

CITY OF TALLAHASSEE

CLEAN ENERGY PLAN



CITY OF
TALLAHASSEE





MESSAGE FROM THE CITY OF TALLAHASSEE



Providing solar energy and free home energy audits, switching to electric buses, installing public EV charging stations and LED streetlights – these are some of many ways the City of Tallahassee has led the charge to a more sustainable future. This plan fortifies our continuing transition to a reliable, affordable, clean energy future, one that will create more local jobs, stimulate our economy, and strengthen Tallahassee's position one of the cleanest, healthiest, most desirable, and energy-affordable cities in the nation. Protecting our natural resources and preserving our unique character are integral to creating a resilient, prosperous, enjoyable future for our community.

Outlined on these pages is the City's forward-looking Clean Energy Plan. It is the result of years of technical and operational analysis, community input, and industry tracking. It will guide concentrated efforts in the coming years as we work to become a 100 percent net clean renewable energy community by 2050.

Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished. For example, sunlight and wind keep shining and blowing, even if their availability depends on time and weather. Our City is already integrating renewable energy into its operations with its 60 megawatt (MW) commercial-scale solar farm at the Tallahassee International Airport.

Across the country, the renewable energy sector is steadily expanding, which contributes to lower costs and increased adoption of clean energy technologies. This budding industry generates hundreds of billions of dollars in economic activity, with more growth forecasted. There is tremendous economic opportunity for the countries, states and cities that invent, manufacture, export, and integrate clean energy technologies.



Adoption of the City's Clean Energy Plan is another milestone in the organization's

long-standing commitment to sustainability. Because of the City's strong environmental stewardship, our Electric Utility's current CO2 emissions in tons per year, is less than its CO2 emissions in the early 1990s, despite a 45 percent increase in customer electric demand during this time. Through the City Utilities' Demand Side Management program in Fiscal Year 2022 alone, customers were the recipients of nearly \$2 million in residential and commercial energy efficiency loans and \$1 million in rebates and grants for ceiling insulation, HVAC and other energy-efficient materials and appliances. At the organizational level, the City achieved the prestigious LEED Gold certification through the U.S. Green Buildings Council's LEED for Cities and Communities, an international rating system that provides a framework for communities to benchmark their sustainability and resilience performance relative to peers across the globe.

Responsible development of all of America's rich, clean energy resources will help ensure its continued leadership in clean energy. Locally, implementation of this plan sets the stage for Tallahassee to continue its leadership within the industry as well. Moving forward, strategic investment, data-driven decisions, community input, and forward-thinking policies will steer the transition to a cleaner, more secure domestic energy future. This is the guiding document by which we will achieve a clean energy future.



TALLAHASSEE'S ROADMAP TO A CLEAN ENERGY FUTURE

The journey to clean energy has been underway for years in Tallahassee and healthy, vibrant living is a hallmark of life here. Clean, renewable energy means improved air quality, healthier residents, and green jobs for a stronger, more resilient community.

As a clean energy roadmap for our community, this plan identifies more than 87 potential actions organized under seven broad policy goals derived from recommendations made through the 2023 Energy Integrated Resource Plan study. Each action is centered on what City staff could accomplish both in-house (i.e., Greening City Operations) and in support of the community (i.e., Greening Our Community).

The policy goals are organized into three primary categories:

- **Clean, renewable energy**
- **Energy efficiency and conservation**
- **Transportation**

The Clean Energy Plan is designed to guide the City's clean energy efforts over the next 5-7 years, in line with the City's Strategic Plan goals and the community's expressed priority outcomes (listed right). During implementation, periodic refinements to the plan are anticipated and encouraged.

GREENING CITY OPERATIONS



1



3



6

GREENING OUR COMMUNITY



2



4



7

CLEAN, RENEWABLE ENERGY

- Provide reliable, resilient, and affordable energy services to our community
- Prioritize cost-effective clean energy implementation strategies
- Strengthen our local environment by transitioning to clean energy and reducing carbon emissions

ENERGY EFFICIENCY & CONSERVATION

- Create local jobs
- Prioritize locally produced clean energy
- Center clean energy solutions on equity
- Be the example of a successful utility transition to clean energy

TRANSPORTATION



These community priorities were developed through extensive outreach and engagement efforts. A series of public forums and stakeholder meetings were held between 2020-23 with a focus on having deep discussion with residents and stakeholders about the future energy landscape for the community. After learning about the opportunity via social media, the City's email listserv, radio, TV, online, word-of-mouth or one of the other outreach methods used, hundreds of residents participated either virtually or in-person at locations throughout the city.

City staff also attended neighborhood association meeting and events, such as the Greater Bond Engagement Day and Southside Farmers Market.

In addition to residents, stakeholder groups

were engaged, including, but not limited to, local chambers of commerce, United Partners for Human Services, Sustainable Tallahassee, Florida League of Women Voters, Tally 100% Together Coalition, Capital Area Community Action Agency, Building Industry Association of the Big Bend, The CLEO Institute, Alliance of Tallahassee Neighborhoods, and various green energy providers.

The Clean Energy Resolution called for City staff to partner with community-based organizations to measure energy cost-burden and adopt policies that reduce that burden for low-income customers. City staff teamed up with ReThink Energy Florida and local stakeholders through the Solar Energy Equity Deployment (SEED) initiative to develop strategies for equitable adoption of rooftop solar. City staff plan to re-engage local

agencies such as Capital Area Community Action Agency to refine program offerings.

The Clean Energy Plan complements other City directives, such as the Community Resilience and Urban Forest Master plans, all governed by the City's Five-Year Strategic Plan. Promoting the conservation of our urban forest through the Urban Forest Master Plan, for example, can reduce the heat island effect, reduce air pollutants, and boost multimodal transportation options.

The City maintains a dedicated website at Talgov.com/CleanEnergyPlan to provide information and online tools to help in the clean energy transition. Questions related to clean energy can be directed to CleanEnergy@Talgov.com.



