

Salem Climate Action Plan

CITY COUNCIL WORK SESSION

Patricia Farrell, Climate Action Plan Manager

Kim Morrow, Director of Climate Planning and Resilience, Verdis Group

September 20, 2021



CITY OF *Salem*
AT YOUR SERVICE



Project Context



What's at stake?

The changing climate impacts us in the form of:

- Floods
- Drought
- More extreme heat days (above 90° F)
- Wildfires
- Hazardous air quality from wildfires
- Extreme winter events

Impacts of climate change are not experienced equally

“Human influence has warmed the climate at a rate that is unprecedented in at least the last 2000 years.” - Intergovernmental Panel on Climate Change, 2021.



50%

Reduce Salem's greenhouse gas
emissions by 50% by 2035

0%

Become carbon neutral city by 2050

CLIMATE ACTION PLAN GOALS

In August 2020, City Council adopted the following goals as part of the Salem's Climate Action Plan:

1. By 2035, Salem's greenhouse gas emissions shall be reduced to 50% of the citywide greenhouse gas emissions from the baseline year of 2016, and
2. By 2050, Salem should be carbon neutral.



WHAT IS SALEM'S CLIMATE ACTION PLAN?

A plan to:

- Achieve Climate Action Plan Goals for reducing greenhouse gas emissions (**mitigation**)
- Help the Salem community prepare for climate change (**adaptation / resiliency**)
- Identify and recommend actions to prioritize for implementation
- Identify key partners for implementation

Where are we in process?





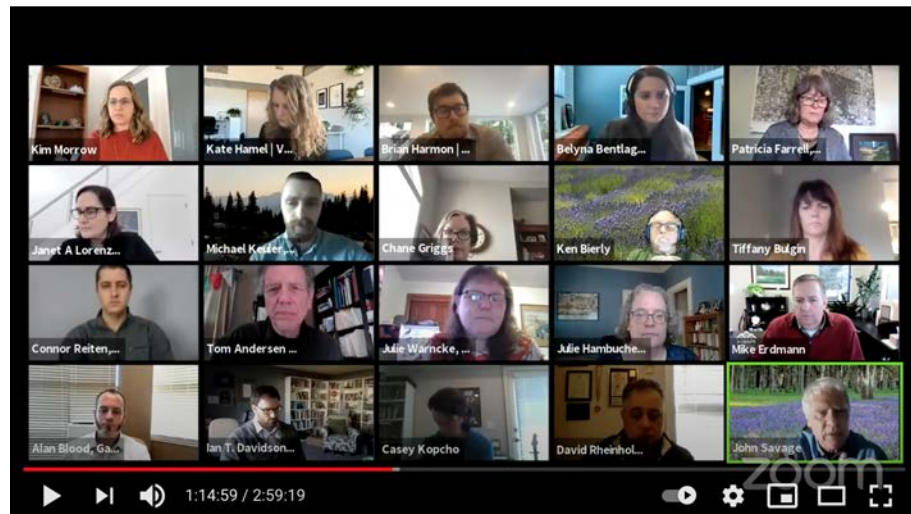
Public Engagement



Climate Action Plan Task Force

Representatives from transportation, commercial, residential, environmental advocacy, economic development, energy, education, communities of color, food supply, public health, homebuilders, and others

- 33 community representatives
- 3 City councilors (Andersen, Gonzalez, & Nordyke)
- Plus 5 City staff

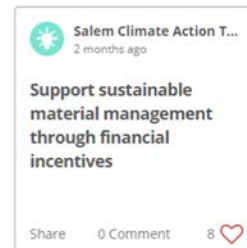
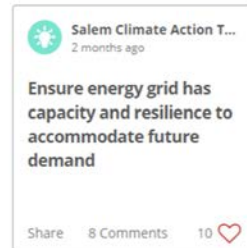
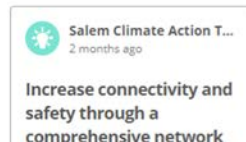
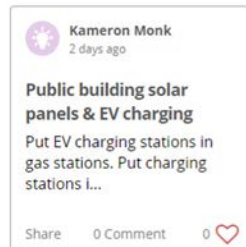
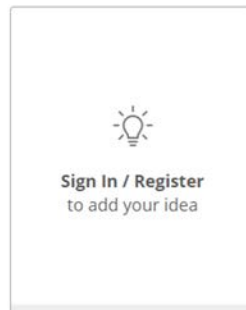


See Attachment 1 in Staff Report for full list of Task Force members.

