Date: April 8, 2025

Honorable Mayor and Council Members:

Author and title: Melanie Grebitus, Sustainability Program Analyst II

Title: **2022 Community-Wide Greenhouse Gas Inventory and 2022 and 2023 Municipal Operations Greenhouse Gas Inventories**

Jen Callaway, Town Manager

Recommended Action: Accept the Town of Truckee 2022 Community-Wide Greenhouse Gas Inventory Report, and the 2022 and 2023 Municipal Operations Greenhouse Gas Inventory Reports.

Discussion: In March 2025, the Town adopted Resolution 2025-09 establishing the following greenhouse gas (GHG) emissions reduction targets relative to the Town's 2008 baseline emissions:

- Reduce emissions 40% by 2030
- Reduce emissions 80% by 2040
- Achieve carbon neutrality by 2045

Resolution 2025-09 also states the Town will strive to achieve these targets sooner for municipal operations to the extent feasible.

As part of measuring progress towards these targets, the Town also committed to conducting community-wide GHG inventories every five years and municipal operations inventories annually, starting with inventory year 2022. Community-wide inventories will align with updates to the Town's Climate Action Plan (CAP), which will include reporting on the implementation of the measures outlined and any necessary updates based on any large changes to GHG emission data or Town programs. Staff recommend conducting the next community-wide GHG inventory for the inventory year 2025 to align the five-year cycle with the years of adopted GHG emissions goals. GHG inventories are dependent on the publication of electricity emissions factors and Census Bureau data, which are typically released each fall for the year prior. Therefore, the Town will likely publish GHG inventories in late winter or early spring two years following the inventory year (for example, the 2025 inventory can be completed in early 2027).

Previous community-wide and municipal GHG inventories were conducted in 2008 and 2016. Updated inventories compare emissions to previous inventory years. Previous inventories were conducted by Sierra Business Council and future inventories will be conducted by Town staff. Updates were made to some calculations in previous inventories based on updated data and calculation methodologies. It is important to note that any emissions inventory represents an estimate using the best data and calculation methodologies available at the time the inventory was conducted. All GHG emissions are estimates and may change if better data and calculation methodology become available.

2022 and 2023 Municipal Operations Greenhouse Gas Inventories

Truckee Town Council has set a priority to reduce municipal GHG emissions and be a leader in environmental sustainability. Reducing GHG emissions associated with Town operations is an

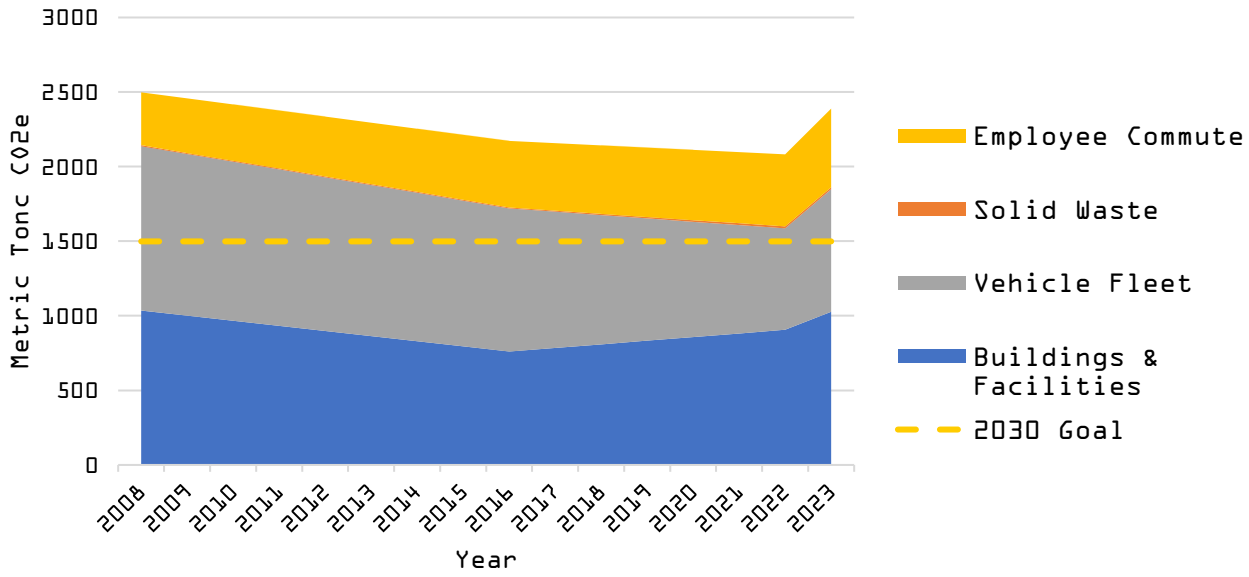
opportunity to lead our community in reducing climate change impacts. To track progress towards municipal operation GHG emission reduction targets, GHG inventories were conducted for the 2022 and 2023 inventory years.

