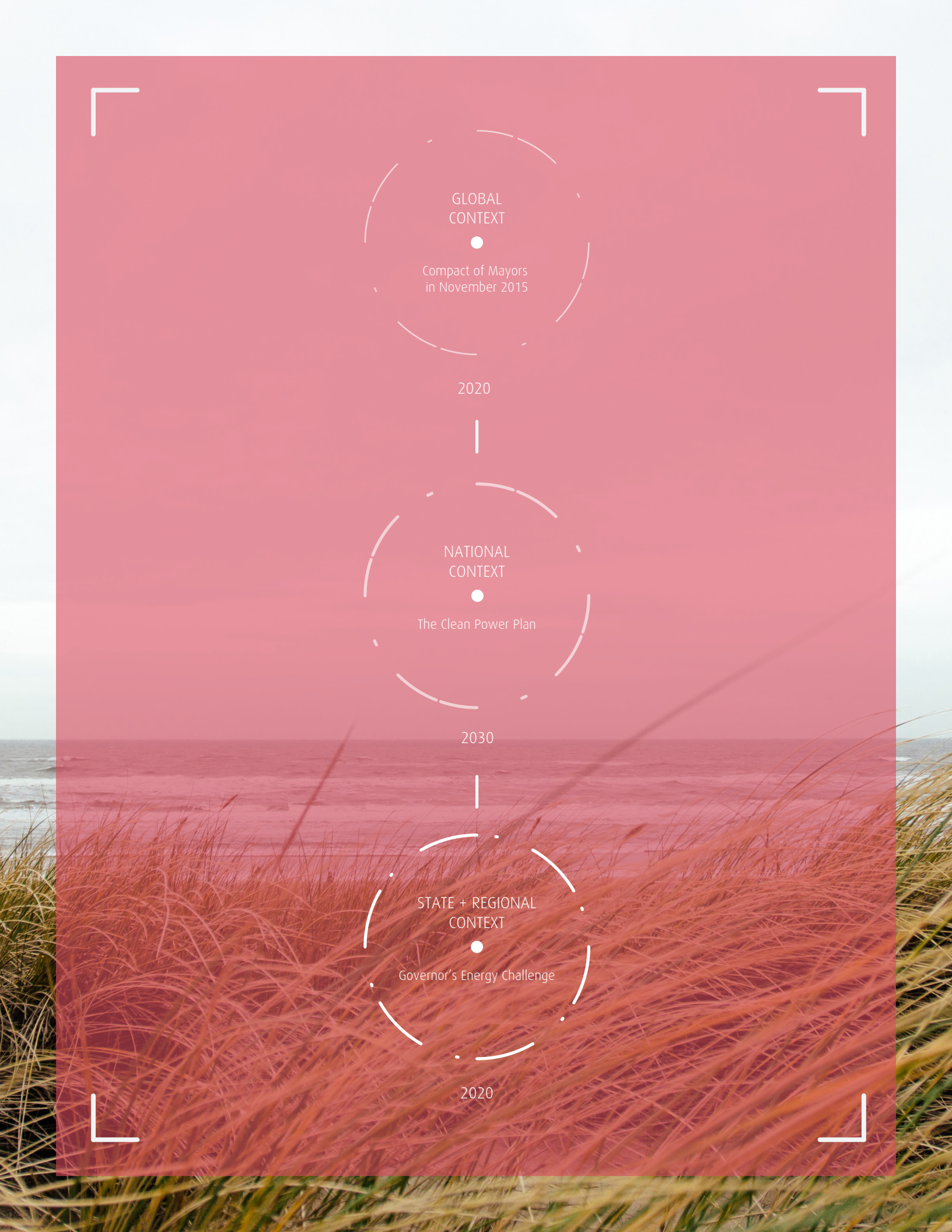
3. Establish an Action Plan (within 3 years):

- Identifies strategies and timeframe to reach emission reduction targets
- Identify strategies and timeframe to increase local climate resilience
- Publicly report through the Compact

4. Annual Progress Reporting (ongoing)

Reporting through the Compact allows the City to access data from other cities, benchmark efforts, learn new resiliency strategies that respond to the common challenges of low-lying coastal cities, and become more competitive in fostering economic investment and development opportunities.

The Pre-Milestone Planning stage was achieved by establishing the Environmental Services & Sustainability Department and charging the department to develop the CSAP. Milestone 1 includes a baseline assessment of existing sustainable policies and programs, an inventory of carbon emissions from 2014 City operations and community-wide sources, and feedback from City staff and community residents regarding the overall sustainability of Savannah and opportunity for improvement. The following is a summary of the global, national, state and regional policy initiatives that support our sustainability plan.


GLOBAL
CONTEXT
Compact of Mayors
in November 2015
2020
NATIONAL
CONTEXT
The Clean Power Plan
2030
STATE + REGIONAL
CONTEXT
Governor's Energy Challenge
2020

POLICY CONTEXT FOR COMPREHENSIVE

GLOBAL CONTEXT

Our global commitment to sustainability and climate change mitigation stems from our role as an international City and port, and our President's agenda to take action with 190 countries to limit global warming below 2 degrees Celsius change from pre-industrial levels, per the 2015 United Nations Climate Change Conference. Our commitment to the Compact of Mayors in November 2015 commits us to take action on carbon emissions tracking and targets over the next three years.

NATIONAL CONTEXT

President Obama's Clean Power Plan is one of the policy pieces that will affect state and local government's response to climate change and sustainability. If enacted, The Clean Power Plan establishes state-by-state targets for carbon emissions reductions, and it offers a flexible framework under which states may meet those targets. The final version of the rule would reduce national electricity sector emissions by an estimated 32 percent below 2005 levels by 2030, and for Georgia require emissions reductions of 34 percent below 2012 levels by 2030.

STATE AND REGIONAL CONTEXT

We know climate change will put vulnerable populations at greater risk – including the elderly, children, and people already suffering from burdensome allergies, asthma, and other illnesses. According to the Centers for Disease Control and Prevention, 8.4 percent of Georgia's adult population and 10.8 percent of children in the state suffer from asthma. In 2013, 57 million metric tons of carbon pollution were emitted from power plants in Georgia — equal to the yearly pollution from almost 12 million cars. In addition to reducing a portion of this carbon pollution, EPA's guidelines will also cut other forms of air pollution like soot and smog. Overall, these reductions will provide significant health benefits. According to the Governor's Energy Challenge, State agencies and local governments have committed to reduce energy consumption by 15 percent from 2007 levels in their facilities by 2020 as one way to curb the negative impacts of energy consumption.

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SUSTAINABILITY ASSESSMENT

The first phase of our Sustainability Plan includes:

1) An inventory of existing sustainability efforts and metrics within the City of Savannah to determine what sustainable practices and policies are already in place

2) Survey results from City staff and community residents to understand the impact and perception of sustainability initiatives in the City currently,

3) An inventory of GHG emissions from 2014 City operations by operational area and a community-wide GHG inventory to identify our greatest opportunities for emission reductions.

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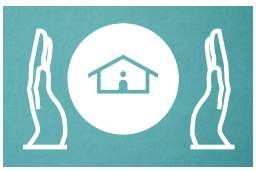


SUSTAINABILITY PLAN SECTIONS	CITY OF SAVANNAH SUSTAINABILITY EFFORTS	POTENTIAL MUNICIPAL INDICATORS
OUTREACH & EDUCATION	·THRIVE COMMITTEE ·EARTH DAY ·FOOD DAY ·SUSTAINABILITY 101 TRAINING	·NUMBER OF COMMUNITY MEMBERS REACHED ·NUMBER OF CITY STAFF TRAINED
WATER RESOURCES	·WATER RECLAMATION ·STORMWATER DESIGN STANDARDS	·MILLION GALLONS/DAY WATER USE ·MUNICIPAL 2014 GHG INVENTORY MTCO2E * ·RESOURCE EFFICIENCY SAVINGS (KWH SAVED)
TRANSPORTATION & MOBILITY	·TRUMAN LINEAR TRAIL ·FREE EMPLOYEE BUS PASS ·COMPLETE STREETS PROGRAM ·MOBILITY ADVISORY COMMITTEE	·MILES OF BIKE LANES AND SIDEWALKS ·MUNICIPAL 2014 GHG INVENTORY MTCO2E * ·RESOURCE EFFICIENCY SAVINGS (VEHICLE MILES TRAVELED SAVED OR FUEL SAVED
BUILT ENVIRONMENT & ENERGY	·SOLARIZE TYBEE PROGRAM ·ENERGY EFFICIENCY RFP DESIGN GUIDELINES ·SUSTAINABLE HUD HOUSING DEVELOPMENTS	·ENERGY KWH AND RENEWABLE ENERGY ·MUNICIPAL 2014 GHG INVENTORY MTCO2E * ·RESOURCE EFFICIENCY SAVINGS (KWH SAVED)
GREEN SPACE & COMMUNITY HEALTH	·COMMUNITY GARDEN PROGRAM ·URBAN FORESTS PROGRAM ·FLOODWAYS TO GREENWAYS ·FLOODPLAIN MITIGATION PLAN	·FOOD INSECURITY RATE % ·TREE CANOPY COVER % ·RESOURCE EFFICIENCY SAVINGS (STORMWATER RUNOFF SAVED)
SOLID WASTE	·OFFICE RECYCLING INITIATIVE ·PAPERLESS BUSINESS PRACTICES ·CURBSIDE RECYCLING ·CURBSIDE YARD WASTE COLLECTION	·RESIDENTIAL RECYCLING PARTICIPATION % ·MUNICIPAL 2014 GHG INVENTORY MTCO2E * ·RESOURCE EFFICIENCY SAVINGS (WASTE DIVERSION RATE)

* METRIC TONS OF CARBON DIOXIDE EQUIVALENT

TABLE ONE

EXISTING SUSTAINABILITY EFFORTS

A SNAPSHOT

EXISTING SUSTAINABILITY MEASURES

An inventory of existing sustainability efforts within the City has been conducted and aligned with each area of the CSAP. Corresponding indicators were identified to measure success in GHG emission reductions and community health and wellness metrics. Almost 60 existing City efforts were identified that will contribute to a sustainable Savannah. A complete inventory is in Appendix A. A summary of the various efforts identified is placed to the left.