GOAL

1

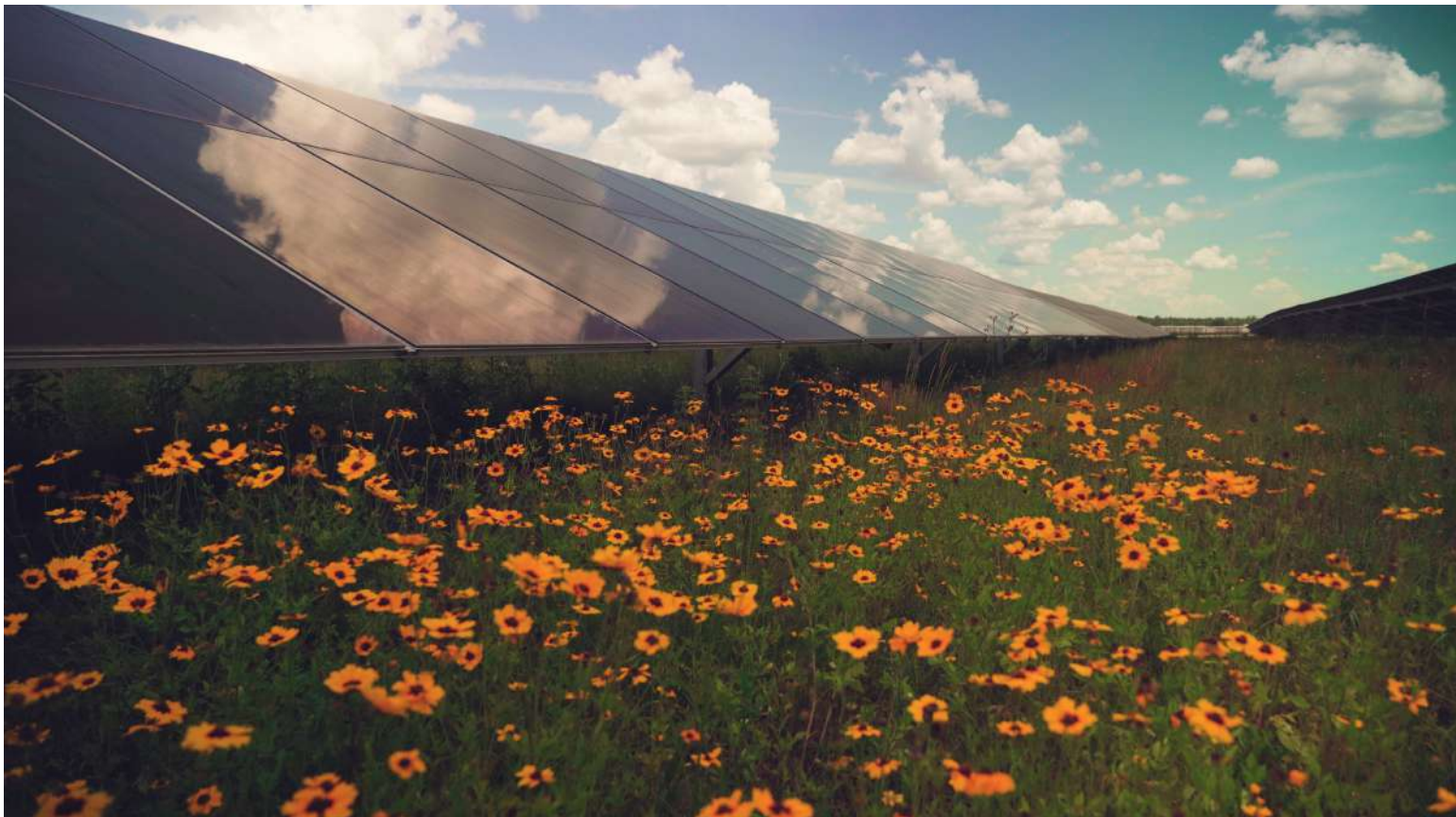
Add 120 - 200 megawatts (MW) of renewable supply capacity to the electric grid by 2030.

GREENING CITY OPERATIONS

CLEAN, RENEWABLE ENERGY

BACKGROUND

A 2023 Energy Integrated Resource Plan (EIRP) study conducted for the City's Electric & Gas Utility reveal that given the relative costs and availability of solar photovoltaic (PV) technology, lower cost pathways to a clean energy future are those that included greater adoption of solar energy in the earlier years. The exact sizing and timeline for adding more solar depends on consideration of energy storage, transmission capacity, and flexible load management to manage the intermittent nature of solar energy production. Although near-term efforts are focused on solar, other emerging clean energy technologies and fuel sources with capabilities to increase renewable supply capacity will be evaluated as they become available.



ACTIONS

- 1.1** Solicit, evaluate, and implement proposals for locally sited solar farms and solar energy storage systems interconnected to the grid.
- 1.2** Expand transmission capacity where appropriate to increase import options for renewable energy.
- 1.3** Expand distributed solar installations on City properties where feasible.
 - 1.3.1** Monitor and maintain performance of City-owned solar systems.
- 1.4** Promote voluntary flexible load management by residential and commercial customers to support renewable energy.

- 1.4.1** Implement incentive programs that overcome barriers to adoption of smart home and building automation technologies that allow the utility to notify participants of optimal times to plug into the grid.
- 1.4.2** Implement time-of-use and dynamic pricing options that relieve congestion on the grid (peak loads) and promote energy use during times of excess renewable energy.
- 1.4.3** Evaluate vehicle-to-grid integration that provides customer savings while enabling distributed energy storage capacity. Implement credits and rebates for early adopters.
- 1.4.4** Conduct an electric vehicle (EV) charging pilot that encourages participating EV owners to charge from the grid at optimal times.

- 1.5** Conduct an energy integrated resource planning study every 5 years to coincide with a demand-side management assessment (ref: Action Item 4.1). Evaluate the capacity of technologies and associated economics to facilitate the continued transition to clean energy.
- 1.6** Examine the viability of emerging clean energy options such as wind, green hydrogen, small modular nuclear reactors, renewable natural gas, microgrids, and long-duration energy storage technologies to supplement solar energy buildout.
 - 1.6.1** Partner with local universities and research firms to pilot these technologies as appropriate.
- 1.7** Pursue supplemental funding through external sources to optimize cost-effective implementation of this goal.



KEY CITY DEPARTMENTS

Electric & Gas Utility

Housing & Community Resilience (Sustainability); Environmental Services; Facilities Management; Communications; Grants Management



GOAL

2

Enable the installation of an additional 30 – 50 MW of distributed solar capacity in the community by 2030.

GREENING
OUR COMMUNITY

CLEAN, RENEWABLE ENERGY

BACKGROUND

Distributed solar is an important strategy for Tallahassee to achieve its 100% clean energy target by 2050 while helping address near-term transmission limitations. Applications include rooftop, ground-mounted, and floating solar as well as energy storage behind-the-meter. There will be unique challenges to overcome in encouraging and siting these applications. Broad public support and adoption will be sought.



ACTIONS

2.1 Implement programs that overcome barriers to increased rooftop solar adoption among all utility customer sectors, with special attention to inclusion of commercial property owners and income-qualified residents.

2.1.1 Examine the viability of rooftop leasing and community solar programs.

2.1.2 Advance green inclusive financing options to help under-resourced and under-banked residents with poor credit overcome financial barriers to increase rooftop solar adoption.

2.1.3 Examine the viability of a net metering true-up option that provides a utility payout for 'banked' or excess solar energy on an annual basis and that removes barriers to increased solar system size.

2.2 Implement incentive programs that overcome barriers to the installation of battery energy storage paired with solar on residential and commercial properties to increase community resiliency.

