

Strategic Energy Action Plan (SEAP) Update

Background

Sustainable and Resilient Charlotte by 2050 Resolution. In June 2018, the Sustainable and Resilient Charlotte by 2050 Resolution was unanimously passed by City Council. This resolution set aggressive and aspirational municipal and community-wide greenhouse gas emissions reduction goals for the City of Charlotte. Specifically, it **strives to have City fleet and facilities fueled by 100 percent zero-carbon sources by 2030**. It also **sets a community-wide goal for Charlotte to become a low carbon city by 2050** by reducing greenhouse gas emissions to below 2 tons of CO₂ equivalent per person annually. Lastly, it called for a Strategic Energy Action Plan to determine how Charlotte would reach its goals.

Strategic Energy Action Plan. In December of 2018, City Council unanimously adopted the Strategic Energy Action Plan (SEAP). The SEAP was developed in partnership with community stakeholders through greenhouse gas emission reduction scenario sessions and targeted engagement. This resulted in a comprehensive framework of internal and external actions, focused on transportation, buildings, energy generation, and workforce development and equity.

The American Cities Climate Challenge. The American Cities Climate Challenge (ACCC) is a Bloomberg Philanthropies' initiative that aims to accelerate and deepen U.S. cities' efforts to create the greatest climate impact through 2020 and showcase the benefits – good jobs, cleaner air, and cost savings – that climate solutions bring. Charlotte applied and was selected as one of the 25 cities in December of 2018. As part of the ACCC, the city received 2 technical advisors, who are embedded in the organization and over 25 technical assistance partners to support the work. The ACCC has accelerated the goals of the SEAP in the first year and a half and has provided critical policy and project support.

Year Two of SEAP Implementation and the American Cities Climate Challenge

While year one was focused on preparation, internal organization and data analysis, year two so far has been focused on building momentum. Below is an outline of progress broken out by SEAP focus area category for calendar year 2020, including budget investments made by City Council in the FY2021 budget.

Transportation

Policy Advancement

- ❖ Two New Sustainable Fleet Policies signed by City Manager in May 2020
 - Automated Vehicle Locator (AVL) Policy
 - Requires AVL device installation on most City-owned vehicles. Data will drive the City to make smarter vehicle and transportation decisions by identifying opportunities to reduce carbon through:
 - determining electric vehicle (EV) suitability, fleet right-sizing, and idle reduction
 - \$250K investment in AVLs in FY2021
 - Sustainable & Resilient Fleet Policy
 - Directs the City to engage in vehicle purchase and operating behaviors consistent with the SEAP by directing departments to purchase the lowest-emitting vehicle depending on vehicle class, usage, and available technology
 - The City is being recognized as national leader with the implementation of this policy

Electrification Progress

- ❖ Electric Vehicles
 - Adding 27 electric vehicles in FY21 to our light-duty fleet, for a total of 42
 - \$740k investment in electric vehicles in FY21
- ❖ Electric Vehicle Charging Infrastructure
 - Council approved \$1.0M investment in electric vehicle charging infrastructure for FY21
 - Adding 38 chargers, for a total of 90 at city-owned facilities
- ❖ Total Cost of Ownership Model
 - Instituted model to look at lifetime of vehicle to determine best cost vehicle
- ❖ CATS Buses
 - Low or No Emissions Grant
 - Won a \$3.7M grant for electric buses, infrastructure, and training, with a \$3.7M CATS match
 - Grant is for six battery electric buses, charging infrastructure, and workforce development training
 - Duke Energy is our private procurement partner and will test three different bus manufacturers
 - RFP for transition to battery electric buses
 - Includes buses, charging station infrastructure, and energy modeling for battery storage
 - Proposals are due mid-September
- ❖ Aviation Buses
 - The Airport is transitioning bus fleet to electric within 10 years in order to realize the following benefits:
 - Decreased tailpipe emissions
 - Lower total cost of ownership
 - \$4.5M for electric buses and infrastructure in FY21 budget

Community Engagement

SEAP External Content Groups

- ❖ Green Faith Summit
 - Led by members of the Energy Generation SEAP group
 - Summit scheduled for 2021 to engage houses of worship on environmental issues by providing solutions on how to reduce energy use at their facilities and helping activate the voice of the community

Communication Through Art

- ❖ Cool Globes
 - Partnered with Discovery Place to display international exhibit, Cool Globes, throughout uptown
 - Each globe covers a different environment-related theme, many with connected city messages, including SEAP goals, Green Source Advantage (GSA) program, Charlotte Water's methane -energy generation, and the Comprehensive Plan, and Public Transit
 - Local artists painted several Globes which will remain in Charlotte when the exhibit is over in September

Energy Generation

Large Scale Off-Site Solar

- ❖ City Council Approved Green Source Advantage Program in February
 - Projects a \$2.0M savings over the 20-year term generated by the 35-Megawatt system
 - Moves the City 24 percent closer to the zero carbon energy goal as stated in the SEAP
 - Places Charlotte as the leader in municipal renewable energy procurement in NC

