Mayor’s Climate Council

1. Mayor Indya Kincannon, Mayor
2. Alicia Hemmings, Sunrise Movement Knoxville Hub
3. Amy Hathaway, Forest Heights Neighborhood Association
4. Brian Hann, Dewhirst Properties
5. Chris Cimino, University of Tennessee
6. Pastor Chris Battle, The Underground Collective/Battlefield Farms
7. Cortney Piper, Piper Communications/Tennessee Advanced Energy Business Council
8. Gabriel Bolas, Knoxville Utilities Board
9. George Wallace, Coldwell Banker Wallace
10. Nancy Nabors, Knoxville Chamber
11. Rebecca Tolene, Tennessee Valley Authority
12. Stan Johnson, Socially Equal Energy Efficient Development
13. Dr. Stephen Smith, Southern Alliance for Clean Energy
14. Erin Gill, Chief Policy Officer City of Knoxville
15. Brian Blackmon, Sustainability Director City of Knoxville
Agenda

- Overview of Climate Council
- Overview of local emissions data and major drivers
- Discussion of process for identifying strategies
- Next Steps
- Conclusion
Leaders Move Forward

New Emission Reduction Goals

City Government Leads by Example:
50% by 2030 for Municipal Operations
Aspire for Deep Community Progress:
80% by 2050 for Community
Rules for success from our facilitation team

• Be respectful; we won’t always agree.
• We’ll pause frequently for conversation. Stay muted until then.
• We will have slides prompting a pause for open mic discussion.
• If you’ve got a burning question you want to queue up at the front of the line:
  • Ask in chat; or,
  • Raise a hand
Mayor’s Climate Council: Our Role

Provide high-level, cross-sector leadership to chart a path to reduce Knoxville Community emissions 80% by 2050.

1. Identify and prioritize emission reduction strategies.

2. Discuss opportunities and challenges for proposed actions.

3. Make final recommendations to inform City work plan and long-term vision.
Climate Change Mitigation

• Reducing emissions of and stabilizing the levels of heat-trapping greenhouse gases in the atmosphere

https://climate.nasa.gov/solutions/adaptation-mitigation/
Components of Process

**Mayor’s Climate Council**
Cross-sector community leadership.
Balanced for perspectives.
Meet bi-monthly over next 9 months.

**Technical Working Groups**
Specific to 3 sectors: Transportation, Energy, and Waste.
Technical experts in their field.
Deep-dive discussion to move from broad to specific.

**Equity Working Group**
Local leaders representing front-line and historically marginalized communities.
Will help center equity within climate planning.
Meet at least 5 times over the next 9 months.
Sample Flow

- **Review and prioritize (May)**
- **Discuss challenges & opportunities (July)**
- **Deep dives by working groups (August)**
  - **Working Groups report out (September)**
  - **Council final comment (January)**
Mayor’s Climate Council Timeline

- **Kick-off**: Purpose and Scoping, Strategies discussion
- **Transportation**: Recap of council prioritization, Presentations from technical experts, Discussion of opportunities/challenges
- **Energy/Buildings**: Report from Working Groups, Recap of council prioritization, Presentations from technical experts, Discussion of opportunities/challenges
- **Waste**: Report from Working Groups, Recap of council prioritization, Presentations from technical experts, Discussion of opportunities/challenges
- **Annual Recap**: Report from Working Groups, Recap of previous strategies and goals, Adoption of strategies and goals

**Timeline**

- **MAY 2020**: Kick-off
- **JULY 2020**: Transportation
- **SEPTEMBER 2020**: Energy/Buildings
- **NOVEMBER 2020**: Waste
- **JANUARY 2021**: Annual Recap

- **2020**
  - **JUNE 2020**: Follow Up Coordination
  - **AUGUST 2020**: Working Groups
  - **OCTOBER 2020**: Working Groups
  - **DECEMBER 2020**: Working Groups

Available on www.knoxvilletn.gov/ClimateCouncil/
PAUSE

Questions and discussion
Inventories

- We follow the BASIC+ reporting protocol.
- We publicly disclose our inventory through a global portal. We also have published emissions data on www.knoxvilleteqn.gov/emissions/.
City Operation Metrics

- **Total Emissions**: Down 31%
- **Energy Intensity**: Down 24%
- **Cost per square foot**: Down 7%
- **Municipal Renewable Energy**: 200 kW*
- **Streetlight Energy Use**: Down 43%*

*Hosted on City property

*Annual to 2019. Projected reduction of 60% in 2020 with full year of retrofit.
Municipal Performance vs Targets

Annual CO2e

- Actual
- Target

- 2000: 74,510
- 2005: 59,608
- 2010: 51,589
- 2015: 37,255

2000-2035
City of Knoxville Operations CO2e Emissions (metric tons)

- Energy upgrades to 99 city facilities
- Traffic signal LED retrofit
- Street light LED retrofit
- Higher fuel economy

Energy upgrades to 99 city facilities:
- Facilities: 2005 (33,000), 2012 (25,000), 2015 (22,000), 2019 (19,000)
- Street Lights: 2005 (25,000), 2012 (20,000), 2015 (18,000), 2019 (16,000)
- City Fleet: 2005 (30,000), 2012 (28,000), 2015 (26,000), 2019 (24,000)
- Employee Commute: 2005 (5,000), 2012 (4,500), 2015 (4,000), 2019 (3,500)
- Transit: 2005 (10,000), 2012 (9,000), 2015 (8,000), 2019 (7,000)
Municipal Profile (2019)