2.2.1 Encourage solar installers to make potential customers aware of the benefits of pairing solar with battery energy storage.

2.3 Implement incentive programs to overcome barriers to solar installation on open public and private spaces such as parking lots and engineered small water bodies, such as storm water ponds.

2.4 Collaborate with educational experts, local organizations, and trade groups on workforce training to meet the labor needs of an expanding clean energy market.

2.5 Create and maintain a registry of solar installers vetted by the City, which includes verifying proper licensing, insurance, and previous work history.

2.6 Explore potential amendments to land

development regulations and permit processes to support solar expansion on buildings, parking garages, parking lots, and other facilities.

2.6.1 Periodically evaluate software tools to assess their ability to expedite permitting of solar facilities, including state- and federally supported programs.

2.7 Leverage supplemental funding from external sources markets to optimize cost-effective implementation of this goal.

2.7.1 Investigate and evaluate the benefits of participating in a Social Renewable Energy Credit (SREC) market and implement as appropriate.

2.8 Maintain and expand the City's 'Clean Energy Transition' website to help guide residential and commercial sector decision-making around solar and energy storage.



KEY CITY DEPARTMENTS

Electric & Gas Utility

Customer Operations; Growth Management; Housing & Community Resilience; Office of Economic Vitality; PLACE; Communications; Grants Management



GOAL

3

Reduce annual energy consumption in municipal building operations by at least 5 percent by 2030 when compared to corresponding 2023 baseline.

GREENING CITY OPERATIONS

ENERGY EFFICIENCY & CONSERVATION

BACKGROUND

The City adopted a Green Building Policy to make municipal buildings as energy efficient as possible in order to reduce carbon emissions. Studies have shown that many such measures also reduce long-term operational costs and pay for the up-front expenses of installing energy efficient technology building improvements. Energy efficiency, conservation, and carbon emission reduction are an integral part of the City's municipal building projects and operations.



ACTIONS

3.1 Invest in energy efficient building design and technology for new and renovated municipal buildings in accordance with the City's Green Building Policy.

3.1.1 Design all new City buildings to achieve net zero energy use where feasible or take advantage of solar to produce more energy than is used.

3.1.2 Install the maximum solar generation capacity economically feasible on the roofs and open spaces of new City buildings.

3.2 Assess all existing City buildings for the potential installation of cost-effective measures, such as LED lighting, and operating setpoints to reduce energy use and to add solar generation.

3.2.1 Provide benchmarking, transparency, and auditing of City facility energy use

and carbon emissions.

3.2.2 Provide education to city employees relating to strategies for modifying workplace activities that will result in conserving energy.

3.3 Convert remaining City halogen-based and gas-fired streetlights (where City is permitted) to high-efficiency LEDs.

3.4 Pursue supplemental funding through external sources to optimize cost-effective implementation of this goal.



KEY CITY DEPARTMENTS

Electric & Gas Utility

Environmental Services; Facilities Management; Housing & Community Resilience [Sustainability]; Grants Management; Communications



GOAL

4

Enable the reduction of annual energy consumption community-wide by at least 5 percent by 2030 when compared to corresponding 2023 baseline.

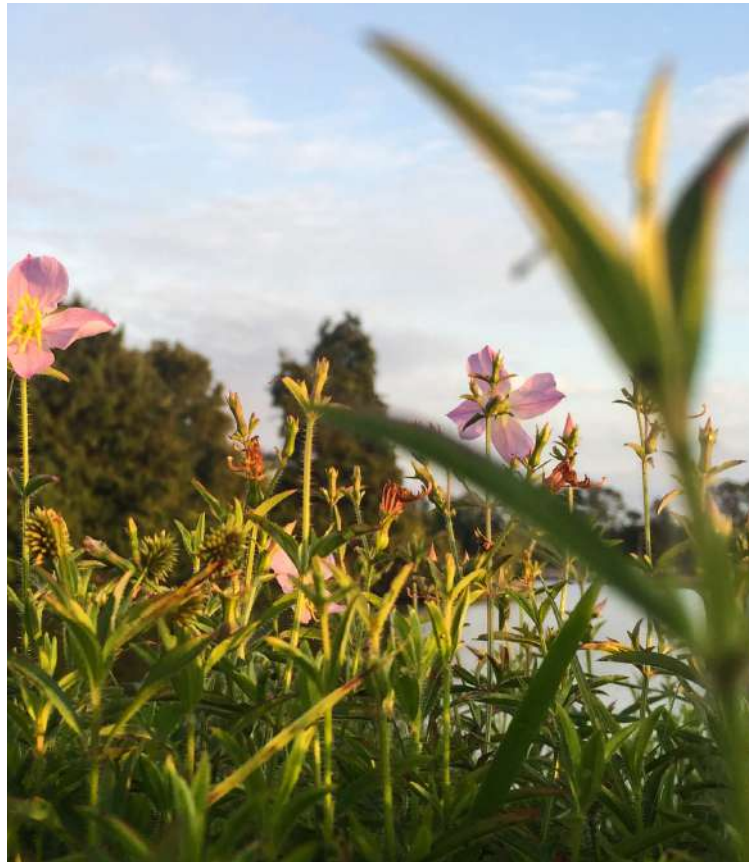
GREENING OUR COMMUNITY

ENERGY EFFICIENCY & CONSERVATION



BACKGROUND

Increasing the energy efficiency of existing and new buildings in our community is an important part of Tallahassee's transition to clean, reliable, and affordable energy. The City provides financial incentives for customers to control their electric usage. The City offers rebates, grants, and loans (on-bill financing) for a variety of energy efficiency improvements along with free energy audits and education for its customers. Since 2008, incentive programs alone have resulted in over 750,000 MWh of energy savings for our customers while also reducing carbon emissions. During this period, and despite the rise in global temperatures, summer peak demand remained relatively level on the electric grid.



ACTIONS

- 4.1** Conduct a demand side management (DSM) assessment every 5 years to coincide with an energy integrated resource planning study (Action Item 1.5) to guide the identification and implementation of cost-effective DSM strategies that includes measures for commercial and income-qualified customers.
 - 4.1.1** Identify and implement actions to enhance the promotion and outreach of DSM programs that ensure equitable participation of all customers.
 - 4.1.2** Periodically review and update DSM programs to assess their effectiveness and to incorporate emerging technologies.
- 4.2** Implement programs that overcome barriers to energy efficiency retrofits in single family and multifamily dwellings and in commercial buildings.
 - 4.2.1** Advance green inclusive financing options to help under-resourced and under-banked residents with poor credit overcome financial barriers to increase energy efficiency.
 - 4.2.2** Consider customized rebate programs, energy savings

performance contracts, green building certification, and bulk purchasing of clean energy equipment as part of commercial incentive programs.