◄

SUSTAINABILITY PLAN SECTIONS	CITY OF SAVANNAH SUSTAINABILITY EFFORTS	POTENTIAL MUNICIPAL INDICATORS
GENERAL		
DEMOGRAPHICS OF THE JURISDICTION	142,772 55.4% 38.4% 22.4% 11.7%	TOTAL POPULATION AFRICAN AMERICAN CAUCASIAN 18 AND UNDER 65 AND OVER
ENVIRONMENT		
GREENHOUSE GAS EMISSIONS	3,740,148	MUNICIPAL + COMMUNITY MTCO2E
AIR	19	MODERATE OZONE DAYS
ENERGY	6%	RENEWABLE ENERGY
WATER	17.5	MILLION GALLONS/DAY WATER USE
CLIMATE CHANGE	3MM	
TRANSPORTATION	9.1	YEARLY SEA LEVEL RISE (100 YEARS = 1 FT)
LAND USE	3,669,096	MILES BIKE LANES
WASTE	443	TRANSIT RIDERSHIP
	7,516	FEMA PARCELS
	14.59%	VACANT/BLIGHTED PARCELS
		PERCENT OF TOTAL WASTE RECYCLED
ECONOMIC		
UNEMPLOYMENT	9.2%	RATE OF UNEMPLOYMENT
BUILDINGS/ HOUSING	899	SUSTAINABLE SUBSIDIZED HOUSING UNITS
POVERTY	26.1%	POVERTY RATE
SOCIAL EQUITY		
OPEN SPACE	57%	VACANT LOTS/OPEN SPACE/PARKS
HEALTH	19.2%	FOOD INSECURE
CIVIC ENGAGEMENT	43	ACTIVE NEIGHBORHOOD GROUPS
EDUCATION	69.8%	HIGH SCHOOL GRADUATION RATE

BASED ON THE ABOVE DATA, THE CITY OF SAVANNAH HAS AN OPPORTUNITY TO ADDRESSING CHALLENGES IN THE FOLLOWING KEY GOAL AREAS: GREEN SPACE & COMMUNITY HEALTH, TRANSPORTATION & MOBILITY, SOLID WASTE, BUILT ENVIRONMENT & ENERGY, WATER RESOURCES, WITH OUTREACH & EDUCATION INCORPORATED ACROSS ALL CATEGORIES. WE WILL ALSO CONSISTENTLY MEASURE AN ENVIRONMENTAL HEALTH METRIC, GHG EMISSIONS AND ECONOMIC SAVINGS FROM EFFORTS ACROSS ALL GOAL AREAS.

TABLE TWO

KEY CHARACTERISTICS BY SECTOR

A SNAPSHOT

KEY CHARACTERISTICS BY SECTOR

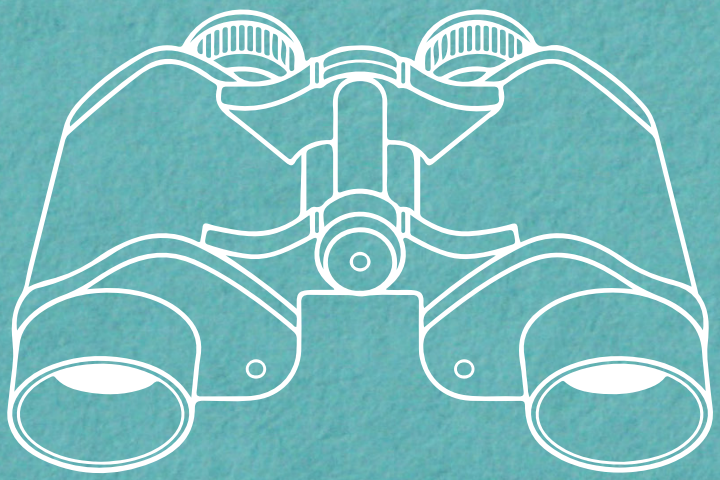
To the left in Table 2 is a list of the key City characteristics by sector. These indicators were chosen given their relative importance in tracking the success of our goals outside of GHG emissions

Based on the above data, the City of Savannah has an opportunity to addressing challenges in the following key goal areas: Green Space & Community Health, Transportation & Mobility, Solid Waste, Built Environment & Energy, Water Resources, with Outreach & Education incorporated across all categories. We will also consistently measure an environmental health metric, GHG emissions and economic savings from efforts across all goal areas.

USE {WHAT} YOU HAVE

The Perspectives of The People

32° 167” N 81° 1167” W



NATURE IS A LIFE-CHANGING CONCEPT. LEARNING THE NATURE OF PEOPLE IS SOMETHING ENTIRELY DIFFERENT.

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SURVEYS

SURVEY RESULTS

In 2015 and 2016, we received 364 survey responses from City staff and community members through events and neighborhood meetings. The survey covered common environmental behaviors, opinions on current City operations and opportunities for sustainability, efficiency and cost savings. Preliminary data on a few key questions relevant to our sustainability assessment are illustrated below. Our methods included visiting over 8 neighborhood meetings spread throughout the Aldermanic districts, and attending community events like the Forsyth Farmers Market, Earth Day, Food Day and the Home & Garden show to get community input for the plan. Baseline information was provided at all events to inform citizens of our current policies and practices related to sustainability. The graphs below show how sustainable City staff and community residents feel that the City's operations are:

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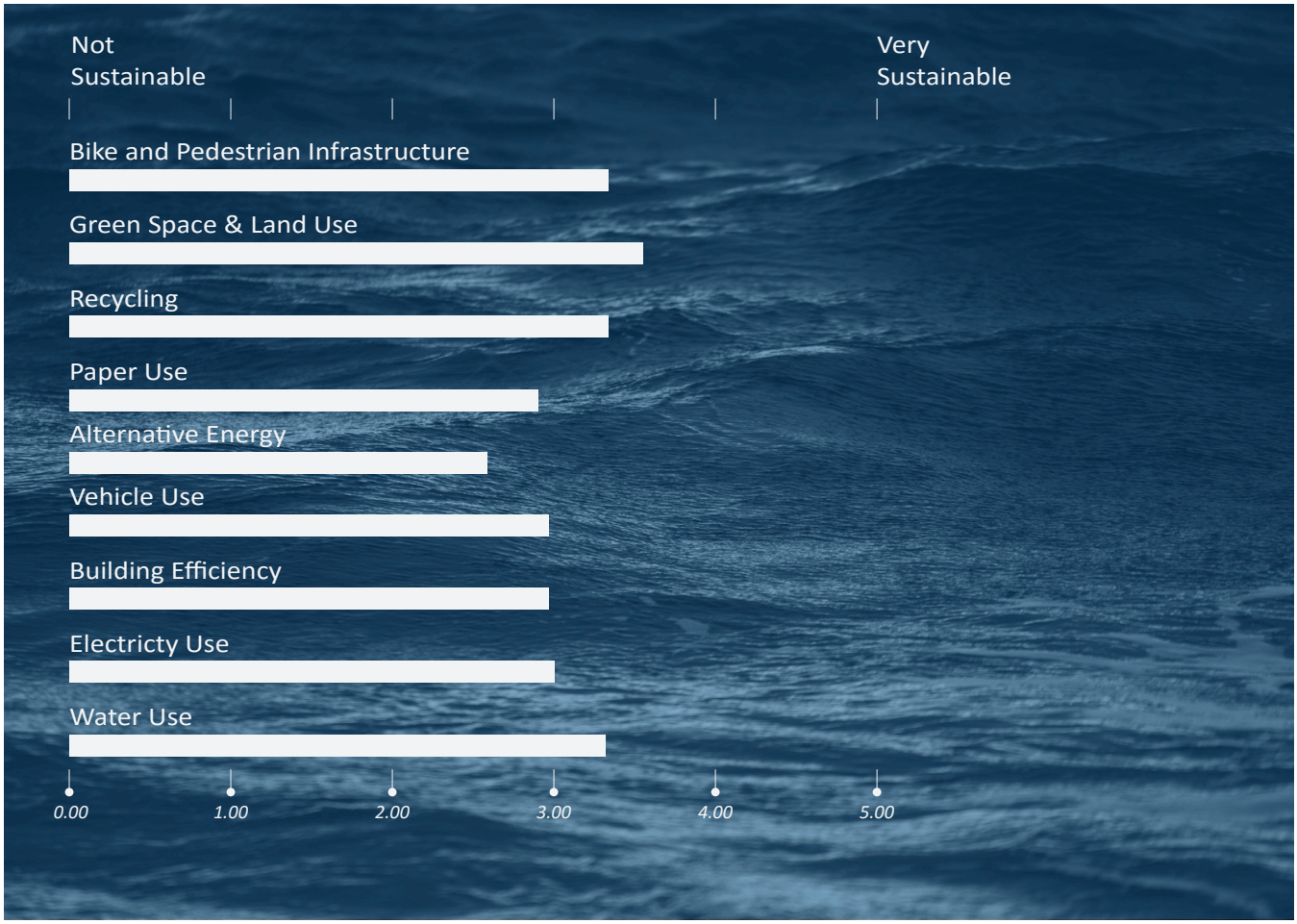


