



CHARLOTTESM

Energy Resolution and Strategic Energy Action Plan

Environment Committee

April 30, 2018

- History and Alignment Work
- Why a Low Carbon Future
- Sustainable Energy Action Plan
- Draft Resolution
- Next Steps

History

- 2015 – Mayor Clodfelter signed Global Covenant of Mayors commitment
- As part of this commitment, Charlotte agreed to accomplish the following:
 - Register commitment
 - Complete greenhouse gas emissions inventory and report to CDP (formerly Carbon Disclosure Project)
 - Create targets and establish a system of measurement
 - Establish a Sustainable Energy Action Plan (SEAP)
- Summer of 2017, City and Envision Charlotte start to collect data to develop Baseline and report out to CDP

History

- In November 2017, Charlotte City Council was presented with a Clean Energy resolution that would commit the City to 100% renewable energy by 2050.
- Council voted to send back the resolution to the Environment Committee for further discussion
- Environment Committee Charge includes:
 - Draft a resolution appropriate and tailored for Charlotte
 - Develop an action plan for how goal would be achieved


Strategy: Connect requirements for the global Covenant of Mayors Commitment with the Clean Energy Resolution

Blueprint: Create Low Carbon Future via the implementation of the Strategic Energy Action Plan

Why a Low Carbon Future?

Low Carbon Future

Energy Mix
(Renewable Energy for
Municipal Facilities)



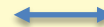
Why a Low Carbon Future?

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Energy Mix
(Renewable Energy for
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Energy
Generation



Why a Low Carbon Future?

Low Carbon Future

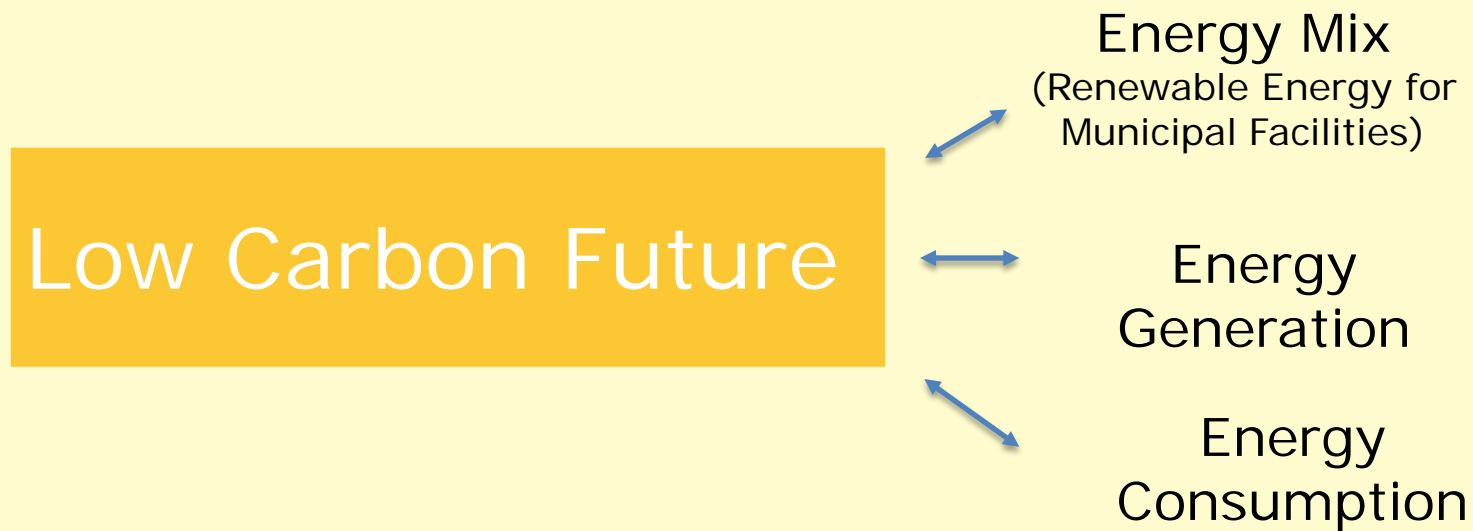
Energy Mix
(Renewable Energy for
Municipal Facilities)

Energy
Generation

Energy
Consumption



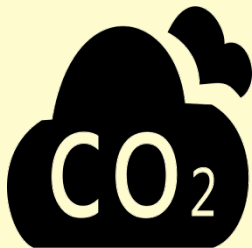
Why a Low Carbon Future?



- Globally competitive city
- Increased quality of life for residents through environmental improvements like air quality

Step One: Develop a Greenhouse Gas Baseline

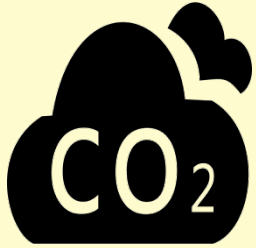
- Data collection included data from earlier inventory efforts as well as data defined as needed beginning in November
- Duke Energy provided much more detailed energy consumption and generation data that created a more informed baseline
 - Utilized CDP spreadsheet to input numbers and calculate
 - Determined 2015 as baseline year



12 tons CO₂
per person per year

National figure is 16 tons CO₂ per person per year

Initial Targets



12 tons CO₂
per person per year

2015



7 tons CO₂
per person per year

2030



<2 tons CO₂
per person per year

2050



Process for Developing Strategic Energy Action Plan

- Key document that shows how the City will achieve its 2030 and 2050 targets
- Envision Charlotte hired Dr. Sebastian Carney of Carbon Captured, Ltd.
 - International expert on GHG reduction strategies with over 15 years of experience
- Hosted future scenario workshops with City stakeholders and Duke Energy, utilizing the GRIP (Greenhouse Gas Reduction Inventory Protocol) tool – results will inform SEAP recommendations
- Hosted, and will continue to host, individual meetings with Community Stakeholders

Outcomes of Process

- Through consistent engagement with Duke
 - The City Manager and ED of Envision Charlotte were able to present on City Vision for a Low Carbon Future to Duke Energy CEO and leadership
 - Duke Energy has been more open about sharing data with the City
 - Actively working with Duke Energy to explore ways to formalize partnership to achieve low carbon future
- Development of a Low Carbon Future resolution which aligns with the goals of the 100% Clean Energy Resolution from November 2017

Draft Framework For SEAP

- SEAP will focus on Four Pillars:
 - Buildings
 - Transportation
 - Energy Generation
 - Innovation
- Work will continue to build the specific strategies and actions and will be presented this fall to Committee



Current City Projects Aligned with Work

- A new vaporization humidification system installed at the Mint Museum Uptown
 - Energy usage declined by approximately 25% in the first 5 months of operation with greenhouse gas avoidance of 654,207lbs of CO₂.
- City Electricians are upgrading lighting daily from old fluorescents to energy-efficient LEDs.
 - Greenhouse Gas Avoidance of 215,133lbs of CO₂ this year
- Combined Heat and Power Project at McAlpine Creek WWTP
- Solar feasibility studies at various City facilities
- Continued investments in electric vehicles and electric vehicle infrastructure

Draft Resolution Summary

- Encompasses City's commitment to the Global Covenant of Mayors
- Broadens to a Low Carbon Future umbrella
 - 100% Clean Energy falls under this broader approach
- Specifies that the SEAP will be completed to provide the action plan for the work
- Calls for continued work to reduce energy consumption in city facilities as an immediate short-term action

Next Steps

- Review Draft Resolution and provide input to staff
- May 14 Environment Committee consider recommendation to full Council
- Full Council consideration in June
- SEAP finalized and presented Fall 2018