- 4.3** Implement programs that shift usage away from gasoline and diesel-powered devices toward emission-free alternatives such as electric-powered lawn equipment.
- 4.4** Develop partnerships with local service providers to expand weatherization and energy efficiency in income-qualified households.
- 4.5** Implement a Neighborhood REACH-style effort to overcome barriers to increasing energy efficiency in income-qualified households and neighborhoods with older housing stock, with income-qualified households receiving priority.
- 4.6** Integrate clean energy equity planning into other City initiatives, such as Neighborhood First.
- 4.7** Identify and quantify the source of greenhouse gas emissions in our community and inform the public on a biennial basis of the progress towards the reduction of those emissions beginning in 2025.
- 4.8** Pursue supplemental funding through external sources to optimize cost-effective implementation of this goal.

- 4.9** Maintain an online library of clean energy guidelines and other resources to serve as a one-stop resource for residential and commercial information, including information about available local, state, and federal incentives.



KEY CITY DEPARTMENTS

Electric & Gas Utility

Customer Operations; Housing & Community Resilience (Sustainability); Growth Management; PLACE; Communications; Grants Management



GOAL

5

Work with businesses, developers, and large-scale urban projects to encourage green building design and construction in the community.

GREENING OUR COMMUNITY

ENERGY EFFICIENCY & CONSERVATION

BACKGROUND

Buildings are currently responsible for 40 percent of annual global energy related carbon emissions: 27 percent from operational emissions (energy needed to heat, cool and power them) and the remaining 13 percent from materials and construction. Urban sprawl and other low-density, single-use development patterns represent inefficient uses of land and can result in increased carbon emissions, threaten environmental features, and prematurely convert rural lands to more suburban uses. In order to achieve the City's goal of being carbon free by 2050, we must manage growth wisely by encouraging infill and redevelopment, allowing more neighbors to live in existing neighborhoods, allowing a mix of uses in closer proximity to residential areas, utilizing suburban retrofit strategies to reduce vehicle miles of travel, and implementing incentives that result in sustainable development, reduced energy consumption, and fewer carbon emissions.



ACTIONS

- 5.1** Research use of green building principles and sustainable construction in the land development regulations of other local governments and assess how they may be incorporated into the Land Development Code.
- 5.2** Incorporate sustainable building practices into the scoring system used by the Office of Economic Vitality in its review of potential projects for its Targeted Business Program.
- 5.3** Evaluate the potential effectiveness of a green building rating system and financial or regulatory incentives for developers to encourage the incorporation of green building principles and sustainable construction into their development projects. Programming and

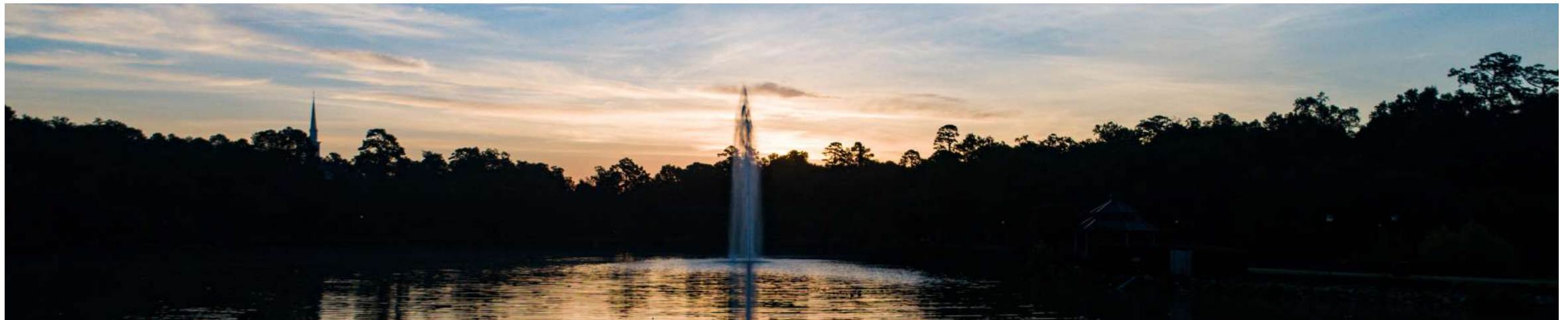
incentives to consider include:

- 5.3.1** Offering ad valorem tax credits to developers who certify that their buildings comply with the green rating system.
- 5.3.2** Offering vouchers that help offset permit review fees for developers who certify their buildings as complying with the green rating system.
- 5.3.3** Providing grants to developers to offset costs associated with complying to the green rating system.
- 5.3.4** Establishing a revolving loan fund to be used for low interest loans to those seeking to build or renovate to the green rating system that includes reducing energy use in building operations and maintenance.

5.3.5 Providing free planning, certification training, or technical assistance related to the green rating system for developers who may be unfamiliar with green building practices.

5.3.6 Prioritizing training and certification of pertinent City employees on green building practices to aid in the implementation of this goal.

5.4 Provide information to developers and builders with respect to federal and state grants available for incorporating green building technology, energy efficient appliances, and PV solar into their building projects.



KEY CITY DEPARTMENTS

Electric & Gas Utility

Growth Management; PLACE; Housing & Community Resilience; Communications; Office of Economic Vitality



GOAL

6

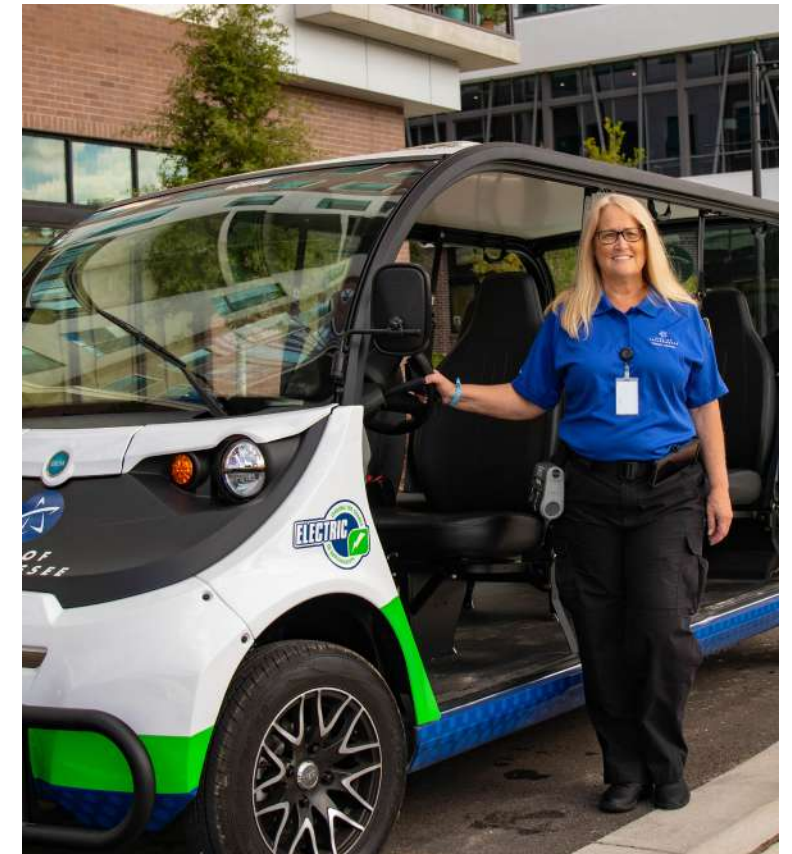
Complete the transition of StarMetro bus fleet and City light duty vehicles to emission-free, all-electric vehicles (EVs) by 2035.