Community Participation

The following is a list of community participation/ opportunities:

- Initial community survey
- Envisioning a resilient Salem activity
- Strategy ideas brainstorming activity
- Strategy ideas ranking survey
- Strategy development feedback activity
- Surveys, focus groups, and meetings with targeted communities
- Review draft Climate Action Plan



Project Outreach

The following is a list of outreach strategies:

- Community presentations and forums (32)
- Presentations to City Boards and Commissions (6)
- Attending community events (6)
- Radio interviews (3)
- Weekly public services announcements over radio
- Weekly social media posts
- Salem Connection, City's weekly e-newsletter
- Distributing project handouts and surveys (English and Spanish) at community events
- Documenting and posting of all meeting materials, meeting recordings, and pertinent studies on project website





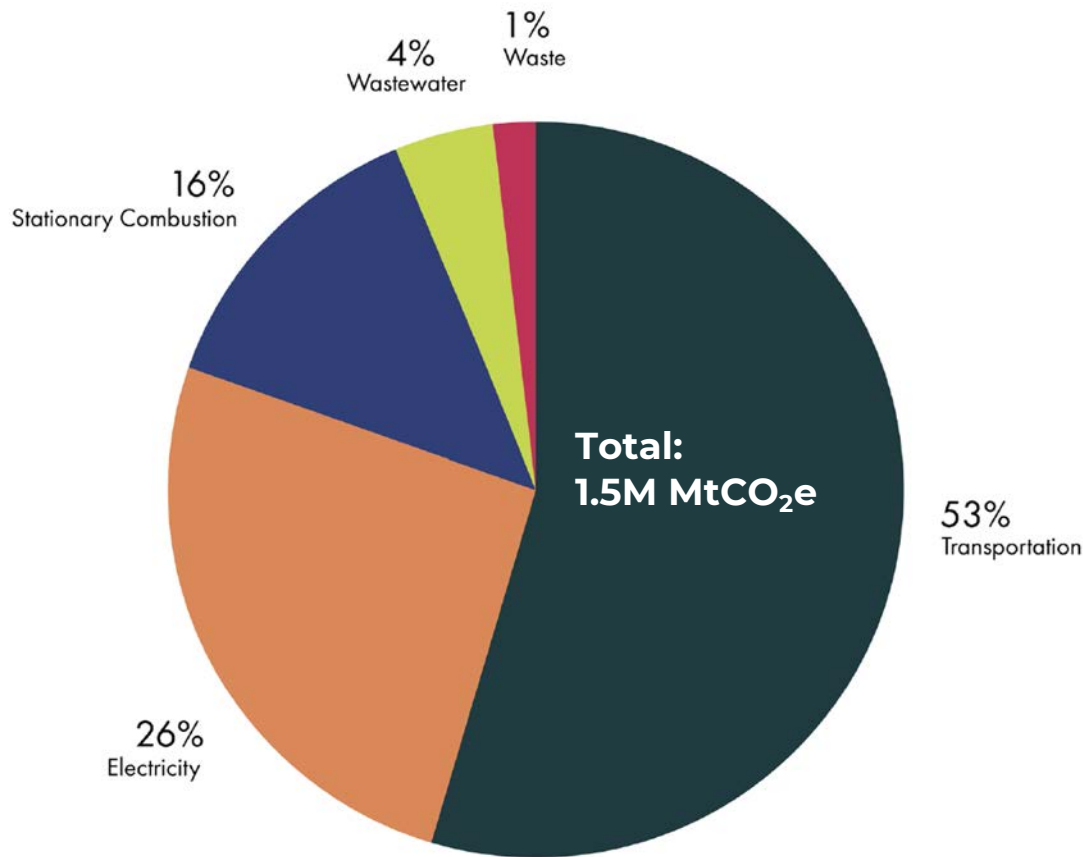
Salem's GHG Emissions Sources



Where do Salem's Emissions Come From?