GRAPH ONE

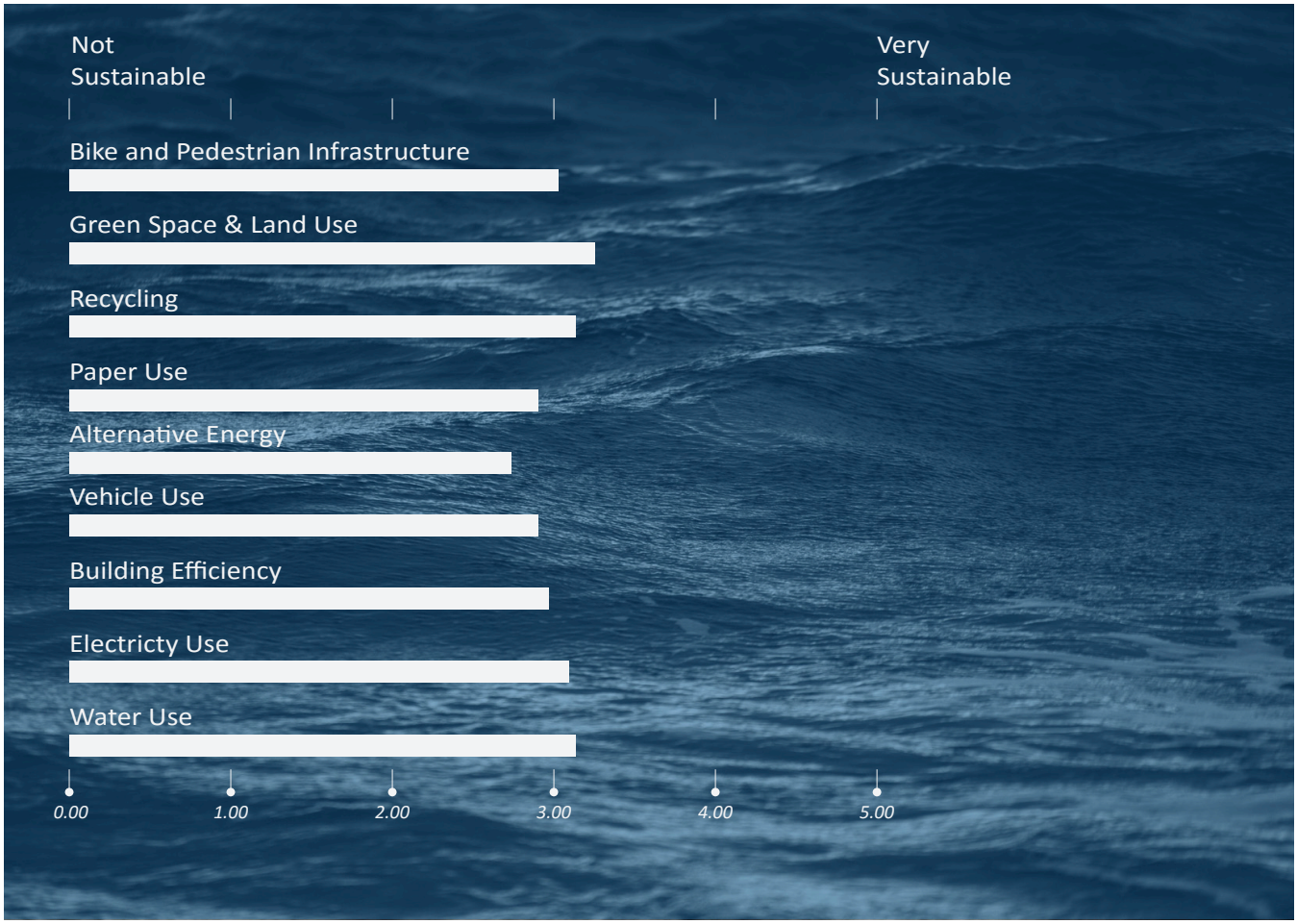
CITY STAFF RESPONSE TO QUESTION 1

How Sustainable are City of Savannah Operations?

WHAT THIS TELLS US

According to the City staff survey, green space and land use are considered the most sustainable City of Savannah operations followed by bike and pedestrian infrastructure, recycling, and water use. City staff rated 'personal and professional responsibility' as the main reason for improving sustainability at the City, followed by 'fulfilling public expectations'. These results are mirrored in the community survey.

SURVEY RESULTS

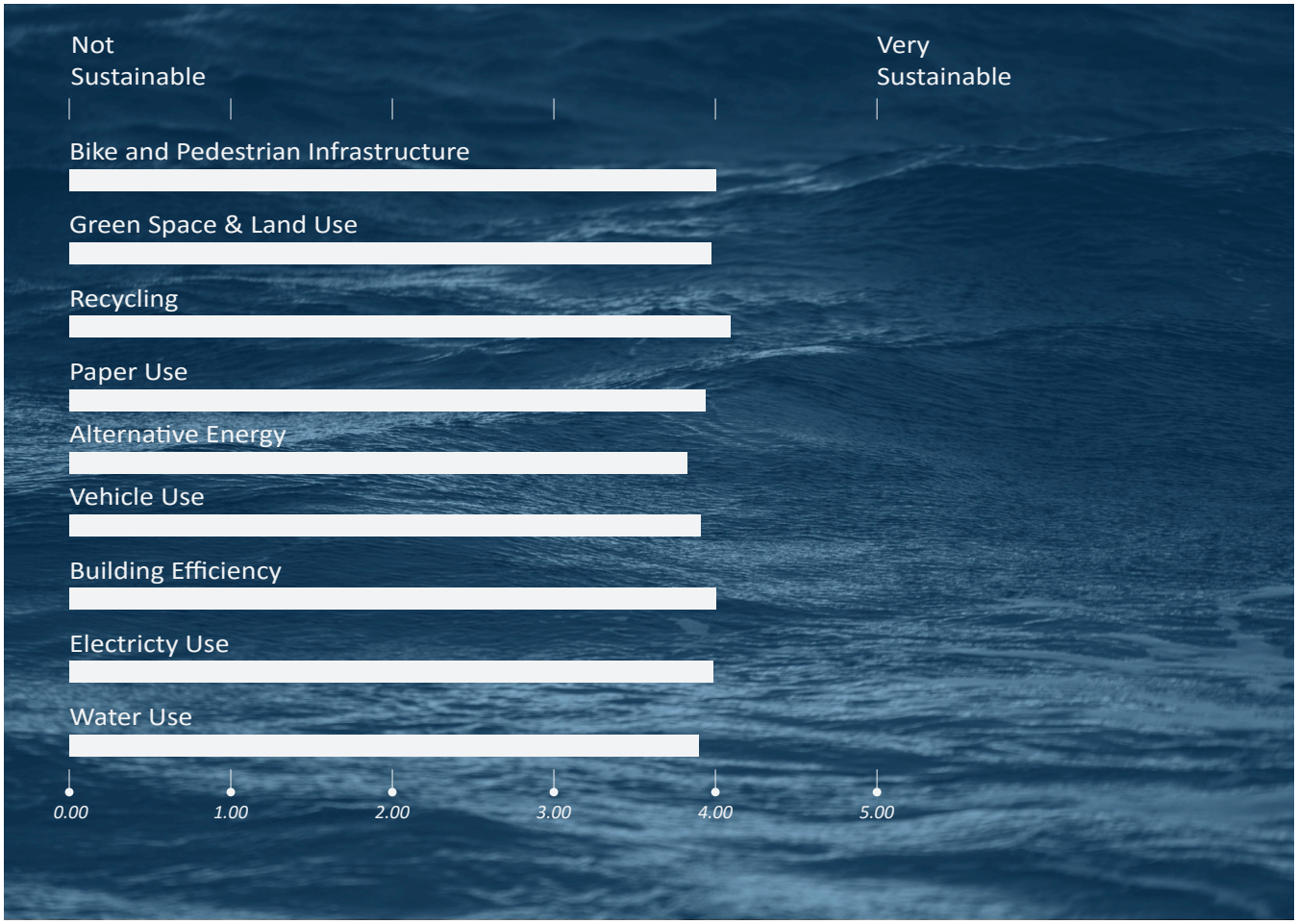


GRAPH TWO

COMMUNITY RESPONSE TO QUESTION 1
How Sustainable are City of Savannah Operations?

WHAT THIS TELLS US

Similarly, community members found green space and land use to be the highest ranking sustainability measure at the city, followed by recycling, water use and electricity use. Alternative energy, building efficiency, paper use and vehicle use were ranked lowest in both surveys. In conclusion, the City is currently viewed as strongest in its recycling program and green space efforts; however it is in need of improved vehicle fleet strategies, alternative energy options, bike and pedestrian infrastructure, building efficiency and paper use.