GREENING
OUR OPERATIONS

CLEAN TRANSPORTATION

BACKGROUND

The Clean Energy Resolution set forth goals to shift City light duty vehicles and StarMetro fixed route buses to 100 percent electric by 2035. The remainder of the City's vehicle fleet will move to all electric as the technology becomes available for reliable service delivery.



ACTIONS

- 6.1** Construct an electric bus charging depot at the main StarMetro facility (555 Appleyard Drive) to support StarMetro fleet conversion.
 - 6.1.1** Phase 1: Make necessary site improvements, including solar-ready gantry-type shelter. Install one 1.44 MW charger with 16 pantograph dispensers to charge 16 buses.
 - 6.1.2** Phase 2 (FY26): Install a second 1.44 MW charger and 16 more pantograph dispensers.

- 6.1.3** Phase 3 (FY30): Install the final 1.44 MW charger with 16 pantograph dispensers. Incorporate solar and energy storage as needed to optimize grid operations.
- 6.2** Integrate electric bus charging and solar readiness into planned Southside Transit Center.
- 6.3** Continue to install EV charging stations on municipal properties that serve City fleet vehicles and, where viable, allow employee and public access to these charging stations.
 - 6.3.1** Develop a community-wide strategy for deployment of EV charging infrastructure

that accounts for potential charging at home, workplace, and retail establishments.

- 6.4** Continue to migrate StarMetro fixed route bus fleet and City light duty vehicles to EVs.
- 6.5** Encourage and support the reuse and recycling of used EV batteries locally.
- 6.6** Revive, update, and enforce the City's vehicle anti-idling policy to reduce emissions.
- 6.7** Pursue funding through external sources to optimize cost-effective implementation of this goal.



KEY CITY DEPARTMENTS

Fleet Management & Star Metro

E&G Utility; Customer Operations; Housing & Community Resilience (Sustainability); Communications; Grants Management



GOAL

7

Enable increased purchase of electric vehicles (EVs) such that by 2030 at least 10 percent of new car sales (retail and fleet) to Tallahassee's residential and commercial sectors are EVs while at the same time promoting the development and use of other clean, safe, affordable multimodal transportation options.

GREENING OUR COMMUNITY

CLEAN TRANSPORTATION

BACKGROUND

The future of clean transportation centers on transitioning from internal combustion engine vehicles to emission-free options such as EVs while expanding multimodal transportation. Transition to EVs requires advancing both new and used EV car sales as well as enabling access to vehicle charging. At the same time, the City seeks to encourage shifting to other transportation modes that are safe, accessible, and energy efficient, such as walking, biking, carpooling, taking the bus, and prioritizing development in and adjacent to existing neighborhoods and commercial areas inside the Urban Services area, particularly within the multimodal transportation district, to reduce car-dependent transportation.



ACTIONS

- 7.1** Implement programs that overcome barriers for commercial, government, and non-profit entities to transition their fleets to all-electric vehicles, including electrification of off-road equipment such as forklifts, tractors, and golf carts.
- 7.2** Implement incentive programs that overcome barriers for businesses, institutions, and property owners to install EV charging stations that are accessible to their patrons and the general public.
- 7.3** Implement incentive programs that overcome barriers to the purchase or lease of EVs among income-qualified residents.
 - 7.3.1** Evaluate the establishment of an EV loan program for income-qualified residents. Implement as appropriate.
- 7.4** Develop a comprehensive public EV charging infrastructure plan for the community that provides open access to charging stations.
 - 7.4.1** Provide information on the City's 'Clean Energy Transition' website on the pros and cons of owning an EV, including climate change mitigation, cleaner air, lower

operating costs, and elimination of routine maintenance.

- 7.4.2** Implement incentive programs that overcome barriers for residents to install EV chargers at their homes.
- 7.5** Implement incentive programs that overcome barriers to increased e-Bike, e-Scooter, and bicycle ridership.
 - 7.5.1** Prioritize funding for the expansion and modernization of bicycle lanes throughout the city, including shared use (multiuse) paths.
- 7.6** Increase StarMetro access and ridership through optimized and enhanced routes and amenities.
 - 7.6.1** Evaluate establishing a website application that allows residents to calculate and compare costs associated with riding the bus to driving to work.
 - 7.6.2** Evaluate the viability of shuttle service from airport to C.K. Steele Plaza.
- 7.7** Evaluate potential updates to land development regulations and permit processes to promote EV readiness and adoption.
- 7.8** Implement an education and outreach program that promotes EV adoption along with multimodal transportation options aimed at reducing vehicle miles

traveled, such as increasing the amount of walking and biking infrastructure, and shifting from single-occupant commuting to multiple-occupant transit through carpooling, parking incentives, and transit incentives.

- 7.8.1** Partner with key stakeholders to promote EV charging adoption among developers, multifamily housing managers, employers, business destinations, private fleets, auto dealers, and low-income neighborhoods.
- 7.8.2** Partner with key stakeholders to promote deployment and use of multimodal transit, such as taking the bus.
- 7.9** Pursue supplemental funding through external sources to optimize cost-effective implementation of this goal.



KEY CITY DEPARTMENTS

Electric & Gas Utility

Housing & Community Resilience (Sustainability); Real Estate Management; Customer Operations; StarMetro; Fleet Management; Communications; PLACE; Grants Management



PURSUIING CLEAN ENERGY



Outlined in this Clean Energy Plan is much of the how for creating a clean energy future locally. The why is equally important.

LOCAL PRIORITIES:

Community feedback provided during the development phase of this plan resulted in seven priority outcomes that residents would like to see realized.

- Provide reliable, resilient, and affordable energy services to our community
- Prioritize cost-effective clean energy implementation strategies
- Strengthen our local environment by transitioning to clean energy and reducing carbon emissions
- Create local jobs

- Prioritize locally produced clean energy
- Center clean energy solutions on equity
- Be the example of a successful utility transition to clean energy

The goals outlined in this plan seek to address these community priorities and allow the City to continue being a leader in sustainability.