2016 SECTOR-BASED GREENHOUSE GAS INVENTORY

- Largest source of emissions is transportation
- Second-largest is electricity generation
- Third-largest is stationary combustion, i.e., natural gas usage





Increasing Resilience, Reducing Emissions, and Building Equity





ACTION AREAS

The strategies in the Climate Action Plan are organized around the following Action Areas:

1. Transportation & Land Use
2. Energy
3. Economic Development
4. Natural Resources
5. Community
6. Food System
7. Materials & Waste

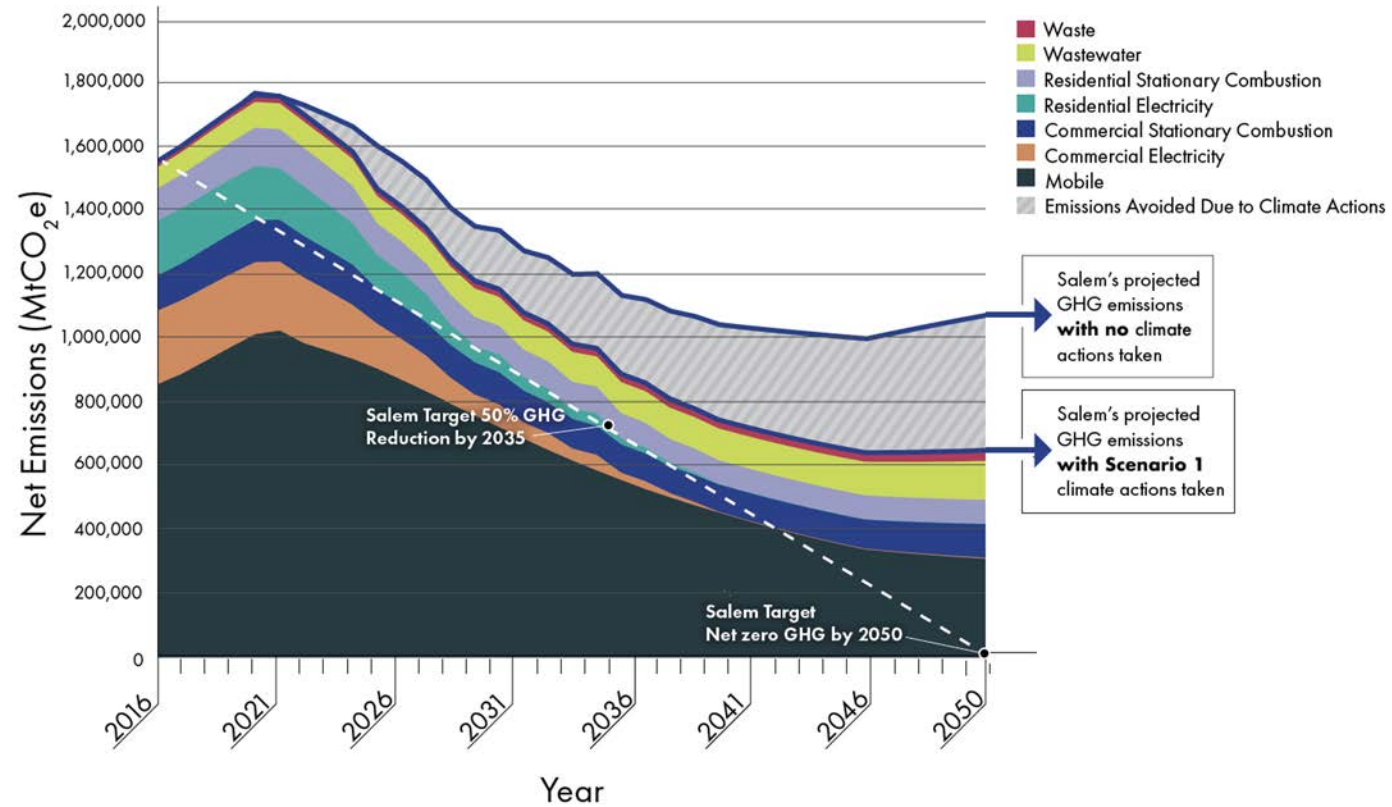
See Attachment 2 of Staff Report for a complete list of the strategies.