GRAPH THREE

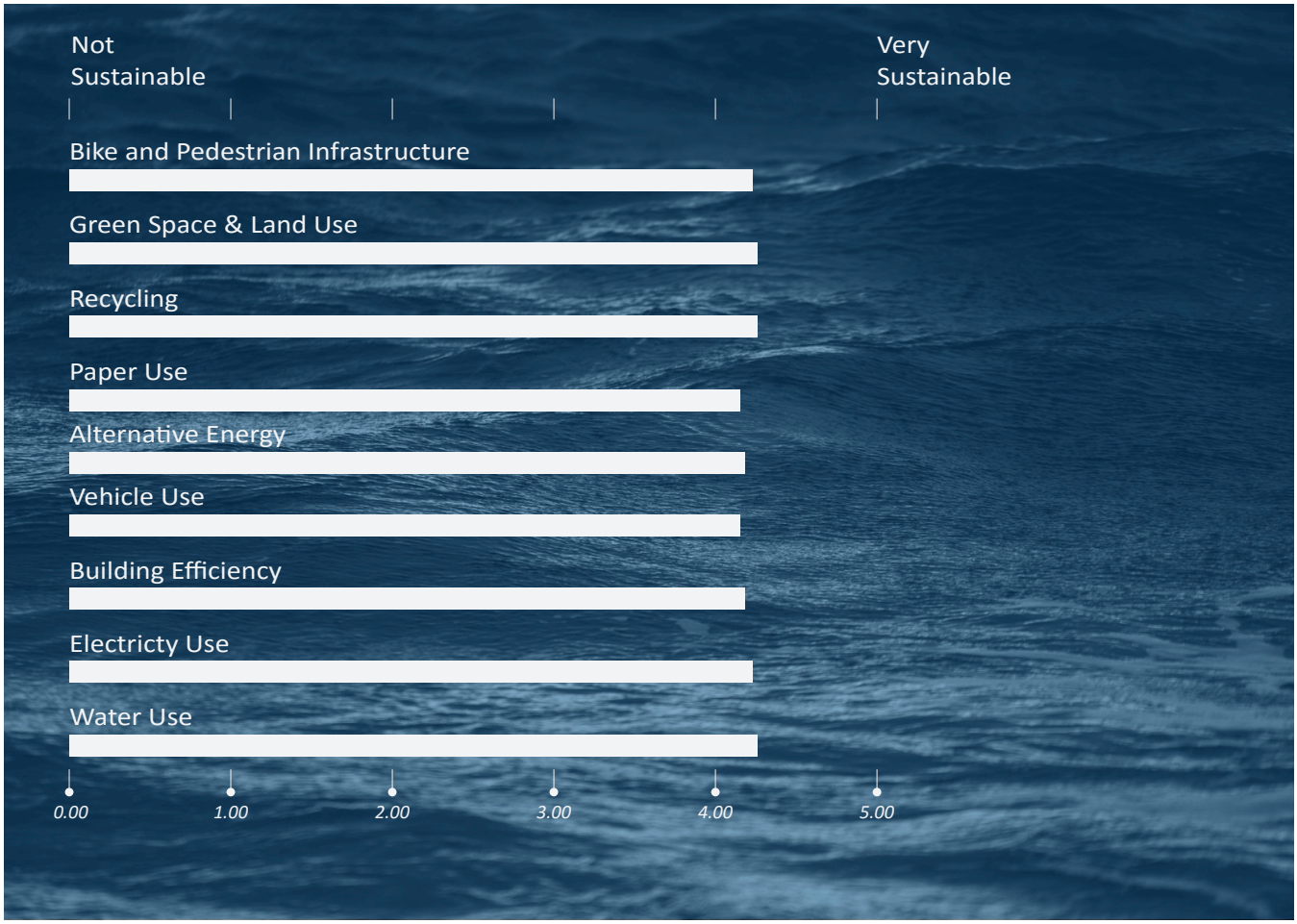
CITY RESPONSE TO QUESTION 2

How great are the Opportunities for Sustainability, Efficiency, and Cost Savings for City of Savannah Operations?

WHAT THIS TELLS US

City staff found that recycling had the greatest opportunity to improve, along with bike and pedestrian infrastructure, green space and land use, building efficiency and electricity use. City staff ranked all opportunities lower than citizens, perhaps reflecting the realities of operational costs, staff resources and political priority.

SURVEY RESULTS



GRAPH FOUR

COMMUNITY RESPONSE TO QUESTION 2

How great are the Opportunities for Sustainability, Efficiency, and Cost Savings for City of Savannah Operations?

WHAT THIS TELLS US

City staff and community members generally see opportunities for improved sustainability and efficiency in the same areas of City operations. Community members consistently marked all city operations as having great opportunity to improve their level of sustainability and efficiency. Green space and land use, recycling, bike and pedestrian amenities were ranked the highest, but on average all community members thought the needs for sustainability improvement across all sectors was very important. Reviewing our sustainability survey, it appears that some of the City and community impressions match the reality of our assessment. We have a strong water education program, with room for improvement in utilizing permeable pavement, rain barrels and storm drain marking, to reduce pollutants in the waterways. Similarly, there is both strong support and participation in recycling, encouraging improvements like public recycling, litter education and increased curbside pickups to boost participation.

GREENHOUSE GAS EMISSIONS INVENTORY

Our GHG Emissions Inventory breaks down municipal operations emissions and community emissions separately. Emissions from public utilities such as solid waste or water treatment/supply are predominately associated with community consumption and use. However, per recognized inventory standards and best practices, emissions from utilities that are fully owned and operated by the City are reflected in the municipal inventory, while residential, commercial and industrial buildings and transportation are included in the community-wide inventory.

GHG emissions are classified as direct or indirect and are, defined as follows:

- Direct GHG emissions are emissions from sources that are owned or controlled by the reporting entity.

- Indirect GHG emissions are emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity.

Our standard GHG reporting further categorizes these direct and indirect emissions into two broad scopes:

- Scope 1: All direct GHG emissions from combustion activities.

- Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam.

COMMUNITY-WIDE GHG EMISSIONS

For the purposes of this inventory, community wide emissions refer to emissions from within incorporated City of Savannah. In the base year 2014 the City of Savannah community emitted approximately 3,609,545 metric tons of Carbon Dioxide equivalent (CO2e) greenhouse gases. Graph 5 and Table 3 below show the breakdown of community emissions by sector.

GRAPH FIVE

COMMUNITY-WIDE GREENHOUSE GAS EMISSIONS INVENTORY

BY SECTOR

Community-Wide Greenhouse Gas Emissions Inventory by Sector

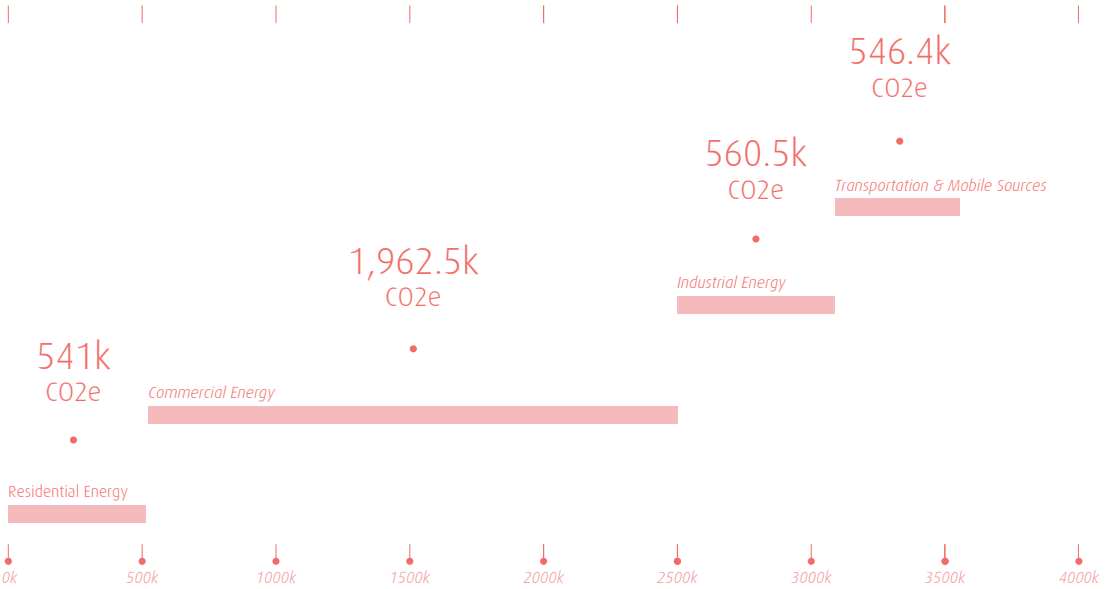


TABLE THREE

COMMUNITY-WIDE GREENHOUSE GAS EMISSIONS INVENTORY

BY SECTOR

City of Savannah Community Emissions Summary

Emissions Source Sectors *	CO2 Equivalent (mtCO2e)	Energy (Million BTUs)
Residential Energy	541,082 mtCO2e	4066567 MBTUs
Commercial Energy	1,961,513 mtCO2e	27657334 MBTUs
Industrial Energy	560,537 mtCO2e	9584707 MBTUs
Transportation & Mobile Sources	546,413 mtCO2e	9584707 MBTUs
TOTAL	3,609,545 mtCO2e	*41,336,457 MBTUs*

*CO¬2e emissions for water treatment, delivery and solid waste are included in Municipal Operations.

Photography x Carlo Stotmeister

STATIONARY SOURCE EMISSIONS

(Residential, Commercial, Industrial and Waste)

The most significant emissions result from energy consumption in the commercial sector (about 50% of total emissions), with residential and industrial related energy consumption each contributing about 17% of the total community emissions. Opportunities to reduce emissions might include a Green Workplace challenge, specifically for hotels, or commercial business sustainability certification program to engage the commercial building sector in improving the efficiency and overall sustainability of their operations.

