

THURSTON

CLIMATE

MITIGATION

PLAN

Greenhouse Gas Emission Trends and Targets

Overview and discussion of
GHG inventory data 2010-2021

TCMC Annual Retreat
April 15, 2024

Agenda

- Review of Thurston Climate Mitigation Plan (TCMP) Goals and Targets
- Thurston County Greenhouse Gas Emission Trends (2010- 2021)
- Discussion Preview
 - What parts of the TCMP require additional resources or emphasis?
 - How can we best advance progress?



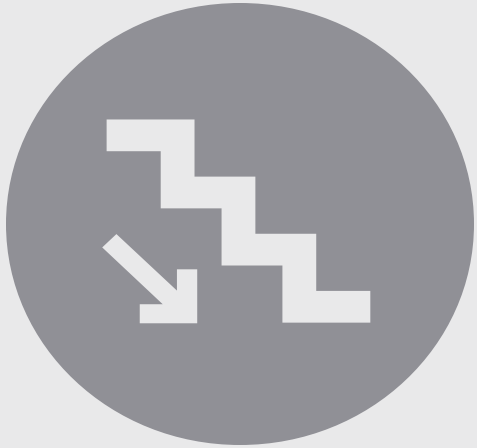
TCMP Goals and Targets

Vision, Goals & Guiding Principles

VISION: “Thurston County, Lacey, Olympia, Tumwater, and neighboring tribes recognize the urgent threat and opportunity that climate change poses to our community’s economy, public health, public safety, and environment. We will work together to identify and boldly implement the most effective, efficient, and equitable actions to **reduce locally generated greenhouse gas emissions to protect current and future generations** from the most severe impacts of climate change.”



Common Goals & Targets



Reduce
Emissions

- 45% by 2030
- 85% by 2050



Create vibrant urban
centers and
neighborhoods.



Preserve environmentally
sensitive lands, farmlands,
forest lands, prairies, and
rural lands.



Ensure residents have
the resources to meet
their daily needs.



Protect and improve
water quality.



Support a local food
system.



Plan and act toward zero
waste.



Thurston County GHG Emission Trends (2010 – 2021)

Why is a GHG inventory important?

- Sets a baseline to track GHG emissions, set targets, and monitor progress
- Used to project future emissions
 - Business-as-Usual Scenario
 - Reduction scenarios based on federal, state, and local actions
- Informs strategies and actions
 - What are big emissions sources?
 - What actions could make the biggest impact?

Inventory 101

- Emissions are not measured in the atmosphere, but are estimated based on activities
- What's included?
 - Emissions generated from activities inside Thurston County
 - Emissions from grid-supplied energy (electricity and natural gas)
 - Transportation and processing of solid waste generated by Thurston residents
- Greenhouse gas emissions are measured in metric tons of carbon dioxide equivalent (MTCO₂e)
 - Greenhouse gases have different warming potentials, and carbon dioxide equivalents standardizes the gases based on how much heat they trap & how long they stay in the atmosphere
 - Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs)