Greenhouse Gas Emissions Forecasts

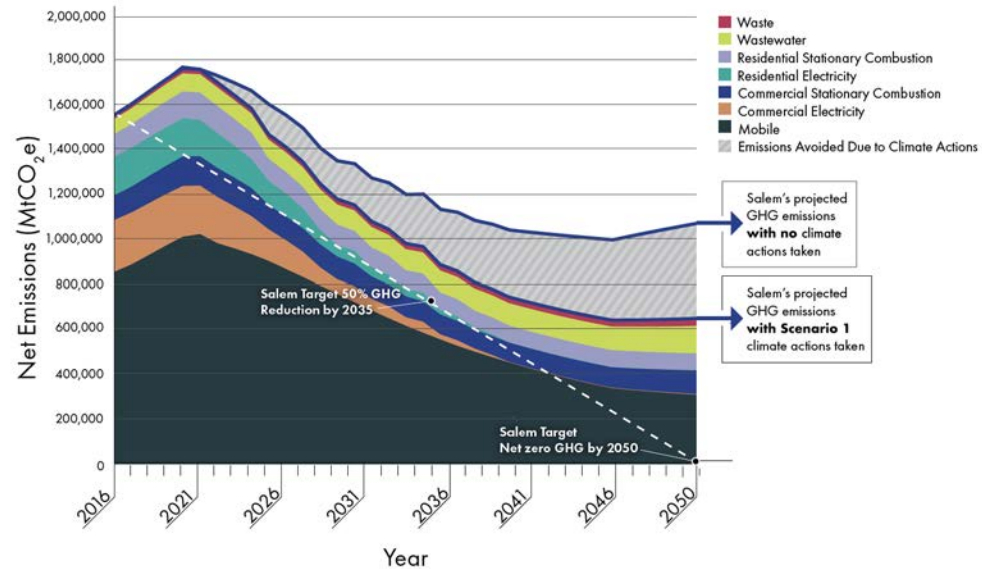


SCENARIO 1



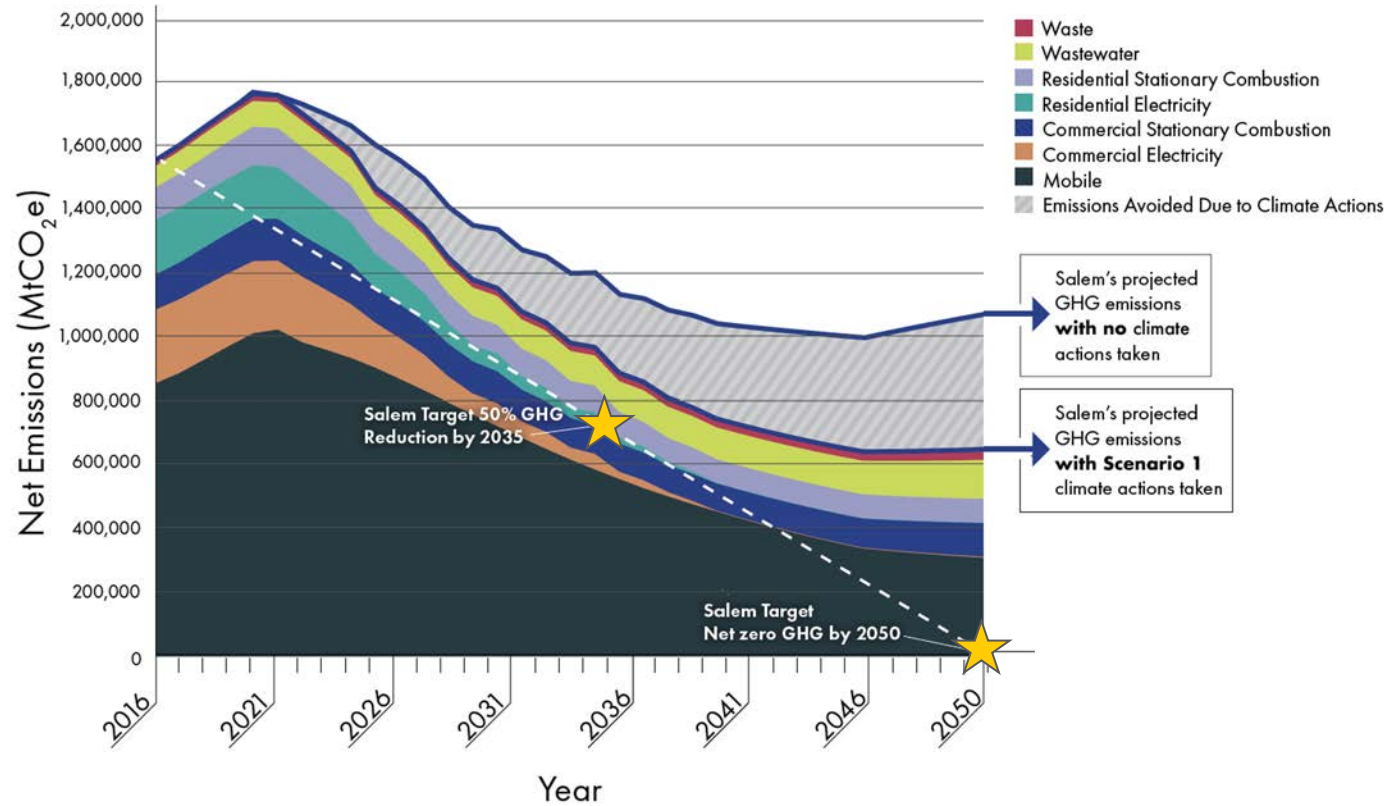
What is required to achieve Scenario 1?