Education will be a critical component, and residents are encouraged to remain engaged and informed.

RELIABILITY & RESILIENCE

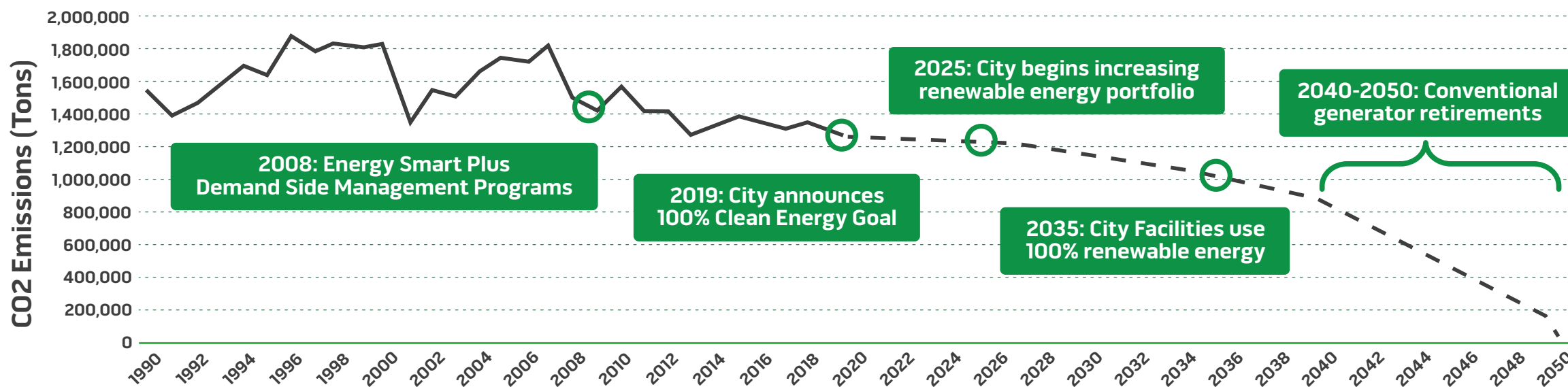
The risk of disruptive events will increase in the future as droughts, heat waves, more intense storms, and increasingly severe wildfires become more frequent due to global warming – increasing the need for resilient,

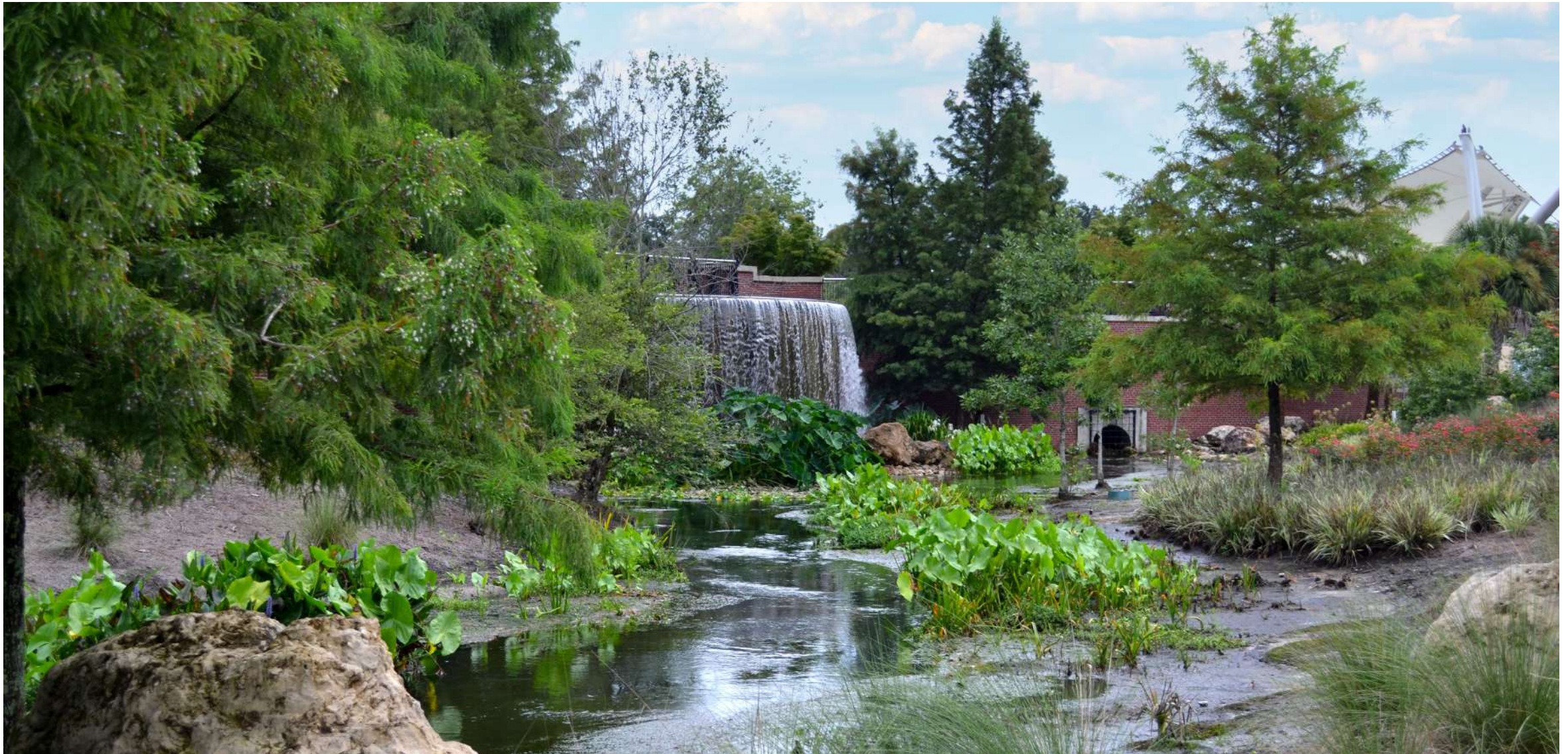
clean technologies.

Renewable energy sources are less prone to large-scale failure because they are distributed and modular. [Distributed systems are spread out over a large geographical area, so a severe weather event in one location will not cut off power to an entire region. Modular systems are composed of numerous individual solar arrays. Even if some of the equipment in the system is damaged, the rest can typically continue to operate.]

Electric vehicles, too, have the potential to play an important role in grid stabilization by offloading stored energy back to a home or the grid during peak demand times. They can also provide emergency power during blackouts caused by weather or other disruptive events.

Tallahassee CO2 Emission Reduction Targets





ENVIRONMENTAL STEWARDSHIP

The City's strong environmental stewardship has already resulted in reduced CO2 emissions and improved generating equipment efficiency. It's also aided in maintaining financial stability, investment-grade bond ratings, and affordable electric rates, among other positive outcomes.