MOBILE SOURCE EMISSIONS

(Residential, Commercial, Industrial and Waste)

The largest source of emissions in this sector is associated with gasoline-powered passenger vehicles, followed by freight gasoline emissions (short distance freight vehicles). Strategies to address these emissions might include commuter incentive programs, improved bike and pedestrian amenities and downtown freight reduction strategies to improve air quality

GRAPH SIX

MUNICIPAL GREENHOUSE GAS EMISSIONS INVENTORY

BY SECTOR

City Operations Greenhouse Gas Emissions by Sector

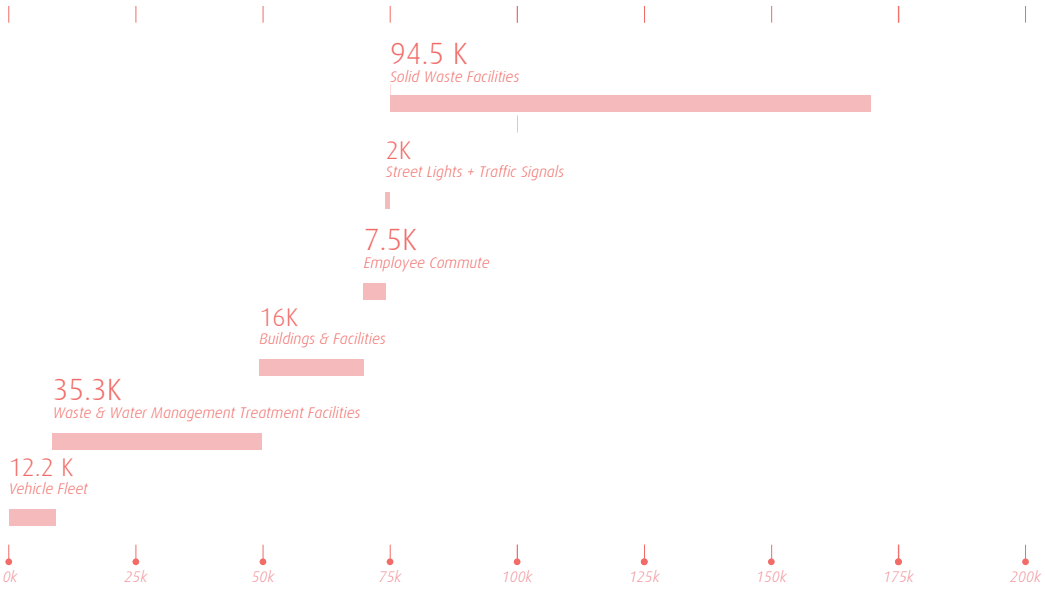


TABLE FOUR

MUNICIPAL GREENHOUSE GAS EMISSIONS INVENTORY

BY SECTOR

City of Savannah Government Operations Emissions Summary

Emissions Source Sectors *	CO2 Equivalent (mtCO2e)	Energy (kWh, MMBtu or Therms)
Buildings & Facilities	16,016	105,462 MMBTUs
Streetlights and Traffic Signals	2,043	11,287 MMBTUs
Water Delivery Facilities	34,396	189,983 MMBTUs
Wastewater Facilities	1,757	N/A
Solid Waste Facilities	94,450	N/A
Vehicle Fleet	12,264	104,466 MMBTUs
Employee Commute	7,486	N/A
TOTAL	*168,412 mtCO2e*	*411,197 MMBTUs*

*CO~2e emissions for water treatment, delivery and solid waste are included in Municipal Operations.

MUNICIPAL OPERATIONS EMISSIONS INVENTORY

In the base year 2014, the government operations of the City of Savannah emitted approximately 168,412 metric tons of CO2e. Graph 6 and Table 4 below show the breakdown of government operations emissions by sector. See Appendix B for the complete carbon emission analysis for City of Savannah government operations.

Government operations emissions in City of Savannah constitute about 4 percent of the City of Savannah's total emissions. Local government emissions typically fall between 2 to 5 percent of overall community emissions. As a minor contributor to total emissions, actions to reduce municipal energy use may have a limited impact on City of Savannah's overall community emissions levels. However, municipal action has symbolic value and demonstrates leadership that extends beyond the magnitude of emissions actually reduced.

Photography x Myles Tan
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STATIONARY SOURCE EMISSIONS

(Buildings, Streetlights/Traffic Signals, and Solid Waste/Wastewater Facilities)

Our stationary source emissions represent 87% of the total emissions. The Solid Waste Facilities sector is the largest contributor – representing in more than half of all emissions in 2014 - to the City's total GHG emissions. As such, the Solid Waste facilities are a major driver for the City's total emissions and should be an area of focus moving forward, with strategies like improving recycling participation and exploring composting options.

MOBILE SOURCE EMISSIONS

(Vehicle Fleet and Employee Commute)

Our vehicle fleet and employee commute emissions are smaller percentages, representing approximately 12% of the total emissions. Given these are more dependent on electrical fleet conversions and employee commute incentive programs, this area could be a low-hanging fruit for quick reductions in CO2.

Photography x City of Savannah Public Information Office 2016

CONCLUSION

This Assessment provides a baseline of our existing conditions both within municipal operations and the community at large with regards to various aspects of sustainability. It is a snapshot of existing data and measures that give a sense of what we are doing well, where we can do better and where we have opportunities to positively impact community health, our natural environment and our economy in innovative ways. Strategies to improve our sustainability will be developed from this Assessment and included in the City's Comprehensive Sustainability Action Plan. These strategies will cover both City and Community sectors, and will comply with Savannah's commitments to the International Compact of Mayors carbon reduction initiative.

Savannah was a pioneer of sustainability before it was popular. As the first planned city in the United States, Savannah promoted community connectivity and high-density development at its inception. Savannah was a founder of the historic preservation movement in the U.S., recognizing the importance of our history and the reuse of our existing building stock. As a community, Savannah has long understood the value of protecting our urban tree canopy and its impacts on the quality of our air, stormwater and greenspace. We have a history of international prominence as a shipping, tourism, military and educational center, and strive for a legacy of diversity and equity by supporting vibrant cultural and ecological systems in balance.

Over the years, Savannah has made great strides towards becoming a City that promotes a healthy and engaged community, supports quality infrastructure and operations, and limits impacts to our natural environment and diverse ecosystems. The City is bursting with potential to again be a pioneer of sustainability, adaptation and resilience, becoming one of the most innovative and vibrant cities in the Southeast. This Assessment and the implementation of the CSAP will guide us in continuing that legacy of sustainability for current and future generations.

THESE ARE OUR PRINTS

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APPENDIX A

Inventory of Existing Sustainability Measures

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
THRIVE COMMITTEE	THE CITYWIDE THRIVE COMMITTEE WAS ESTABLISHED	GOVERNMENT	30 STAFF TRAINED AS AMBASSADORS PER YEAR
SUSTAINABILITY DEPARTMENT	A CITY SUSTAINABILITY DEPARTMENT WAS ESTABLISHED AND DIRECTOR WAS HIRED	GOVERNMENT	COMPLETE
JOIN PLAN	CITY OF SAVANNAH SIGNED ON TO THE COUNTYWIDE JOIN SUSTAINABILITY PLAN	GOVERNMENT	COMPLETE
RECYCLING EDUCATION	TO EDUCATE THE PUBLISH ABOUT THE IMPORTANCE OF RECYCLING AND HOW TO PARTICIPATE IN THE CITY'S RECYCLING PROGRAM	COMMUNITY	50 ENGAGEMENT EVENTS, 150 PEOPLE ENGAGED ON AVERAGE PER YEAR
WATER CONSERVATION EDUCATION	TO EDUCATE THE PUBLIC ABOUT THE IMPORTANCE OF CONSERVING WATER AND HOW TO ACCOMPLISH INDOOR AND OUTDOOR WATER CONSERVATION	COMMUNITY	50 ENGAGEMENT EVENTS, 150 PEOPLE ENGAGED ON AVERAGE PER YEAR
WATERSHED PROTECTION EDUCATION	TO EDUCATE THE PUBLIC ABOUT THE NEED TO PROTECT OUR WATERSHED AND HOW TO REDUCE STORMWATER RUNOFF POLLUTION	COMMUNITY	50 ENGAGEMENT EVENTS, 150 PEOPLE ENGAGED ON AVERAGE PER YEAR
SUSTAINABILITY EDUCATION	MONTHLY PUBLIC-ACCESS CHANNEL 'GREEN TIPS'	COMMUNITY	50 ENGAGEMENT EVENTS, 150 PEOPLE ENGAGED ON AVERAGE PER YEAR
EARTH DAY SAVANNAH	ANNUAL EARTH DAY SAVANNAH FESTIVAL FOR 8000+ PARTICIPANTS	COMMUNITY	50 ENGAGEMENT EVENTS, 150 PEOPLE ENGAGED ON AVERAGE PER YEAR
FOOD DAY SAVANNAH	ANNUAL FOOD DAY CELEBRATION ENGAGES NEIGHBORHOODS IN HEALTHY AND LOCAL FOOD ORGANIZATIONS	COMMUNITY	50 ENGAGEMENT EVENTS, 150 PEOPLE ENGAGED ON AVERAGE PER YEAR

Outreach & Engagement

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
FLOODWAYS TO GREENWAYS	TO ESTABLISH USABLE GREENSPACE SUCH AS PASSIVE PARKS	GOVERNMENT	6.8 ACRES PER 1,000 RESIDENTS, AT 40% TREE COVER.
URBAN FORESTS PROGRAM	TO PLANT TREES TO CREATE URBAN FORESTS ON VACANT CITY OWNED LOTS	GOVERNMENT	6.8 ACRES PER 1,000 RESIDENTS, AT 40% TREE COVER.
NOAA GRANT	GRANT TO SUPPORT CLIMATE CHANGE INFORMATION SHARING AMONG MUNICIPALITIES TO SUPPORT REGIONAL RESPONSE TO WEATHER	GOVERNMENT	REDUCE GREENHOUSE GAS EMISSION BY 15% FROM 2007 LEVELS
FLOODPLAIN MITIGATION PLAN	THE PURPOSE OF THIS FLOODPLAIN MITIGATION PLAN IS TO REDUCE OR ELIMINATE RISK TO PEOPLE AND PROPERTY FROM FLOOD HAZARDS	GOVERNMENT	REDUCE GREENHOUSE GAS EMISSION BY 15% FROM 2007 LEVELS
U.S. EPA BROWNFIELDS ASSESSMENT PROGRAM	TO ASSESS PROPERTIES FOR CONTAMINATION IN THE MLK/MONTGOMERY ST. CORRIDOR TO FACILITATE COMMUNITY HEALTH AND ECONOMIC DEVELOPMENT	COMMUNITY	DEMONSTRATE THAT 10% OF RESIDENTIAL UNITS BUILT OR SUBSTANTIALLY REHABILITATED IN THE PAST 3 YEARS ARE DEDICATED SUSTAINABLE AFFORDABLE HOUSING
FLOOD DAMAGE PREVENTION ORDINANCE	FOR BUILDINGS IN THE SPECIAL FLOOD HAZARD AREA AND KNOWN FLOOD AREAS TO BE BUILT ABOVE THE 100 YEAR BFE AND RESILIENT TO FLOOD WATERS	COMMUNITY	COMPLETE
COMMUNITY RATING SYSTEM PROGRAM	PROGRAM TO EDUCATE ABOUT FLOOD HAZARDS AND REQUIRE HIGHER BUILDING STANDARDS TO RESIST FLOODING. PROGRAM RESULTED IN LOWER FLOOD INSURANCE PREMIUMS AND MORE RESILIENT COMMUNITY	COMMUNITY	CLASS 6 ACHIEVED.
SUSTAINABLY BUILT HOUSING	BUILD SINGLE HOMES, MULTIFAMILY HOMES AND HOUSING COMMUNITIES SUSTAINABLY; CONSERVING RESOURCES, ENERGY AND WATER, AND BEING COST EFFICIENT TO OPERATE.	COMMUNITY	DEMONSTRATE THAT 10% OF RESIDENTIAL UNITS BUILT OR SUBSTANTIALLY REHABILITATED IN THE PAST 3 YEARS ARE DEDICATED SUSTAINABLE AFFORDABLE HOUSING
COMMUNITY GARDENS	TO ALLOW RESIDENTS TO ESTABLISH COMMUNITY GARDENS IN VACANT CITY OWNED LOTS	COMMUNITY	SUPPORT TWO NEW COMMUNITY GARDENS PER YEAR.