1. Double the rate of electric vehicle (EV) adoption
2. Quadruple the rate of bus ridership
3. Double the rate at which residents use biking and walking
4. Transition to a zero-emissions bus fleet
5. Reduce the amount of passenger vehicle traffic coming into and out of Salem by 40%
6. Reduce the amount of traffic within Salem by 10%
7. Halt all growth in natural gas emissions
8. Improve building efficiency by an average of 10% by 2050
9. Maximize onsite solar
10. Maximize carbon sequestration of plants and trees



SCENARIO 1 RESULTS

- 40% net reduction in emissions by 2035
- 58% net reduction in emissions by 2050

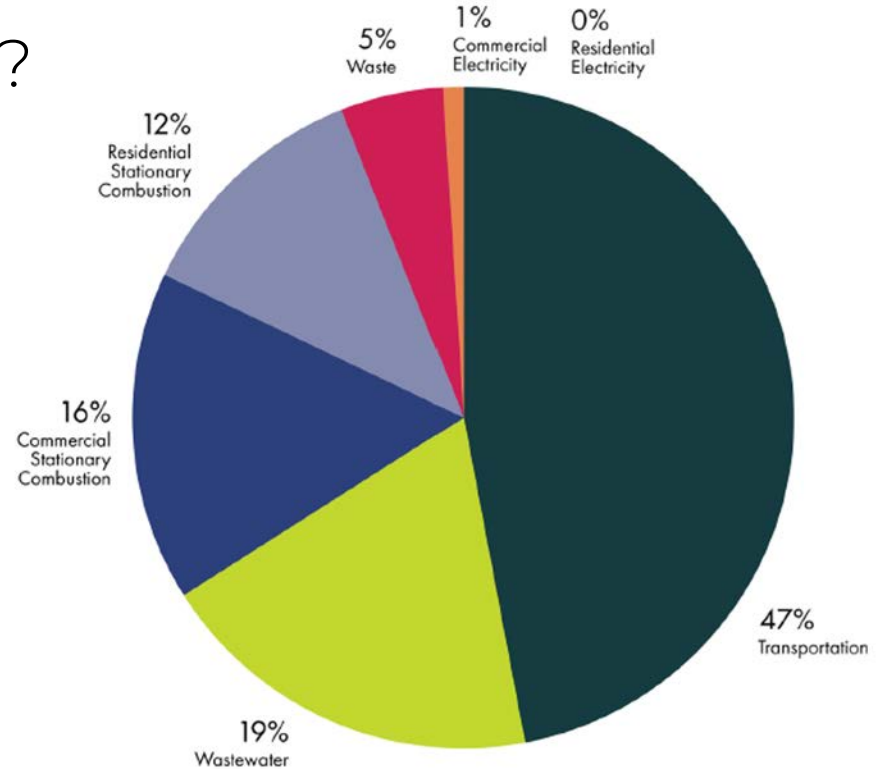


Why wasn't the target met?

