



CITY OF MOBILE

ENERGY EFFICIENCY & CONSERVATION STRATEGY PLAN 2023

GRANTEE: CITY OF MOBILE, ALABAMA

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INTRODUCTION

The City of Mobile created this Energy Efficiency and Conservation Strategy (EECS) to define sustainability goals across the city. This is the City's first plan of its kind and creating it helped City leaders see the opportunities, data gaps, and needs that can save money, reduce air pollution, modernize systems, and build both sustainability and resilience into City systems.

This plan was developed using the Department of Energy's Blueprint 1: Energy Planning and it lays out four long-term and one near-term data collection goals.

The four long-term goals of the Energy Efficiency Conservation Strategy are to reduce energy consumption, reduce greenhouse gas (GHG) emissions, implement the Electric Vehicle Fleet Plan, and expand recycling options for Mobilians.

The development of this plan also identified an immediate need for a more in-depth energy audit. That audit will include analyzing the City's carbon usage and GHG emissions to develop the baseline needed to establish a GHG reduction goal and provide a baseline for measurement.



WHY FOCUS ON ENERGY EFFICIENCY AND CONSERVATION FOR THE CITY OF MOBILE?

Optimizing energy usage, upgrading to more efficient vehicles, reducing waste not only benefits the environment, it benefits the community and the economy. Cleaner air and water, continuous cost reduction, better recovery from natural disasters all make the City of Mobile an even more desirable place to live, work, and play.

Energy is used every day to regulate temperature in homes and businesses, cook food, power electronics and appliances, and travel from point a to point b. It is necessary for the provision of utilities like water and sewage treatment.

Utilities need it to clean and distribute water and businesses and industries require it for the manufacturing processes that feed the economy and provide much needed jobs for citizens across the City of Mobile.

Using limited resources effectively with an eye toward sustainability will ensure the over 300-year-old city will continue to thrive well into the next century.

BENEFITS OF ENERGY EFFICIENCY AND CONSERVATION

ECONOMIC

Investing in energy-efficient upgrades allows for long-term savings and a fast return on investment. Electricity bills can be reduced saving thousands of dollars each year with simple changes such as the following: better building insulation; lighting choices; new, energy-wise appliances; and so many more. The trends and market are switching to more efficient appliances and equipment that reduce energy consumption because of their lower impact on the planet and the City's budget

An effort to convert to LED streetlights has been led by the City of Mobile.

Changing from internal combustion engines to electric vehicles will also reduce gas costs, greenhouse gas emissions, and streamline maintenance costs. The City has developed an Electric Vehicle Fleet Plan to replace five percent of the City's fleet with electric vehicles over the next five years. One additional benefit of the Plan is that planting EV charging stations can provide resources to end range anxiety for the local community which will, in turn, promote the growth of EVs across the City.

ENVIRONMENTAL

Reducing energy usage decreases greenhouse gas emissions and increases healthy air and water. Reducing internal combustion engine vehicle miles also has positive environmental effects including reducing small particulates and the chemicals that create smog. These pollutants have various adverse effects on public health.

Waste reduction and recycling can reduce the amount of waste going into the community landfill ensuring its longevity. Studies have also shown that people who recycle rarely litter. Changing habits, encouraging recycling and an end to litter will also result in reduced stormwater impacts thereby promoting healthy waterways.

SOCIAL

Energy efficiency upgrades, expanded recycling opportunities, access to electric vehicle charging stations also provide the city the opportunity to become more efficient, resilient, and sustainable. These efforts stand as the baseline from which better habits can be formed that will enable residents to be ready for the changes on the horizon.



EXISTING PLANNING DOCUMENTS

The City of Mobile has developed excellent planning documents over the last several years including a Capital Improvement Plan, the Map for Mobile, and the City's annual Action Plan. The City is also currently in the process of assessing its resilience and will develop a plan to address the findings.

The City approved an Electric Vehicle Fleet Plan that introduces strategies for electric vehicle additions and a road map for city efforts to broaden electric vehicle charging stations, which will increase accessibility and convenience for more community members that want to switch to electric or currently use electric.

A feasibility study on the opportunities to expand recycling is due to be completed in September 2023 and will inform and update this plan.



EECS DEVELOPMENT

The City of Mobile developed this Energy Efficiency and Conservation Strategy using the Department of Energy's "Blueprint #1-Energy Planning" as the outline. The Strategy is the City's first document of its kind and the goals defined are realistic and actionable. Updating inefficient systems and targeting energy waste will be the top priority in addition to continue to collect more substantial baseline information.