AFFORDABILITY

Although the transition to clean energy will mean some upfront investment, in the long-term clean energy will be more affordable than

fossil fuels, especially given the fluctuating, often unstable price of those fuels. Solar, for example, is a free fuel.

The cost of many clean energy technologies has fallen, and the cost of solar and building efficiency improvements are now often less than fossil fueled alternatives.

The City is committed to helping everyone make this transition and will continue to provide financial incentives (e.g., loans, grants, and rebates) to make it more affordable. As citizens and businesses take advantage of

these incentives it will lower our community's energy demand and save everyone more money.

By switching to clean energy, our community will see immediate and long-term benefits – cleaner air, improved public health, reduced medical costs, more jobs, economic benefits, and stable energy prices, but perhaps most critical of all, we will be reliant on energy fuels that are inexhaustible, pollution free, and lower cost.



LEADING THE WAY



As a forward-thinking organization, the City is already making progress toward many of the goals outlined in this plan.

As of summer 2023, the City has installed 52 EV charging stations for its light-duty fleet vehicles and three overhead chargers for in-route bus charging. As of February 2023, electric and hybrid fleet vehicles have been driven more than 3.4 million miles, representing an estimated savings of over 2.5 million pounds of CO2.

To further these efforts, in 2022, the City received \$5.1 million from the Florida Department of Environmental Protection and U.S. Environmental Protection Agency's Diesel Emissions Reduction Act grant to acquire up to five battery-electric buses. In summer 2023, it also received grant support of more than \$20 million from the Federal Transportation Agency to help develop essential battery electric charging infrastructure, add eight new battery electric buses and develop a workforce training program to maintain the fleet. Additionally, a \$15 million RAISE grant from the U.S. Department of Transportation will support construction of the Southside Transit Center, enhancing access to public transportation as the City continues to grow safe, sustainable, reliable transportation for all.

Additionally, the City operates some of the cleanest, most efficient power plants, using natural gas as the primary fuel, as of 2023. Natural gas is the cleanest fossil fuel currently

available, especially when coupled with the highly efficient units the City operates. Since 2000, the City has improved its overall generating fleet fuel efficiency by over 30 percent and reduced its environmental emissions by over 80 percent.

These are a few of the many ways the City is paving the way toward a cleaner energy future.

ADDRESSING ENERGY BURDEN

A key element within the City's plan is maintaining the affordability of energy services for all residents. The term "energy burden" refers to that portion of a customer's household income that goes toward paying their utility bill. The City has been actively working to lessen this disparity for years.

In 2010, it launched REACH, which targeted income-based neighborhoods with door-to-door service to provide in-home energy assessments, energy-efficiency measures, hands-on education, and energy- and water-saving items [faucet aerators, new air filters, etc.] – all free to the customer. From 2010-present, REACH serviced more than 9,400 homes.

Additionally, the City has a robust demand-side management (DSM) program offering energy-use education, free home and business energy audits, and incentives designed to help customers decrease consumption and utility costs. Through this program, the City

CLEAN ENERGY RESOLUTION

In 2022, the City made significant progress towards the milestones:

100% of municipal buildings are covered by clean, renewable energy.

15% of the City's light duty fleet is electric with 25% anticipated by 2024

33% of StarMetro's bus fleet has transitioned to electric vehicles

SOLAR POWER

The use of solar energy helped the City continue to pursue clean energy goals in FY22:

114M KWH derived from City solar farms

11.9M KWH estimated electricity generated in FY22 by the City's Solar Net Metering program, an approximately 56% increase of FY21

4.8M LBS of greenhouse gas emissions avoided due to solar net metering in FY22 alone

GREEN FLEET TRANSITION

The City is committed to converting 100% of its light-duty fleet to electric vehicles by 2035. Today's fleet includes:

75 electric vehicles (EV) in use, with an additional 12 ordered

69 Compressed Natural Gas vehicles

63 hybrid vehicles, with an additional 72 ordered



has issued more than \$30 million in incentive payments (via rebates, grants, and loans) since 2008. This has generated over 500,000 megawatt hours in customer energy savings and over \$55 million in savings on their utility bills.

Expanding its efforts again to ensure equitable energy access, the City partnered with local stakeholders and neighborhood leaders to deepen its understanding about how to reduce barriers to solar in low-to-moderate income neighborhoods. Spearheaded by ReThink Energy Florida, funded by the U.S. Department of Energy's Solar Energy Technologies Office and administered by the National Renewable Energy Laboratory (NREL), the project aims to provide a pathway to install solar at a neighborhood scale that can be replicated.

EXPANDING RESEARCH

The City also collaborates with researchers from Florida State University (FSU), Florida A&M University (FAMU), and NREL to advance clean, renewable energy technologies. A recent project at FSU involves interconnecting a 100-kW solar and energy storage facility on the grid to examine operations.

In collaboration with the Sierra Club and Energy Foundation, NREL also provided technical assistance to City staff using their State and Local Planning for Energy (SLOPE) and Low-income Energy Affordability Data (LEAD) tools to create customized analyses for Tallahassee. These data-driven tools are helping City staff identify and address opportunities to target clean energy and efficiency programs and policies that benefit low- and moderate-income residents.

ENERGY INTEGRATED RESOURCE PLAN

Portions of this research and data contributed to the development the City's energy integrated resource plan (EIRP), which was conducted by an outside consulting and engineering firm with expertise in municipal electric and gas utility planning, clean energy, sustainability, and public engagement. Below are highlights of the EIRP, which can be accessed in its entirety at Talgov.com/CleanEnergyPlan.

Currently, our community's electrical needs are generated through a mix of owned, conventional, electric generation:

- Three natural gas-fueled generating stations (96 percent of load needs are served through these)
- Purchase power agreements consisting of two solar facilities at the airport maintained by a third-party solar vendor (four percent load needs served)

The consultant's analysis used "Resource Portfolios" that reflect different combinations of energy resources, such as utility-scale solar with energy storage, individual rooftop solar, wind and solar energy imported into our electric system, renewable natural gas, green hydrogen for fuel cells and more. Each portfolio was crafted with electric system reliability in mind and tailored to Tallahassee.

The resource portfolios were carefully reviewed to assess feasibility, cost and more. A focus within the review was maintaining grid stability, meaning the amount of electricity produced must be equal to the energy consumed at all times.

Recommendations based on the plan include:

- Next 3-5 years: Invest in energy efficient initiatives, invest in additional solar, implement incentives for distributed solar, invest in battery storage, strengthen the in-city electrical grid, seek clean energy grant funding, revisit and reassess
- Next 5-10 years: Avoid decisions that preclude future options, procure land for future solar buildout, consider hydrogen fuel cell project, seek next-gen technology grant funding and joint participation opportunities

GUIDING PRINCIPLES

The following graphic depicts the key principles that guided the consultant's work on the EIRP study. Additional perspective on these tenets was sought as part of the multi-year community engagement effort.