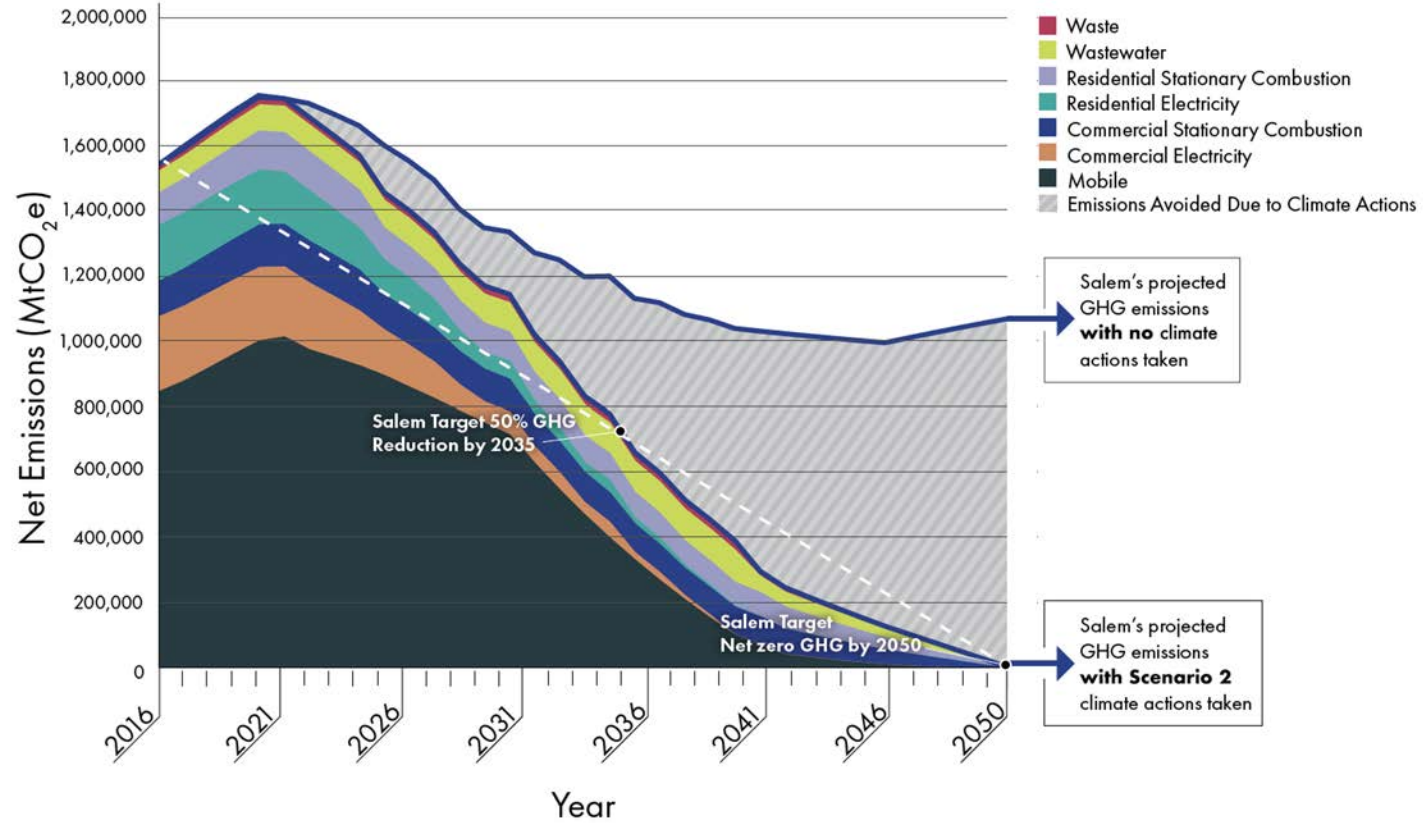
BREAKDOWN OF REMAINING GHG EMISSIONS IN 2050

Several types of emissions will be challenging to eliminate.

- Transportation emissions from internal combustion engines will constitute nearly half of remaining emissions
- Natural gas emissions will constitute nearly one-third
- Wastewater will constitute 19%