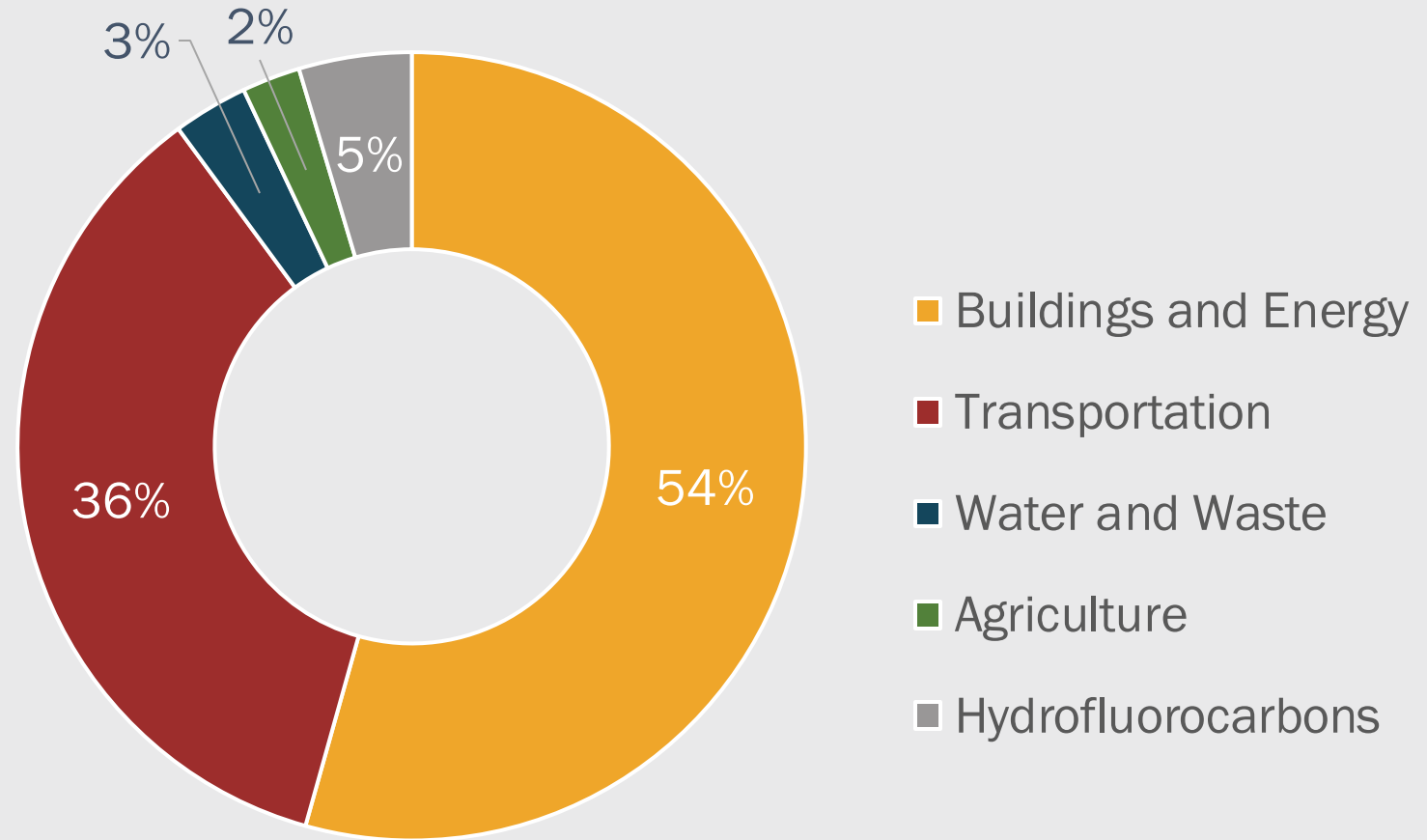
Greenhouse Gas Inventory Limitations

- Some sources don't have established methodologies to estimate emissions.
- Some sources lack data, or local data.
- Different methodologies limit ability to compare data across communities.
- Does not include emissions from goods and services used by Thurston residents but produced outside the County (i.e., it's not a "consumption-based" inventory).