Green Space & Community Health

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
THRIVE OFFICE RECYCLING PILOT	THREE MONTH PUBLIC RECYCLING PILOT IN FIVE PUBLIC BUILDINGS.	GOVERNMENT	ADOPT A WASTE MANAGEMENT PLAN WITH 30% INCREASE IN RECYCLED CONTENT BY 2020
CONCRETE RECYCLING	CONCRETE COLLECTED AT LANDFILL IS RECYCLED INTO ROAD FILL	GOVERNMENT	ADOPT A WASTE MANAGEMENT PLAN WITH 30% INCREASE IN RECYCLED CONTENT BY 2020
ETRAC ONLINE PAYMENTS	ONLINE PERMITTING PROCESS FOR STAND-ALONE ELECTRICAL PERMITS	GOVERNMENT	ADOPT A ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) PROCUREMENT POLICY (FOR PAPER PRODUCTS).
ETRAC ONLINE PERMIT APPLICATIONS	ONLINE PERMITTING PROCESS FOR STAND-ALONE ELECTRICAL PERMITS	GOVERNMENT	ADOPT A ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) PROCUREMENT POLICY (FOR PAPER PRODUCTS).
ELECTRONIC PLAN REVIEW FOR SITE PERMITS	ACCEPTING ELECTRIC SUBMITTALS FOR SITE DEVELOPMENT PERMITS	GOVERNMENT	ADOPT A ENVIRONMENTALLY PREFERABLE PURCHASING (EPP) PROCUREMENT POLICY (FOR PAPER PRODUCTS).
TOILET RECYCLING	TOILETS COLLECTED AT THE LANDFILL ARE RECYCLED INTO ROAD FILL	COMMUNITY	ADOPT A WASTE MANAGEMENT PLAN WITH 30% INCREASE IN RECYCLED CONTENT BY 2020
YARD WASTE COMPOSTING	SINGLESTREAM RESIDENTIAL (CURBSIDE), COMMERCIAL, AND DROP OFF SITE RECYCLING	COMMUNITY	ADOPT A WASTE MANAGEMENT PLAN WITH 30% INCREASE IN COMPOSTED CONTENT BY 2020
RECYCLING	TIRES COLLECTED AT LANDFILL THEN RECYCLED BY OUTSIDE VENDOR	COMMUNITY	ADOPT A WASTE MANAGEMENT PLAN WITH 30% INCREASE IN RECYCLED CONTENT BY 2020
SCRAP METAL RECYCLING	SCRAP METAL IS COLLECTED AT LANDIFLL OR RECYCLING FACILITY	COMMUNITY	ADOPT A WASTE MANAGEMENT PLAN WITH 30% INCREASE IN RECYCLED CONTENT BY 2020.

Solid Waste

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
WATER REUSE AND RECLAMATION	USING RECLAIMED WATER FOR IRRIGATION OF GOLF COURSES AND PUBLIC AREAS	GOVERNMENT	GALLONS PER DAY OF WATER USE DECREASES. THE HEIGHT OF THE WATER TABLE FOR SUBSURFACE AQUIFERS HAS BEEN STABLE OR RISING
FIRE STATION GREASE DISPOSAL (IB 13.032)	WASTE COOKING OIL COLLECTION BUCKETS AT FIRE STATIONS	GOVERNMENT	<EPA'S 5% STANDARD FOR COLIFORM BACTERIA, DECREASE ALL REGULATED CONTAMINANTS OVER TIME
POTW WASTEWATER DISCHARGE	WASTEWATER TREATMENT FACILITY ANNUAL PERMIT RENEWAL	COMMUNITY	PUBLICLY OWNED TREATMENT WORKS (POTWS) ARE IN COMPLIANCE WITH EPA EFFLUENT GUIDELINES PERMITS
STORMWATER MANAGEMENT	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT(S) HAVE BEEN OBTAINED PRIOR TO DISCHARGING STORMWATER	COMMUNITY	ALL NPDES PERMITS AND EDUCATION REQUIREMENTS MET.
WASTE COOKING OIL ORDINANCE	TO REGULATE WASTE COOKING OIL COLLECTION AND RECYCLING	COMMUNITY	<EPA'S 5% STANDARD FOR COLIFORM BACTERIA, DECREASE ALL REGULATED CONTAMINANTS OVER TIME
RESIDENTIAL WASTE COOKING OIL COLLECTION	WASTE COOKING OIL COLLECTED FROM RESIDENTS AT PRESIDENT STREET	COMMUNITY	<EPA'S 5% STANDARD FOR COLIFORM BACTERIA, DECREASE ALL REGULATED CONTAMINANTS OVER TIME
RAIN BARREL SALE	FACILITATING A DISCOUNTED SALE OF RAIN BARRELS FOR RESIDENTS	COMMUNITY	GALLONS PER DAY OF WATER USE DECREASES. THE HEIGHT OF THE WATER TABLE FOR SUBSURFACE AQUIFERS HAS BEEN STABLE OR RISING
HOUSEHOLD HAZARDOUS WASTE COLLECTIONS	EVENTS TO COLLECT HOUSEHOLD HAZARDOUS WASTES FROM RESIDENTS	COMMUNITY	<EPA'S 5% STANDARD FOR COLIFORM BACTERIA, DECREASE ALL REGULATED CONTAMINANTS OVER TIME
WATER QUALITY REPORT	YEARLY REQUIRED REPORT	COMMUNITY	<EPA'S 5% STANDARD FOR COLIFORM BACTERIA, DECREASE ALL REGULATED CONTAMINANTS OVER TIME

Water Resources

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
LOW-FLOW TOILET RETROFIT	REPLACING OLD, WATER INTENSIVE TOILETS WITH NEW LOW-FLOW MODELS	COMMUNITY	GALLONS PER DAY OF WATER USE DECREASES. THE HEIGHT OF THE WATER TABLE FOR SUBSURFACE AQUIFERS HAS BEEN STABLE OR RISING
OUTDOOR WATER RESTRICTIONS	RESTRICTIONS ON OUTDOOR WATER USE FOR ALL RESIDENTS	COMMUNITY	GALLONS PER DAY OF WATER USE DECREASES. THE HEIGHT OF THE WATER TABLE FOR SUBSURFACE AQUIFERS HAS BEEN STABLE OR RISING
GRAY WATER ORDINANCE	ADOPTED GEORGIA GRAY WATER RECYCLING SYSTEM GUIDELINES	COMMUNITY	GALLONS PER DAY OF WATER USE DECREASES. THE HEIGHT OF THE WATER TABLE FOR SUBSURFACE AQUIFERS HAS BEEN STABLE OR RISING
SPCC PLAN UPDATES	SPILL PREVENTION, CONTROL AND COUNTERMEASURE PLAN PREVENT OIL DRUM SPILLS AND PROSCRIBE CLEANUP PROCEDURE.	COMMUNITY	INDUSTRIAL DISCHARGERS ARE IN COMPLIANCE WITH EPA PERMITS. ALL STAFF ARE TRAINED ON SPCC REQUIREMENTS ON AN ANNUAL BASIS. DECREASE ALL REGULATED CONTAMINANTS OVER TIME