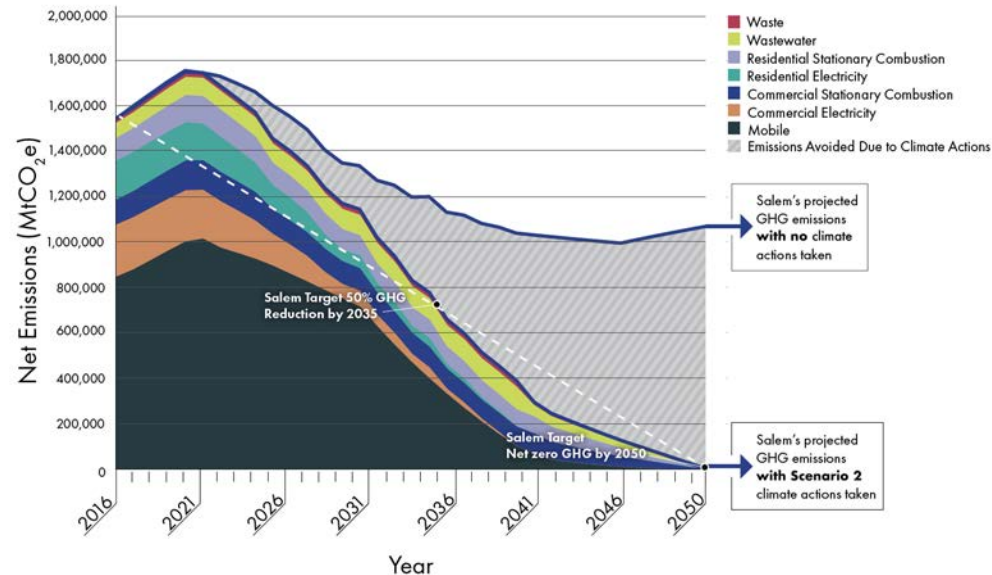


SCENARIO 2



What is required to achieve Scenario 2?

11. Halt the entry of non-resident internal combustion engine traffic
12. Halt the entry of internal combustion engine heavy trucking
13. Halt internal combustion air traffic
14. Ensure a 100% renewables-only electricity grid
15. Remove all fossil fuel-derived natural gas systems in the built environment
16. Remove all other building fossil fuels (e.g. propane, diesel) in the built environment
17. Achieve zero waste through circular economy, compost, recycling
18. Capture all wastewater emissions
19. Halt all septic emissions by requiring locations on septic to join centralized wastewater treatment