- Supports public health benefits for the region
- Provides a carbon emissions reduction that equates to removing ~12,000 passenger vehicles from the road annually
- Begins construction in 2020

On-Site Solar

- ❖ Solar panel installations at city facilities
 - Council approved FY21 investment of \$2.0M for rooftop solar on municipal buildings
 - Will generate 1 megawatt of energy, which will yield air quality benefits, and create workforce development opportunities
 - Will generate projected energy savings of over \$2.0M over the 25-year life

Energy and Equity in Planning

- ❖ Conducted Urban Land Institute panel on integrating SEAP and the concept of resilient innovation districts into the Comprehensive Plan and UDO
 - A full report will be delivered to Charlotte in September

Workforce Development & Equity

Green Workforce

- ❖ Launched Renewable Energy and Efficiency Workforce Training (RENEW)
 - Focus of training is specific for careers in clean energy economy
 - Mechanical and electrical trades
 - Building performance
 - Facilities management
 - Career cohort program launching with CARES ACT and existing City funding; Approx. \$500K investment
 - Urban League of Central Carolinas will provide skilled trades training
 - Training and placing at least 45 students into entry level positions with Trane Technologies and partners
 - First cohort of students to begin paid training in September

Planned Item for Council Action This Year

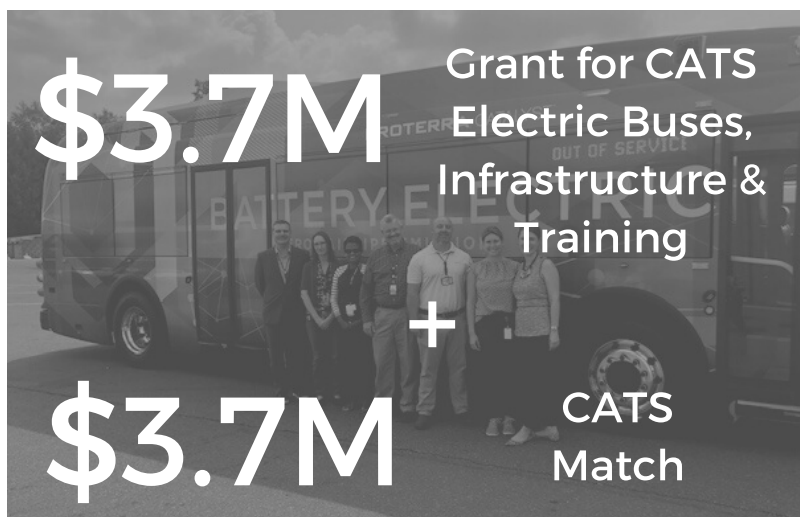
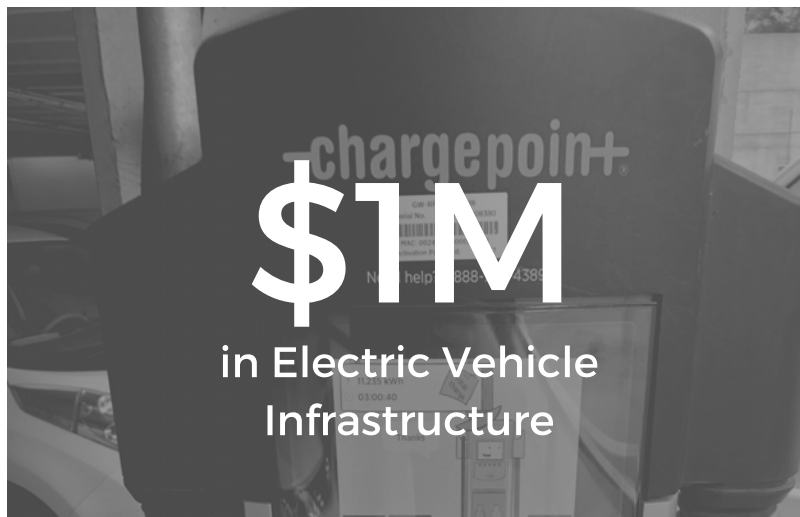
Buildings

Updating Council Adopted Policy for Consideration

- ❖ Sustainable Facilities Policy – Update of 2014 Policy
 - Recommended updates to include energy efficiency and renewable energy initiatives
 - Revisions for Council consideration will align policy more closely with the 2030 SEAP goals
 - Proposed policy will reduce energy consumption through:
 - Energy efficiency investment prioritization
 - Temperature set points and personal appliances
 - Annual energy reporting
 - Policy will include generating on-site energy
 - Solar roofs to be included in the project scope of new construction projects unless the inclusion is cost prohibitive
 - Policy would require new construction and potentially renovation of parking lots to be ready for installation of EV chargers

FY2021 SEAP

INVESTMENTS, GRANTS & POLICIES



SEAP
STRATEGIC ENERGY ACTION PLAN
 CITY of CHARLOTTE