The data used to prepare this strategy included a close review of Mobile's energy bills: electricity, natural gas, and water. A brief analysis of the city's major facilities and the age of equipment was also reviewed. The City has very recently added utilities analysis overlapping with facilities and equipment in the NexGen system. Additional reports and data will become available as those systems come online.

Undertaking the effort of creating the EECS provided clear evidence of the need for an energy audit to achieve energy use reduction goals – especially relative to carbon usage and emissions. Having a better understanding of which buildings are the largest energy consumers, identifies which projects should be prioritized for upgrades and maintenance improvements. This Strategy is a living document that will be updated as new information becomes available and at least annually.

VISION

The vision of the energy efficiency plan is to save costs by lowering energy usage in our community. Energy usage can be cut in major municipal buildings, community centers, parks, museums, and more. Cutting energy usage where possible makes sense financially for the city and residents.

Long term goals include:

- Reducing electricity and natural gas usage.
- Reducing greenhouse gas emissions
- Expand recycling opportunities
- Add electric vehicles to the City of Mobile's fleet

These efforts will result in:

- Saving money annually
- Cleaner air and waterways
- Reduced impacts on landfills
- Expansion of sustainability practices community-wide
- More resilient community

GOALS FOR ENERGY EFFICIENCY & CONSERVATION

Near Term: Use the Department of Energy's Blueprint 2, Topic A, Energy Efficiency: Building Audits and Retrofits to develop an energy audit.

ENERGY USE REDUCTION

Specific Goal: Reduce energy use by 10%
Result will be increased yearly budget savings.

EV ADOPTION

Specific Goal: 5% of City fleet adoption
Result will be decreased maintenance and fuel costs.

GHG/CARBON EMISSION REDUCTION

Specific Goal: Reduce emissions relative to energy use reduction
Result will be more responsible energy use.

EXPAND RECYCLING OPPORTUNITIES

Specific Goal: Additional access to recycling
Result will be reduced impact on landfill and improved sustainability habits for community members.



IMPLEMENTATION STRATEGY

The City is planning to use the Energy Efficiency Conservation Block Grant funding to fund an energy audit and update an inefficient HVAC Unit as the first priority.

Using the Department of Energy's Blueprint 2, Topic A, Energy Efficiency: Building Audits and Retrofits, the city will hire a consultant to audit the City's energy usage. The audit is a critical first step for the following reasons:

1. Understand which buildings are the largest energy consumers
2. Identify which projects should be prioritized for upgrades and maintenance improvements
3. Define a starting point for better tracking energy and water billing, building operations and maintenance
4. Create a baseline understanding of carbon usage and GHG emissions in order to define a numeric reduction goal

The City also intends to use a portion of these funds to retrofit the City's Mobile History Museum's inefficient HVAC unit. The full cost of the equipment is \$240,000. One hundred fifty thousand dollars of the grant will go toward this project with the City matching the remainder of the equipment cost plus labor to replace the unit. This unit was identified as one of the oldest and least efficient in the City's system through a building assessment done in 2016.

COORDINATION WITH STATE & ADJACENT ELIGIBLE LOCAL GOVERNMENTS

The City of Mobile understands it must coordinate and share information with the State to thoroughly use energy efficiency and conservation benefits covered by the EECBG program. The city will coordinate and share information locally with Mobile and Baldwin Counties in addition to the other municipalities in these two coastal counties. The City will also work with the Energy Division of the Alabama Department of Economic and Community Affairs. The State Energy Office is responsible for maturing energy efficiency across the state of Alabama and governing the EECBG.

The City of Mobile strongly supports Baldwin County's effort to expand recycling through the construction of a Materials Recovery Facility. That project will cut costs for processing the city's recycling by more than 30% allowing for expansion. The City is also working with Mobile County reviewing the shared buildings and facilities for potential energy savings.

CONCLUSION

The four goals of Mobile's Energy Efficiency and Conservation Strategy are to reduce GHG emissions, reduce energy consumption, adopt electric vehicle usage, and expand access to recycling.

The City will also follow the EECBG Blueprint 2 in the near-term to hire a consultant to conduct an energy audit. Establishing a baseline level of energy usage in the city's buildings, pinpoint energy inefficiencies, and discover the city's greenhouse gas emissions will provide the baseline data needed to measure the effectiveness of this plan.



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