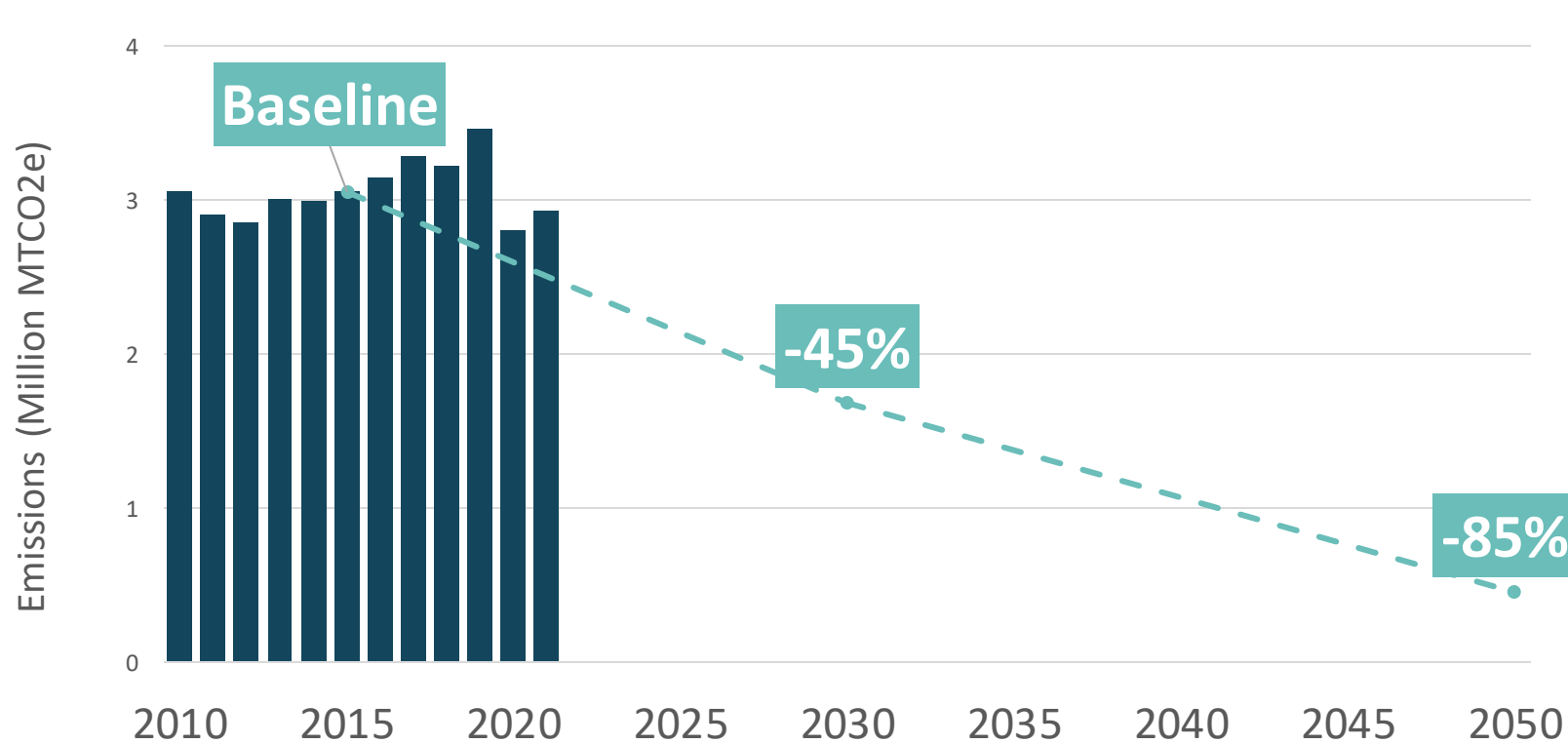
Greenhouse Gas Emissions

**Total 2021
Emissions:
2.9 million**

metric tons of carbon
dioxide equivalent
(MTCO₂e)



GHG Emission Trends (2010 – 2021)



2015-2019: ↑ 13.1%

2019-2020: ↓ 18.8%

2020-2021: ↑ 4.3%

2015-2021: ↓ 4.1%

Per capita emissions decreased 13% from 2015-2021.



Discussion Preview

The City Scale Report - www.CityScale.org

The State of U.S. Local Climate Action Planning, a 2021 report by a group of local government practitioners, reflected on >10 years of local climate work that **has emphasized GHG emissions targets, inventories and tracking**; and that **has not yet led to rapid transformational GHG reductions**. Their observations included:

- The root causes of most local GHG emissions are embedded in systems that are larger than an individual jurisdiction.
- At a programmatic level, getting cities out of frequent GHG inventory work frees up staff time for more consequential activities.
- Local governments are uniquely positioned to foster social cohesion and strengthen democratic institutions that are essential to addressing the extractive systems that are the root causes of climate change, not just the end GHG emissions.

Local Government Climate Action in Context

- The TCMP included a “Scenario Analysis” to model potential ways to reach the adopted GHG reduction targets.
- This figure shows *Potential Reduction in Thurston County Emissions from State Policies*.
- The green arrow on bottom right estimates the portion of the target that remains to be achieved by local governments.