CLEAN ENERGY RESOURCES



As of mid-2023, the only clean power source that is available and affordable for Tallahassee is solar, supported by lithium-ion battery storage. The cost of these technologies has declined dramatically over the last decade. In fact, the cost of utility scale or rooftop solar today is about 25 percent of what it was 10 years ago. Solar costs should soon fall even more as new lab-proven improvements are deployed. Lithium-ion batteries have also seen performance improvements and price decreases per unit of energy stored. These changes have made solar energy costs competitive with other technologies to produce electricity. For the next five to 10 years, the City plans to add solar and battery storage.

Beyond this timeframe, the pace at which the City converts to 100 percent clean energy will be influenced by advancements in technology and reductions in the cost of generation. For now, the City will watch these developments without making a commitment to any specific technology.

ROLE OF NATURAL GAS

Natural gas currently remains a vital component of the City's strategy to minimize the consumption of fossil fuels and the reduction of greenhouse gases. Ample capacity exists within the pipeline to accommodate new natural gas customers. Additionally, were the City to leave the natural gas market, other competitors could step in. City staff are

closely tracking the growing research and development into natural gas alternatives such as Renewable Natural Gas (RNG) and Green Hydrogen (H₂). These show promise as viable carbon-neutral fuels, which could contribute to local clean energy goals while improving the City system's overall reliability and resiliency through fuel diversity.

The City was ahead of the curve to move the Electric Utility to natural gas, which has resulted in a dramatic reduction in the emission of carbon dioxide, ahead of CO₂ reductions required under 2020 Paris Accords. The City recognizes, however, that dependence on natural gas is an interim step on the path to its 2050 clean energy goal.

SOLAR POWER

Solar energy can provide your home and the City with clean, renewable energy. There are more than 1,000 rooftop solar installations across Tallahassee. Deciding whether solar is right for you and how much to install requires careful consideration.

With solar net-metering, when your rooftop solar system generates more power than your home or business can use. Your electric meter will essentially "spin backwards," thereby lowering your monthly electric bill. Excess solar energy produced during the daytime typically offsets energy consumption at your premise at night. Excess power (generated by small to moderate-sized PV units, up to 100 kilowatts) may be returned to the City of Tallahassee Utilities at the full retail value, including taxes.

The City offers on-bill financing for solar PV systems on qualifying homes. Visit the Energy-Efficiency Loans for Residential Customers page on Talgov.com for more information.

Additionally, the 2022 Federal Inflation Reduction Act revives a 30 percent tax credit for installing residential solar panels and extends the program until Dec. 31, 2034. Home battery storage also qualifies.



Choosing solar will not fully eliminate your utility bill. You will still be required to pay the monthly electric customer charge to be connected to the grid, the cost of energy received from the grid above what your solar system produced, and all fees associated with other, non-electric services you receive from the City of Tallahassee (e.g., water, sewer, etc.).

Solar will not provide your home with power during an electric grid outage, unless a battery energy storage system is installed and paired with your solar system.

Use these tips as you determine if solar is right for your home or business:

- Seek quotes from at least three solar vendors to ensure you are receiving a fair price for your system
- Inquire about equipment and performance warranties as well as the company's ability to carry out warrantied work
- Consult with your home insurance provider to understand what damage is covered under your existing policy, for example in the event of a major storm
- Ensure the vendor you select has the proper licenses to operate in Florida. They should be able to produce proper licensing

documents on request

- Carefully review the terms and costs of your loan if you are financing your solar system over many years. Interest rates will affect the final price.
- Be prepared for periodic upkeep to maintain the performance of your solar system over time. Solar panels must be cleaned regularly, and invertors must be replaced as they fail. Without proper maintenance, your system will not operate at peak performance.



CLEAN ENERGY RESOLUTION



In 2019, our City Commission took the bold and visionary step of committing to transition Tallahassee to a 100 percent net clean, renewable energy future by 2050, with continued reductions in greenhouse gas emissions along the way. With the unanimous passage of the Clean Energy Resolution, Tallahassee became one of approximately 160 cities in the U.S. to set this ambitious and important goal.

Section 1. The City's goal is to reach 100 percent net clean, renewable energy in Tallahassee by the year 2050, including all public and private uses. When the goal is met, the City will, on average, produce as much clean renewable energy as the community consumes, and any unavoidable use of non-renewable energy will be balanced by the export of renewable energy to other communities.

Section 2. While working toward the ultimate goal, the City shall establish the following:

- [i]** Operation of all City facilities using 100 percent renewable energy no later than 2035.
- [ii]** Shifting City light duty vehicles to 100 percent electric no later than 2035.
- [iii]** Shifting StarMetro fixed route buses to 100 percent electric no later than 2035.
- [iv]** The remainder of the City's vehicle fleet will move to all electric as the

technology becomes available for reliable service delivery.

Section 3. "Clean, renewable energy" to achieve the stated goals includes energy produced from sun, wind, hydro, geothermal, sustainable biopower, and other technologies that are currently not known. Resources will be evaluated for carbon impact, public health, and environmental justice implications.

Section 4. On the path to 100 percent clean, renewable energy, the City's goal is to continue the reduction of greenhouse gas emissions as much as possible.

Section 5. While transitioning to clean renewable energy, the City will continue to recognize and address the need for reliable energy services and be technology driven.

Section 6. The City will give priority to ensuring that the most vulnerable residents share in the benefits of the clean energy transition. The city will create structured mechanisms to include low-income and historically marginalized residents in the decision-making process. Furthermore, the City will seek to partner with community-based organizations to measure energy cost-burden and adopt policies that reduce the cost-burden for low-income customers.

Section 7. With broad public input, the City will adopt a Community Clean Energy Plan, designed to move the City's electric utility, other City operations, transportation, and

other public and private uses of energy to 100 percent clean renewable energy. This will be inclusive of a full Integrated Resource Planning (IRP) process that will be focused on developing a plan to achieve all goals outlined in this resolution. The first steps in this plan will be the engagement of an outside firm to conduct the Clean Energy Plan and IRP. The process will include broad community input, consider the technological, operational, and regulatory aspects of the electric system, reliability, and evaluate financial impacts. The planning process is expected to result in intermediate targets and steps to achieve or exceed the goals in this resolution. The IRP will include analysis of the feasibility and cost of converting to clean renewable energy at various dates, from as early as 2035 to as late as 2050.

Section 8. The City is committed to achieve a goal of 100 percent clean renewable energy no later than 2050. The goal may be advanced as technology advances, depending on numerous factors, including the rate at which the price of clean renewable energy production and storage decline. This plan will be annually reviewed by the City Commission with public input and updated as technology advances.







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