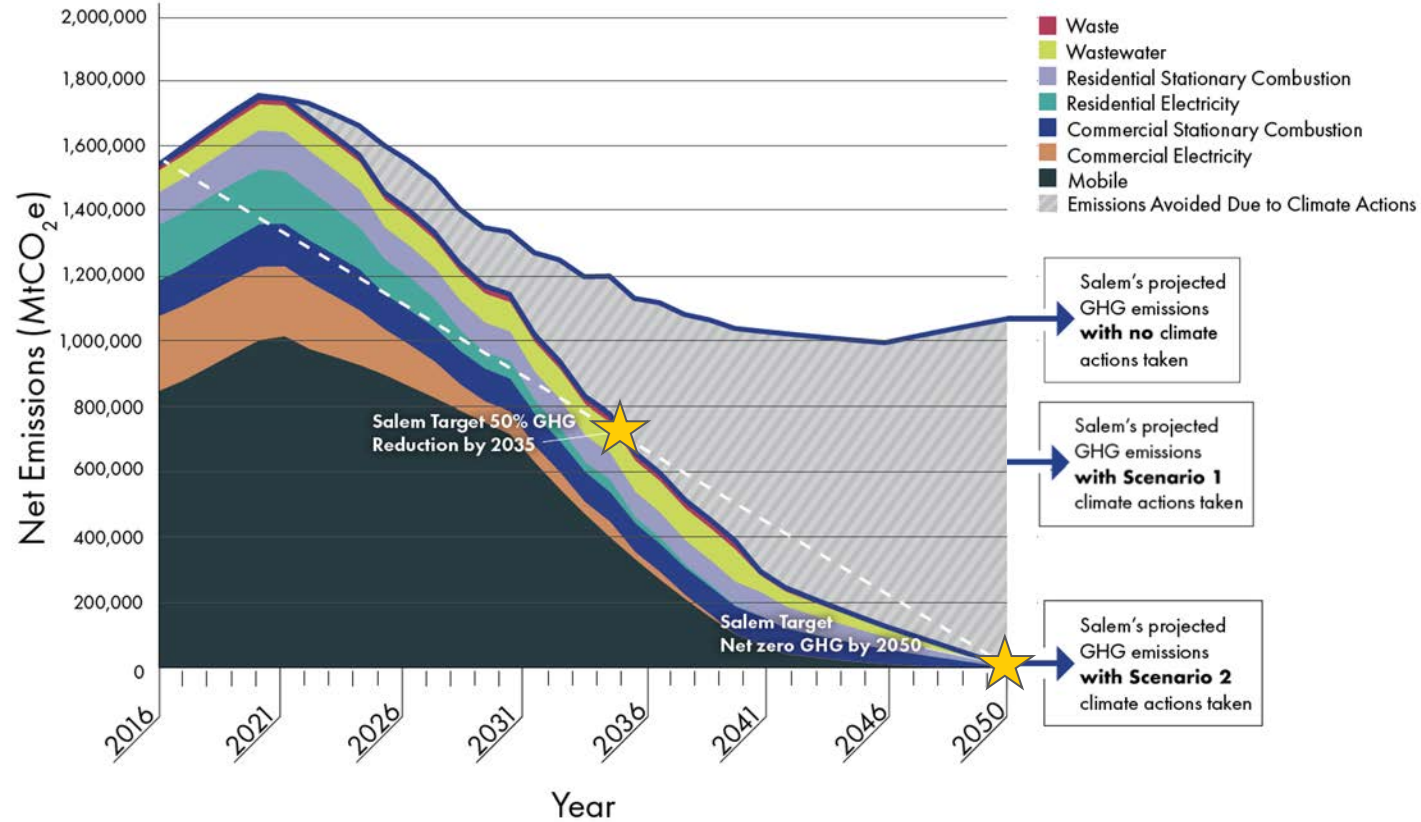


Assumptions Modeled in Scenario 2

1. Double the rate of electric vehicle (EV) adoption
2. Quadruple the rate of bus ridership
3. Double the rate at which residents use biking and walking
4. Transition to a zero-emissions bus fleet
5. Reduce the amount of passenger vehicle traffic coming into and out of Salem by 40%
6. Reduce the amount of traffic within Salem by 10%
7. Halt all growth in natural gas emissions
8. Improve building efficiency by an average of 10% by 2050
9. Maximize onsite solar
10. Maximize carbon sequestration of plants and trees
11. Halt the entry of non-resident internal combustion engine traffic
12. Halt the entry of internal combustion engine heavy trucking
13. Halt internal combustion air traffic
14. Ensure a 100% renewables-only electricity grid
15. Remove all fossil fuel-derived natural gas systems in the built environment
16. Remove all other building fossil fuels (e.g. propane, diesel) in the built environment
17. Achieve zero waste through circular economy, compost, recycling
18. Capture all wastewater emissions
19. Halt all septic emissions by requiring locations on septic to join centralized wastewater treatment

SCENARIO 2 RESULTS

- 57% reduction in emissions by 2035
- Net zero emissions by 2050



What about purchasing carbon offsets?

CARBON OFFSETS ARE ACTIONS TAKEN TO COMPENSATE FOR THE EMISSION OF CO₂

Neither scenario includes carbon offsets

- The cost of carbon offsets currently ranges from about \$6 - \$15 per MtCO₂e
- Scenario 1 shows close to 600,000 MtCO₂e remaining in 2050
- It would cost the City \$3.9M - \$9.7M per year to offset that amount



Keys to Implementation





KEYS TO IMPLEMENTATION

The following strategies will be needed to ensure the success of the Climate Action Plan:

1. Hire an FTE coordinator to lead implementation and provide funding for the person and program
2. Establish a working group to guide community-wide implementation
3. Prioritize equity
4. Regularly communicate with Salem residents, businesses, and others
5. Track and report emissions at regular intervals
6. Update the Climate Action Plan every five years



High-Impact GHG Reduction Strategies



High-Impact GHG Reduction Strategies

ENERGY

The following strategies could have a high impact in reducing emissions.

- Create **energy benchmarking and transparency** policies and reward building owners who improve building energy efficiency.
- Develop a comprehensive program to help residents and business owners **weatherize buildings** and improve energy efficiency, with a priority emphasis on properties with low-income renters.
- Provide incentives for **all-electric new construction** that eliminate natural gas hookups.
- Implement an incentive program for residents and businesses to switch from natural gas appliances to **all-electric** models.
- Implement policies to **reduce natural gas usage**, such as requiring all-electric new construction, prohibiting fossil fuel usage in new construction, and/or banning the use of gas and oil in residential appliances.

High-Impact GHG Reduction Strategies

TRANSPORTATION

The following strategies could have a high impact in reducing emissions.

- Increase **public transit service**.
- **Increase urban density** along the core transportation network.
- Incentivize Salem area employees to shift from driving alone to **using alternative forms of transportation**, including carpooling, walking, biking, and transit. Where possible, increase work from home options.
- **Charge for parking** in the central business district.

Where are we in process?



Council Discussion





in partnership with