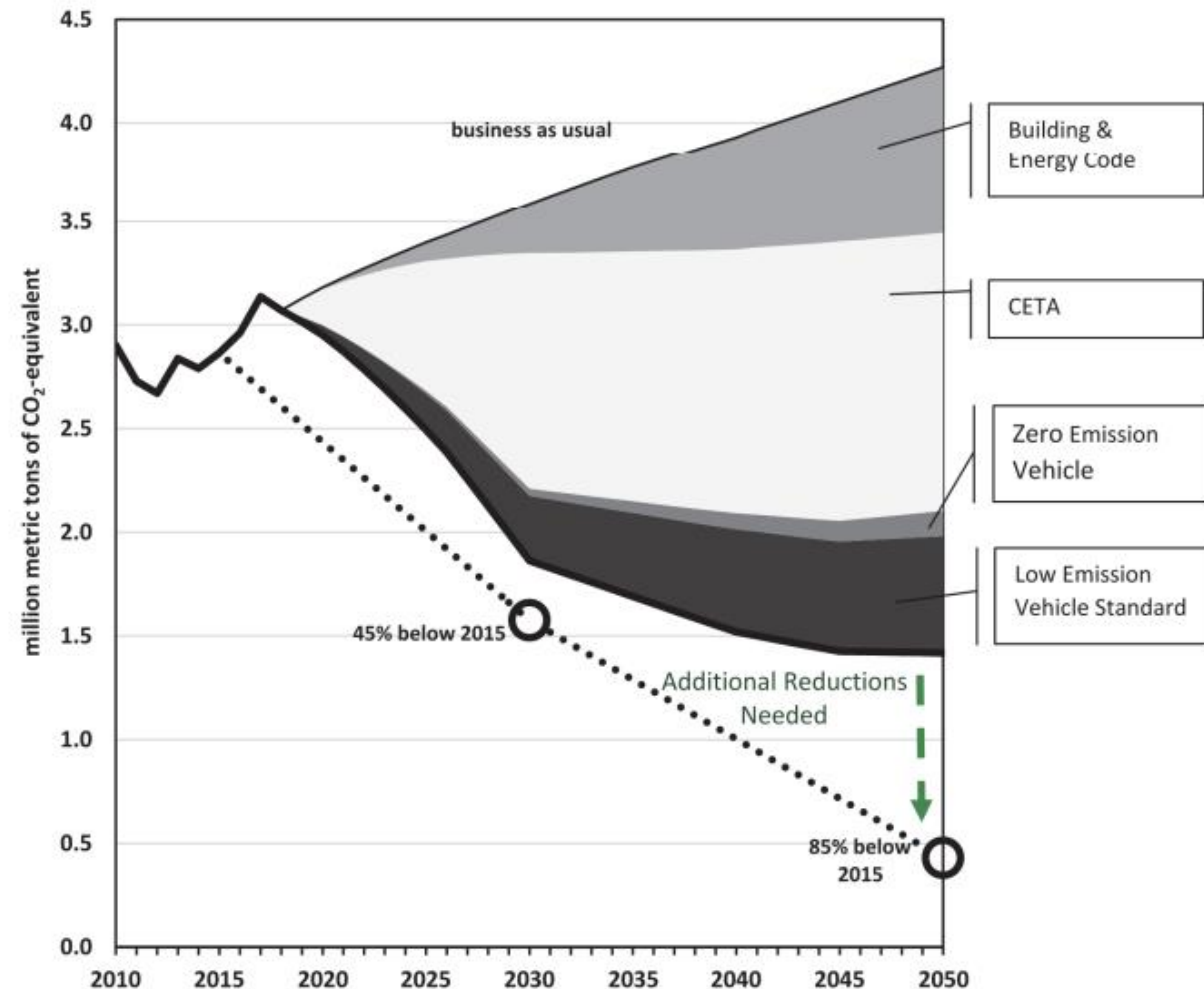


Figure 10. Potential Reduction in Thurston County Emissions from State Policies. The dotted line shows the adopted emission reduction targets. Source: Hammerschlag 2020

What parts of the TCMP require additional resources or emphasis?

TCMP Sectors and Strategies

Buildings & Energy

- B1: Reduce energy use in existing residential buildings.
- B2: Reduce energy use in existing commercial/industrial buildings.
- B3: Reduce energy use across building types.
- B4: Reduce energy use in new construction or redevelopment.
- B5: Increase the production of local renewable energy.
- B6: Convert to cleaner fuel sources.

Transportation & Land Use

- T1: Set land use policies that support increased urban density and efficient transportation networks and reduce urban sprawl.
- T2: Increase efficiency of the transportation system.
- T3: Increase adoption of electric vehicles.
- T4: Increase the use of public transit.
- T5: Increase use of active forms of travel (such as bicycling, walking).

Water & Waste

- W1: Increase the efficiency of water and wastewater infrastructure.
- W2: Reduce water consumption.
- W3: Reduce emissions from wastewater treatment operations.
- W4: Divert more solid waste from landfills.
- W6: Reduce consumption of carbon-intensive goods and services.

Agriculture, Forests, & Prairies

- A1: Reduce emissions from agricultural practices.
- A2: Support agricultural practices that sequester carbon.
- A5/A6/A7: Preserve tree canopy and manage forests and prairies to sequester carbon.

Cross-Cutting

- G1: Conduct education and outreach across climate mitigation areas.
- G4: Enhance monitoring and evaluation of climate mitigation measures and outcomes.
- G5: Advocate for climate-mitigating state and federal policy.

How can we best advance progress?

Local Government Levers to Advance Climate Mitigation



Regulatory/Code Change



Public Outreach



Infrastructure/Capital investment



Assessment/Planning



Funding and Financing



Capacity Building



Advocacy

Questions & Discussion



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