Water Resources

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
FREE BUS PASS FOR CITY EMPLOYEES	THE HALF OFF BUS PASSES FOR CITY STAFF WAS UPGRADED TO FREE BUS FARE FOR CITY EMPLOYEES	GOVERNMENT	10% INCREASE IN CITY STAFF RIDERSHIP PER YEAR.
TRUMAN LINEAR TRAIL	CITY OF SAVANNAH SUPPORTS FUNDRAISING AND COMMUNITY OUTREACH FOR SECTION OF TRUMAN LINEAR TRAIL.	GOVERNMENT	PROVIDE AMPLE PARKLAND BASED ON POPULATION DENSITY - 6.8 ACRES PER 1,000 RESIDENTS, AT 40% TREE COVER.
COMPLETE STREETS ORDINANCE	COMPLETE STREETS ARE STREETS THAT CONTRIBUTE TO A SAFE, CONVENIENT OR COMFORTABLE TRAVEL EXPERIENCE FOR ALL USERS, INCLUDING PEDESTRIANS, BICYCLISTS, MOTOR VEHICLE DRIVERS AND PUBLIC TRANSPORTATION RIDERS.	COMMUNITY	FOR ALL NEW ROADWAY IMPROVEMENTS: *90% OF ROADWAYS CONTAIN SIDEWALKS ON BOTH SIDES *100% OF CROSSWALKS ARE ADA ACCESSIBLE *60% OF BLOCK FACES CONTAIN STREET TREES AT NO MORE THAN 40 FEET INTERVALS
BICYCLE FRIENDLY CITY DESIGNATION	THE CITY WAS RECOGNIZED AS A BICYCLE FRIENDLY CITY BY THE LEAGUE OF AMERICAN BICYCLISTS	COMMUNITY	COMPLETE
COMPLETE STREETS DESIGN GUIDELINES	DEVELOPMENT SERVICES WORKS TO DEVELOP COMPLETE STREETS GUIDELINES WITH THE MOBILITY ADVISORY COMMITTEE	COMMUNITY	FOR ALL NEW ROADWAY IMPROVEMENTS: *90% OF ROADWAYS CONTAIN SIDEWALKS *100% OF CROSSWALKS ARE ADA ACCESSIBLE *60% OF BLOCK FACES CONTAIN STREET TREES AT NO MORE THAN 40 FEET INTERVALS
BIKE AND PEDESTRIAN COORDINATOR	CITY HIRES A PARKING AND MOBILITY SERVICES BIKE AND PEDESTRIAN COORDINATOR TO SUPPORT BIKE LANES, SIDEWALKS AND EFFORTS TO INTEGRATE INTO CURRENT CITY CAPITAL IMPROVEMENT PROJECTS.	COMMUNITY	FOR ALL NEW ROADWAY IMPROVEMENTS: *90% OF ROADWAYS CONTAIN SIDEWALKS *100% OF CROSSWALKS ARE ADA ACCESSIBLE *60% OF BLOCK FACES CONTAIN STREET TREES AT NO MORE THAN 40 FEET INTERVALS

Transportation & Mobility

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	PAOTENTIAL MUNICIPAL INDICATORS
GHG INVENTORY COMPLETED	COUNTYWIDE GHG EMISSIONS INVENTORY COMPLETED	GOVERNMENT	PROGRESS TOWARDS ACHIEVING A 15% DECREASE FROM 2007 LEVELS BY 2020.
US MAYORS CLIMATE PROTECTION AGREEMENT	MAYOR JOHNSON SIGNED ON TO THE AGREEMENT TO REDUCE GHG EMISSIONS BELOW 1990 LEVELS	GOVERNMENT	PROGRESS TOWARDS ACHIEVING A 15% GHG DECREASE FROM 2007 LEVELS BY 2020.
COMPACT OF MAYORS	COOPERATIVE INTERNATIONAL EFFORT AMONG MAYORS AND CITY OFFICIALS TO DEMONSTRATE THEIR COMMITMENT TO REDUCING GHG EMISSIONS.	COMMUNITY	COMPLETE CDP REQUIREMENTS
GOVERNOR'S ENERGY CHALLENGE	COMMITMENT TO REDUCE EMISSIONS AND ENERGY USE BY 15% BY 2020	GOVERNMENT	PROGRESS TOWARDS ACHIEVING A 15% GHG DECREASE FROM 2007 LEVELS BY 2020.
MUNICIPAL GHG INVENTORY	STUDY OF THE EXISTING BUILDINGS ENERGY OUTPUT.	GOVERNMENT	DEMONSTRATE INCREMENTAL PROGRESS TOWARDS ACHIEVING A 15% GHG DECREASE FROM 2007 LEVELS BY 2020.
BUILDING AUDITS	BUILDING ENERGY EFFICIENCY AUDITS COMPLETED ON 12 CITY FACILITIES	GOVERNMENT	MONITOR TWO BUILDINGS PER YEAR.
ENERGY CONSERVATION TOOLS	PORTFOLIO MANAGER, UTILITY-TRAC SOFTWARE, LIGHTING CONTROL FOR GAMBLE BUILDING, DATA LOGGERS, AND VENDING-MISER FOR GAMBLE BUILDING	GOVERNMENT	TWO SYSTEMS INSTALLED PER YEAR.
FIRE STATION ENERGY CONSERVATION POLICY (GO 10.021)	PRACTICE ENERGY CONSERVATION I.E. TURNING OUT LIGHTS, KEEPING DOORS CLOSED, MONITORING THERMOSTATS AND TURNING OFF UNUSED EQUIPMENT	GOVERNMENT	PROGRESS TOWARDS ACHIEVING A 15% GHG DECREASE FROM 2007 LEVELS BY 2020.
DESIGN RFP ENERGY EFFICIENCY	RFPS INCLUDE "THE BUILDING SHALL BE DESIGNED FOR MAXIMUM ENERGY EFFICIENCY THROUGH THE SPECIFIC EQUIPMENT AND MATERIALS, UTILIZE LOCAL GEORGIA MATERIALS (AS FEASIBLE), AND DESIGNED AND CONSTRUCTED FOR LONG-TERM VIABILITY"	GOVERNMENT	PROGRESS TOWARDS ACHIEVING A 15% GHG DECREASE FROM 2007 LEVELS BY 2020.

Built Environment & Energy

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

SUSTAINABILITY EFFORTS	DESCRIPTION OF MEASURE	IMPACT AREA	POTENTIAL MUNICIPAL INDICATORS
FIRE DEPARTMENT FUEL CONSERVATION POLICY (SOP LOG8)	MAKING FUEL CONSERVATION A PRIORITY FOR NON-EMERGENCY USE OF FIRE APPARATUS	GOVERNMENT	ADOPT A RENEWABLE ENERGY OR ALTERNATIVE FUEL TARGETS FOR LOCALLY OWNED FACILITIES AND VEHICLES (I.E. 15% INCREASE).
MUNICIPAL ADVANCED SOLAR PROGRAM	IMPROVE OPPORTUNITIES FOR SOLAR UTILIZATION LEASES ON CITY PROPERTY.	GOVERNMENT	ADOPT A RENEWABLE ENERGY OR ALTERNATIVE FUEL TARGETS FOR LOCALLY OWNED FACILITIES AND VEHICLES (I.E. 15% INCREASE BY 2020).

Built Environment & Energy

EXISTING SUSTAINABILITY MEASURES

AN INVENTORY

APPENDIX B

2014 Greenhouse Gas Emissions Inventory: City of Savannah

Photography x Carlo Stotmeister

BACKGROUND

The City has conducted an inventory of greenhouse gas (GHG) emissions for 2014 municipal operations. This inventory is part of a larger comprehensive sustainability planning effort to identify and assess environmental, economic, and social equity challenges and opportunities within the City, and implement strategies to improve in those three areas. The inventory will serve as a benchmark to track the impact of GHG reduction strategies implemented in various operational areas.

The following information is provided in this report:

- Data Collection & Compilation
- Emission Factors
- Results & Next Steps

DATA COLLECTION & COMPILATION

This GHG inventory was completed using the International Council for Local Environmental Initiatives (ICLEI) ClearPath web-based software. Data was gathered by City staff from across multiple operational areas for the emission sectors listed below:

The following information is provided in this report:

- Buildings and Facilities
- Streetlights and Traffic Signals
- Water Delivery Facilities
- Wastewater Facilities
- Solid Waste Facilities
- Vehicle Fleet
- Employee Commute

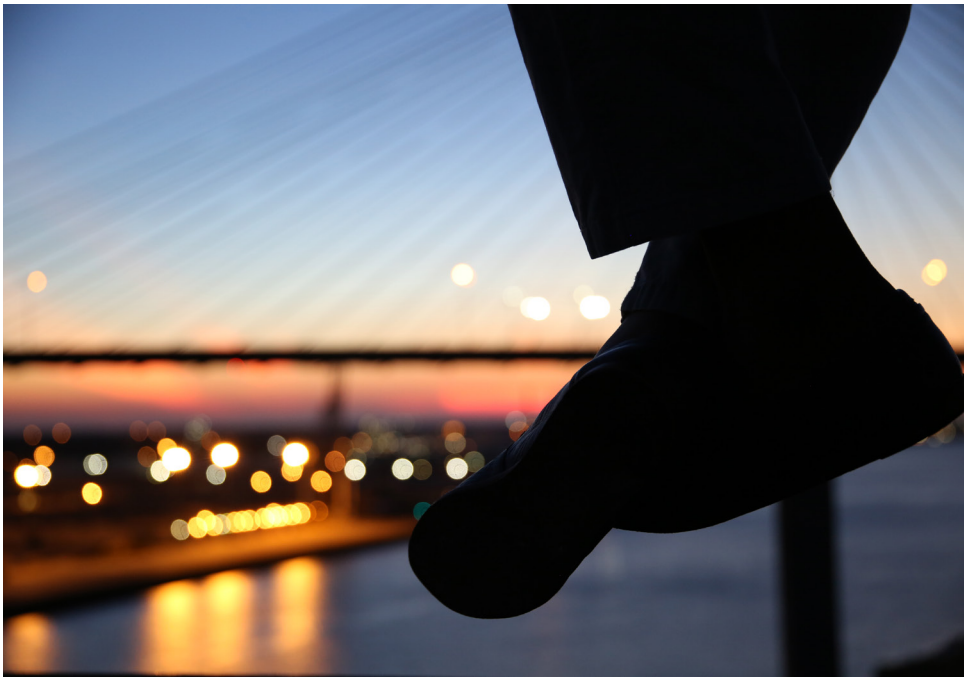
See Table 1 on the right for the Data Inputs by Sector.

