



MEMORANDUM

TO: Thurston Climate Mitigation Collaborative Executive Committee

FROM: Thurston Climate Mitigation Collaborative Staff Team:
 Linsey Fields, City of Lacey
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DATE: July 22, 2024

SUBJECT: Greenhouse Gas Emissions Inventory Frequency and Scope

Requested Action

Review and approve frequency and scope of future Communitywide Greenhouse Gas Emissions Inventories for the TCMC.

Background

The Thurston Climate Mitigation Plan (TCMP) includes the targets of reducing greenhouse gas (GHG) emissions 45% by 2030 and 85% by 2050, relative to a 2015 baseline. To gauge accountability and track progress toward achieving these targets, the TCMP’s monitoring protocol includes three components: GHG inventories (GHGIs), key performance indicators, and action progress reports. The table below presents the TCMP’s recommended schedule and actual frequency of completion of each component thus far.

TCMP Monitoring Component	Description	TCMP Recommended Frequency	Actual Frequency
GHG inventories (GHGIs)	Estimate of emissions from different sectors within a defined geographic boundary; calculated as activity data multiplied by an emissions factor	Annually	Annually (2010-2022)
Key performance indicators	Quantitative metrics that indicate progress within each sector and strategy	Every 3-5 years	Some included in 2021 and 2022 progress reports
Action progress reports	Qualitative updates on the status of implementing individual strategies and actions	Not specified	Annually (2021-2023)

The Thurston Climate Action Team (TCAT) completed communitywide GHGIs for Thurston County from 2010 to 2020, and Thurston Regional Planning Council (TRPC) completed the 2021 inventory. Thurston County contracted with ICLEI on behalf of the Thurston Climate Mitigation Collaborative (TCMC) to complete the 2022 GHGI.

Although GHGIs have so far been conducted annually, the Staff Team is asking the Executive Committee to reconsider the frequency of this activity moving forward. Reasons for this request and the Staff Team recommendation are summarized below.

Executive Committee Authority

The TCMP Monitoring Protocol (2020) recommended that GHG inventories be conducted annually. However, the new (2023) TCMC Regional Implementation Guidance (RIG) states that “after the 2022 inventory, future inventories will be conducted at least every three years.” The RIG identifies one of the Executive Committee’s responsibilities as: “Reviews and recommends proposed amendments to TCMP, based on emerging information.”

Annual GHGI Result Trends

The most recent GHG inventory estimated that Thurston County’s total gross emissions increased by 6.6% between 2015 and 2022. From the baseline year of 2015 until 2019, emissions increased 13%. Emissions dropped more than 18% from 2019 to 2020 (largely as a result of decreasing transportation emissions during the pandemic), then increased 16% from 2020 to 2022. Much like the rest of the world, Thurston County’s emissions are not on track to meet the 2030 and 2050 targets.

The relative contributions of each emissions sector have remained fairly stable over the years. For example, comparing 2018 data (reported in the TCMP) to the most recent 2022 data: the Buildings and Energy sector changed from 59% to 54%, Transportation from 33% to 36%, Solid Waste from 5% to 3%, Agriculture from 2% to 3%, and Wastewater stayed at 1%. The 2022 inventory also included fugitive emissions (3%).

Key Point: Annual GHGIs are not providing much actionable information about Thurston’s GHG emissions. Overall trends are shaped largely by external factors (e.g., Covid-19 pandemic, population growth) and the sector-by-sector breakdown is not changing much.

Industry Best Practices

ICLEI recommends that communities conduct emissions inventories every three to five years to assess progress resulting from any actions implemented. Thurston County’s ICLEI representative confirmed that most communities they work with follow this recommendation.

Recent publications reinforce this recommendation regarding GHGI frequency. A 2020 report by the Brookings Institution¹ indicates that most larger cities in the United States do not conduct annual GHGIs. Of 45 cities analyzed, 32 had conducted at least one additional GHGI since their baseline. None of the cities had GHGIs for years 2018 or 2019, and only two had GHGIs for 2017. The report found a lower rate

¹ Markolf, S.A., et al. (2020). Pledges and Progress: Steps toward greenhouse gas emissions reductions in the 100 largest cities across the United States; www.brookings.edu

of activity among smaller cities, indicating the challenges that resource constraints can pose for developing GHGIs. The report makes several recommendations to make local climate commitments more effective: improve the quality of pledges, emphasize implementation, develop better models to estimate actual emissions changes, and encourage learning.