2019 MUNICIPAL EMISSIONS

- Buildings: 42%
- City Vehicles: 19%
- Transit: 16%
- Streetlights & Signals: 14%
- Employee Commute: 9%
PAUSE

Questions and discussion
Community Emissions

Key Indicators 2005 – 2019

• City Population Up 7.5%
• County Population Up 16.1%
• Knoxville GDP (2005-2018) Up 46.8%
• City-Wide Emissions Up 9%
• Emissions from Buildings Down 23%
Performance vs Targets

Community CO2e totals (metric tons)

- Actual CO2e
- Target CO2e
Sector Performance

Sector eCO2 Emissions (metric tons)

- Increased Local Transportation
- Lower-Carbon Electricity
- Increased Energy Use
- Introduced in 2015

Transportation, Residential, Commercial, Industrial, Solid Waste, AFOLU, Water & Wastewater, Process & Fugitive Emissions

Community Profile (2019)

- Transportation: 56.09%
- Commercial: 17.70%
- Industrial: 11.41%
- Residential: 10.52%
- Solid Waste: 1.48%
- Water & Wastewater: 2.57%
- Process & Fugitive Emissions: 0.25%
PAUSE

Questions and discussion
Transportation

- Makes up 56% of area emissions
- 44% increase in emissions due to increase in trips
- CO2e per mile down 3% due to fuel efficiency
• Emissions are up primarily because volume of traffic is up 15% in the County.

• Our share of those emissions has also increased over time as the City grows.
CO2e/mile is down 3% because of fuel economy gains.
Fuel economy gains can’t displace increase in traffic.
Fuel economy trends are slow accumulate.
The average age of a vehicle on the road locally is 10+ years old.
PAUSE

Questions and discussion
Buildings

- Makes up 40% of area emissions
- 23% lower largely due to lower carbon electricity
- 7% increase in consumption
Emissions by Sector

Emissions from Energy Use

- Emissions from electricity driving most sectors down
- 2019 was especially high for industrial accounts (left)
- Our local delivered electricity tracks slightly lower carbon than the region (bottom).

Regional Emission Comparison (CO2/MWh)
Electricity consistently makes up approximately 60% of all energy use

Electricity use is up 12% (mmBTU)

Natural Gas use is down 1% (mmBTU)
PAUSE

Questions and discussion
Waste

- Makes up 1.5% of area emissions
- 73% higher due to projected increases in waste generation
- Characterized using national data
Municipal Solid Waste Characterization

-4% From 2005
PAUSE

Questions and discussion
Mayor’s Climate Council

FIVE MINUTE BREAK
Identifying strategies

Council will review, suggest, and individually prioritize strategies (May)

Strategies will be revisited at sector-specific meetings for additional discussion of challenges/opportunities

Broad strategies will be taken to Technical Working Group for additional workshopping to dive deeper into recommending actionable goals for the City

Council will receive report-outs for comment at the subsequent meeting

Following the completion of all working group discussions the Council will provide final comment.

A summary deliverable reflecting priorities and curated list of strategies will be provided for comment.
A starting point

Staff started with USDN High Impact Practices (HIPs)
• Draws upon leading Climate Action Plans and studies.
• Effective emission reduction strategies.
• Established by national local sustainability experts and practitioners.

What HIPs are not
• A blueprint to achieve our goals
• 100% comprehensive list of all possible mitigation strategies
• Reflective of unique Knoxville-area priorities
Leveraging knowledge of the USDN network

Garrett Fitzgerald
Strategic Collaboration Director
Urban Sustainability Directors Network
Survey

- Staff have created a survey that starts the discussion with a multitude of generalized strategies pulled from USDN’s research.
- The survey will ask you to prioritize importance on a scale of 1-5.
- There will be a comment section to provide feedback on any nuance you’d like to add to why you prioritized it a certain way.
- There will also be the opportunity to write-in your own suggestions.
- Staff will aggregate and summarize results for July meeting.

High Priority:
The City needs to reduce energy use.

Opportunity:
High efficiency lighting has a good payback.

Action: City should convert streetlights to LED.
Centering Equity

• Front-line communities are those most vulnerable to the effects of climate change.
• Many front-line communities face immediate challenges and have been historically marginalized.
• Equity Work Group
  • Assess & present community needs to inform planning
  • Review proposed actions to assess benefits and burdens
  • Propose Equity Implementation Principles
PAUSE

Questions and discussion
Next Steps

Homework:

• Staff will work with Climate Council members to survey and prioritize general strategies

• Climate Council members will receive scheduling polls to confirm the slate of meetings for the year

• Next meeting will be July 2020. Once dates are confirmed, the full year of meeting dates will be available online.

• Past meeting information (presentations and notes) will be made available at www.knoxvilletn.gov/climatecouncil/
Thank you!

Climate Council Website:
www.knoxvilletn.gov/climatecouncil/

Primary Contact:
Brian Blackmon
Director, Office of Sustainability
bblackmon@knoxvilletn.gov