SECTOR	INPUTS / UNITS	2014	
BUILDINGS & FACILITIES			
ELECTRICITY	ELECTRICITY USE (KWH)	23,873,559	
NATURAL GAS	THERMS	240,646	
STREET LIGHTS & TRAFFIC SIGNALS			
ELECTRICITY	ELECTRICITY USE (KWH)	3,310,478	
VEHICLE FLEET			
OFF-ROAD DIESEL	FUEL USE (GALLONS)	30,900	
DIESEL	FUEL USE (GALLONS) PASSENGER (%) LIGHT (%) HEAVY (%)	516,775 6 0 94	
GASOLINE	FUEL USE (GALLONS) PASSENGER/LIGHT (%) HEAVY (%)	759,693 100 0	
EMPLOYEE COMMUTE			
DIESEL	VEHICLE MILES TRAVELED (VMT) PASSENGER (%) LIGHT (%) HEAVY (%)	200,364 65 33 2	
GASOLINE	VEHICLE MILES TRAVELED (VMT) PASSENGER (%) LIGHT (%) HEAVY (%)	17,704,895 65 33 2	
SOLID WASTE FACILITIES			
	METHANE (METRIC TONS) WASTE IN PLACE (TONS)	3,778 88,527	
SOLID WASTE FACILITIES			
WATER DELIVERY ELECTRICITY WASTEWATER/STORMWATER ELECTRICITY COMBINED WATER/WASTEWATER ELECTRICITY DENITRIFICATION/NITRIFICATION PROCESS PROCESS N2O	ELECTRICITY USE (KWH) ELECTRICITY USE (KWH) ELECTRICITY USE (KWH) POPULATION DAILY NITROGEN LOAD (KG N/DAY)	27,954,798 27,766,751 55,721,549 197,500 1,575	

TABLE ONE

DATA INPUTS BY OPERATIONAL SECTOR

A SNAPSHOT



Photography x Carlo Stotmeister

EMISSION FACTORS

ClearPath uses various emission factor sets in its calculators. The first of these factor sets is global warming potentials (GWP). GWPs are multipliers applied to non-carbon dioxide (CO2) gases, typically methane (CH4) and nitrous oxide (N2O), which allow comparisons of the warming impacts of different gases. When applied to each gas, they provide a common unit of measure that allows the various gases to be presented in a single relative emission, known as CO2 equivalent, or CO2e. GWPs are developed by the Intergovernmental Panel on Climate Change (IPCC) and are updated periodically. The current standard is the IPCC's 4th Assessment values, which were used for the 2014 inventory.

The other factor sets are grid electricity factors, transportation factors, and waste characterization factors. These factor sets can vary based on specific variables, such as location and year. These factor sets tend to be time dependent and therefore are specific to the year of the inventory being calculated. The factor sets were determined as follows:

- Grid electricity emission factors were determined by using the United States Environmental Protection Agency's (USEPA's) Emissions & Generation Resource Integrated Database (eGrid). eGrid provides emission factors by region and is updated approximately every two years. For the 2014 inventory, eGrid 9th version 2, released in February 2014 was used. The City of Savannah is located in the Southeastern Reliability Council (SERC) region, South subregion. As such, in both the 2007 and 2014 inventories, the SRSO (SERC South) subregion factors were used.

- Transportation emission factors specify fuel economies and can be input for a variety of vehicle classes. The emission factors can be based on specific vehicle testing, published data, or manufacturer values. The factors presented in ICLEI guidance documents by year, were used.

- Waste characterization factors allow the user to specify the composition of waste streams in the community. However, due to a lack of information and the nature of the solid waste calculator used in both inventories, these factors sets were not needed.

TABLE FOUR

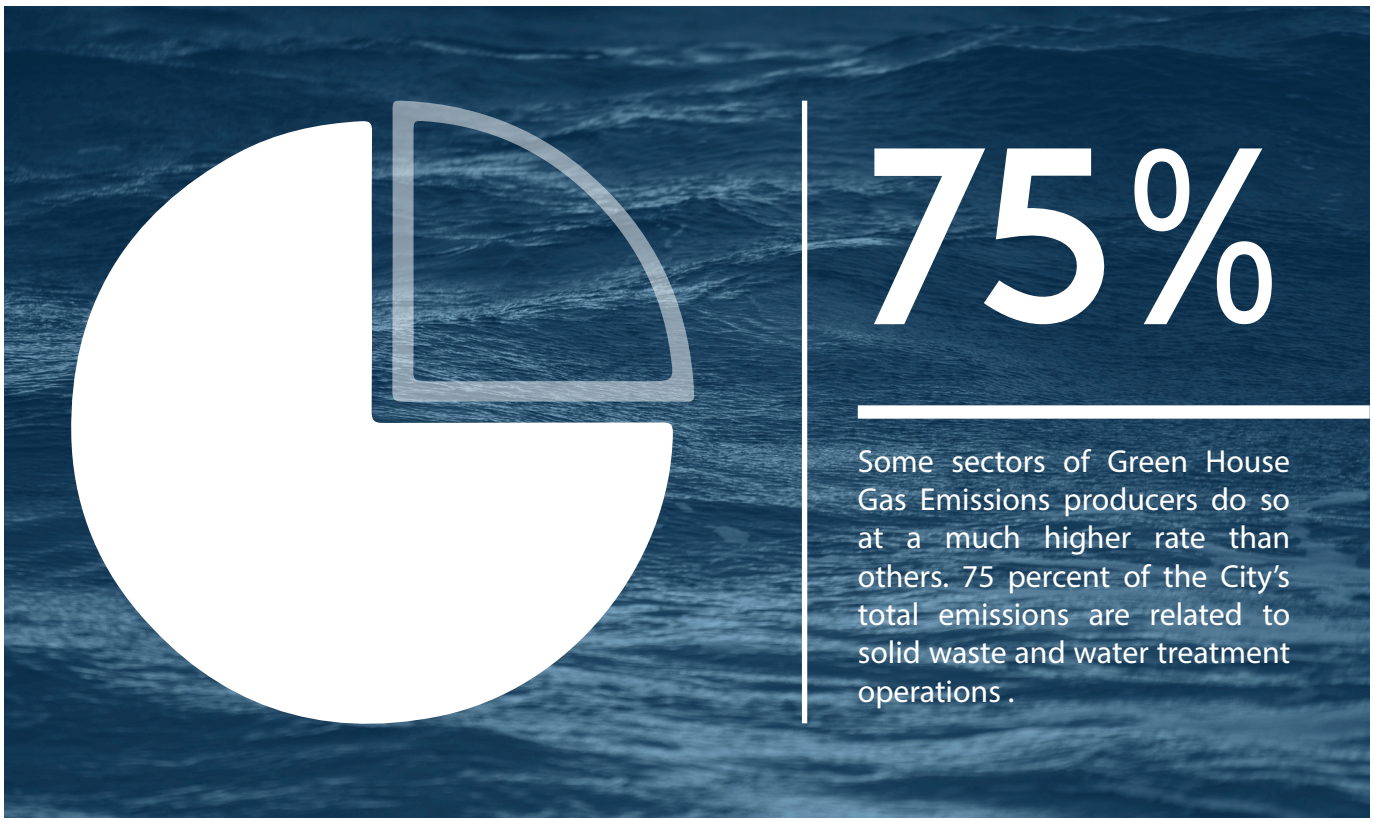
MUNICIPAL GREENHOUSE GAS EMISSIONS INVENTORY

BY SECTOR

City of Savannah Government Operations Emissions Summary

Emissions Source Sectors *	CO2 Equivalent (mtCO2e)	Energy (kWh, MMBtu or Therms)
Buildings & Facilities	16,016	105,462 MMBTUs
Streetlights and Traffic Signals	2,043	11,287 MMBTUs
Water Delivery Facilities	34,396	189,983 MMBTUs
Wastewater Facilities	1,757	N/A
Solid Waste Facilities	94,450	N/A
Vehicle Fleet	12,264	104,466 MMBTUs
Employee Commute	7,486	N/A
TOTAL	*168,412 mtCO2e*	*411,197 MMBTUs*

*CO~2e emissions for water treatment, delivery and solid waste are included in Municipal Operations.



RESULTS

The results of the 2014 inventory are presented below in numerical and graphical representation.

SECTOR	2014 (MTCO2E)	% OF TOTAL
VEHICLE FLEET	12,264	7
WATER & WWTP FACILITIES – ENERGY	34,396	20
WATER & WWTP FACILITIES – WASTE	1,757	1
BUILDINGS & FACILITIES	16,016	10
EMPLOYEE COMMUTE	7,486	5
STREET LIGHTS & TRAFFIC SIGNALS	2,043	1
SOLID WASTE FACILITIES	94,450	56
TOTAL	168,412	100

TABLE TWO

DATA INPUTS BY OPERATIONAL SECTOR

A SNAPSHOT

PG 61

EMISSION FACTORS CONTINUED

GHG emissions for 2014 City operations totals 168,412 metric tons of CO2 equivalent. The results show that emissions related to solid waste and water treatment operations comprise the largest portion of GHG emissions, collectively contributing over 75 percent of the City's total emissions. This is consistent with municipalities that own and operate water utilities and solid waste landfills. Energy consumption from the operation of buildings & facilities is the next largest contributor at 10 percent of total emissions, with fuel combustion from fleet operations contributing 7 percent of total emissions. Fuel combustion from daily employee commute contributes 5 percent of total emissions. Electricity use associated with street lights and traffic signal operations make up the smallest portion of emissions at just over 1 percent.

WHO ARE WE

CONTRIBUTORS

Nick Deffley

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Alexis X.A. Roberts

To the other good work giants, this document would not have been possible without your efforts or input.
Thank you.

Margosia Jadkowski (former Environmental Services Coordinator)

Citizens of Savannah

City of Savannah Staff

Thrive Committee

Assistant City Manager, Peter Shonka

Photography x Carlo Stotmeister

A LITTLE INSPIRATION

"Moving along it dawns upon us that we are not alone on this journey. There are faint figures also moving alongside us in the darkness; not at all threatening but helpful.

For now we call them the others. It is difficult to spot them, to tell just how many of them are real and which are shadows. The only thing we know is to trust them. There is much we can learn, even more we can do.

Handing us large pots from another place and time, they tell us that the sea is our key to bringing light back to this place. They have given us the tools, we must now use our hearts to walk toward the light, to make... change."

- From The Rise + Fall of Pompeii

THANK YOU

Photography x Timon Studler
UNSPLASH.COM/