Another 2021 report, written by a group of current and previous local government practitioners², reflected on more than a decade of local climate work that has been built on frequent GHG inventories, targets, and tracking. They observe that this technical approach has helped establish local communities as credible actors on climate change, but has not yet led to rapid transformational GHG reductions. They state that “even the best resourced, most ambitious, and longest-active cities have struggled to get on track to achieve their long-term GHG goals.” The report concludes that the local climate field is at a transition point at which practitioners should consider “alternative approaches to track and report progress ... that move beyond city-by-city annual GHG inventories.”

Key Point: Local government leaders are moving away from continual tracking of GHGs to focus more effort on implementation of climate actions.

Staff Capacity Considerations

Both publications mentioned above refer to the resource burden of conducting frequent GHGIs. This is a challenge that resonates with the TCMC. As noted in prior TCMC meetings, each jurisdiction staff member’s allotted capacity for the TCMC is about 35% (leaving 65% for jurisdiction-specific work). The TCMC allotment breaks down into approximately 10% for each existing regional initiative, 5% for a new regional initiative, 5% for meeting preparation and administration, and 5% for project management and reporting.

Thurston County’s TCMC Staff Team member estimates that in 2023-2024, she spent 140–160 hours on the GHGI over a 10-month period, which equates to 8–10% of her time.

Key Point: Conducting annual GHGIs takes a significant amount of the Staff Team’s already limited capacity. This is time that could be otherwise spent on implementing actions in the TCMP.

New Statewide Standards

Starting this year, the state of WA is setting a new standard for communitywide GHGI methods, reduction targets, baseline year, and future emission projections. The WA Department of Commerce is contracting with a consultant to complete a 2022 communitywide GHGI for each of the 11 largest counties in WA, including Thurston. This work aims to support counties and cities in developing their Comprehensive Plan Climate Elements; and to provide a consistent, comparable, and replicable GHG inventory methodology across the state.

Because the Commerce GHGI utilizes some different methodologies, its results differ from the TCMC/ICLEI 2022 inventory. For example, the Commerce GHGI estimates a countywide total of about 4.21 million MTCO_{2e}, compared to about 3.26 million MTCO_{2e} in the ICLEI GHGI. Results have not been fully analyzed yet, but a major reason for this discrepancy is likely because the Commerce inventory includes a new category of Tree Cover Loss within the Land Use sector.

² Armstrong, M., et al. (2021). The State of U.S. Local Climate Action Planning; www.CityScale.org

Commerce recommends that counties use the 2022 inventory as a baseline for setting and achieving GHG reduction targets in the Comprehensive Plan. The project will also deliver a “wedge analysis” to project future emissions scenarios that incorporate federal, state, and regional policies; and a scenario planning tool to help counties develop local strategies to meet GHG reduction targets.

Key Point: When the Commerce GHGI results are analyzed and applied to comprehensive planning, the TCMC and jurisdictions may have new ideas for the scope and methods of future GHGIs. It may be wise to wait before investing in a full GHGI.

Alternative Option: the “Dash Inventory”

As an alternative to the full GHGI, ICLEI offers the “Dash Emissions Profile” (aka Dash Inventory) which only includes communitywide GHG emissions from energy use in buildings and from on-road transportation. These activities represent approximately 77% of Thurston’s total 2022 emissions. The costs of completing a Dash Inventory is included in ICLEI membership dues, which are already covered by Thurston County. By comparison, ICLEI charged \$7,250 for the full 2022 GHGI and narrative report. While Staff Team time is expected to be less for this option (compared to the 8-10% FTE for the full GHGI), there will still be Staff Team time required to collect and quality-check data on electricity, natural gas, and vehicle miles traveled (VMT). Additional time may be required to review prior years’ data and examine change over time in these limited activities.

Staff Team Recommendation

For all of the reasons discussed above, the Staff Team recommends conducting the next GHGI in 2027 with 2025 data, and proceeding with inventories every three years thereafter. After the jurisdictions draft GHG reduction targets and policies for their Comprehensive Plan Climate Elements, the Staff Team will consider specific methods to use in the 2025 GHGI, as well as how to align Comprehensive Plans with future updates to the TCMP.

A second option, also supported by the Staff Team, is to complete a limited Dash Inventory (only energy and on-road transportation sectors) for the years 2023 and 2024, followed by the next full GHGI (including all sectors) for the year 2025. Then we would continue on this “dash-dash-full” schedule in the future.

Option 3, continuing on an annual schedule, is not recommended by the Staff Team and would increase TCMC costs beyond the proposed 2025-2026 TCMC Budget.

Decision Options

- Option 1: 3-Year Schedule – next full 2025 GHGI
- Option 2: Dash-Dash-Full Schedule – 2023 and 2024 Dash GHGI, 2025 Full GHGI
- Option 3: Annual Schedule – 2023 full GHGI, continue annually thereafter.

Attachments

- None