The Town's municipal operations GHG emissions are measured based on sources and activities associated with the Town's municipal operations. The municipal GHG inventory includes emissions from four sectors: Buildings and Facilities, Vehicle Fleet, Solid Waste, and Employee Commute. Energy use data is gathered from utility providers and Town staff measure data on fleet fuel usage, employee commutes, and waste tonnages. GHG emission calculations follow the Local Government Operations Protocol (LGOP) developed by California Air Resources Board, the California Climate Registry, and the International Council for Local Environmental Initiatives (ICLEI).

Municipal Operations Emissions Summary

In 2022, the Town of Truckee's municipal GHG emissions reduced 17% below 2008 baseline emissions. In 2023, emissions increased 15% from 2022 and are 4% below baseline emissions. Town buildings and facilities account for the largest share of emissions, followed by vehicle fleet, employee commute, and solid waste. Municipal operations GHG emissions since the baseline year are shown in Figure 1, with emissions levels interpolated between inventory years. Details on each sector and inventory year are available in the attached reports (see Attachments 1 and 2).

Figure 1: Municipal Operations GHG Emissions 2008-2023



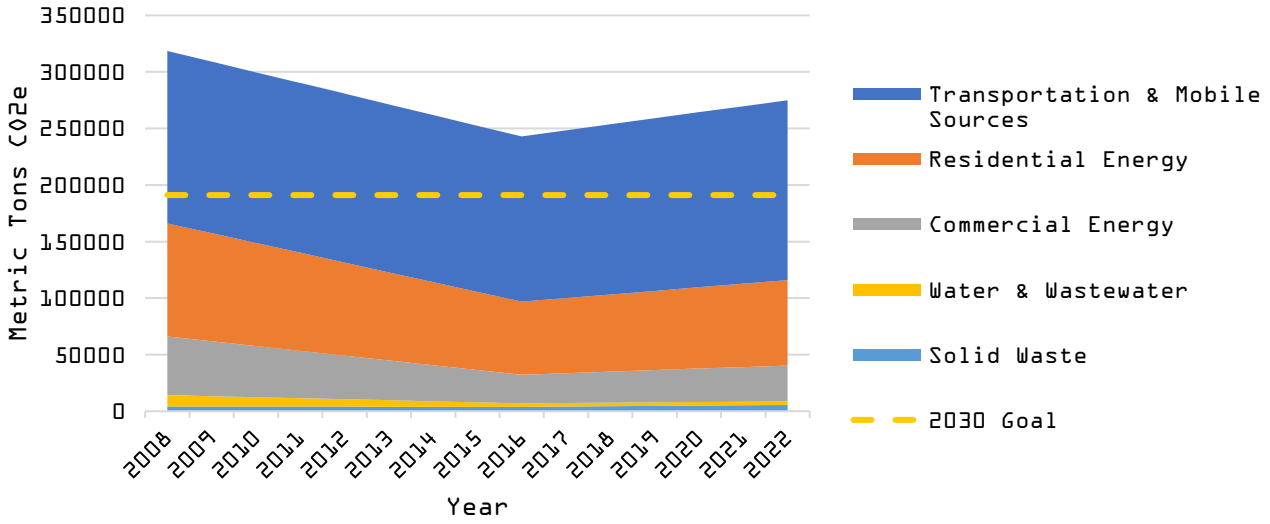
2022 Community-Wide Greenhouse Gas Inventory

Tracking community-wide GHG emissions provides an opportunity for the Truckee community to recognize the sources and activities producing GHG emissions, and to understand how to reduce emissions to advance community-wide GHG reduction targets and to inform decision making on measures in the Town's CAP. The Town's 2022 community-wide GHG inventory includes emissions associated with activities and sources within the Town's jurisdictional boundary. Community-wide emissions include emissions from five sectors: Transportation and Mobile Sources, Residential Energy Use, Commercial Energy Use, Water and Wastewater, and Solid Waste. GHG emission calculations follow the U.S. Community Protocol (USCP) for Accounting and Reporting of Greenhouse Gas Emissions.

Community-Wide Emissions Summary

In 2022, community-wide GHG emissions reduced 14% below the 2008 baseline, and increased 13% since 2016. Transportation and mobile sources account for the largest share of emissions, followed by residential energy, commercial energy, water and wastewater, and solid waste. Figure 2 shows trends in emissions since the baseline year. Details are available in the attached report (see Attachment 3).

Figure 2: Community GHG Emissions 2008-2022

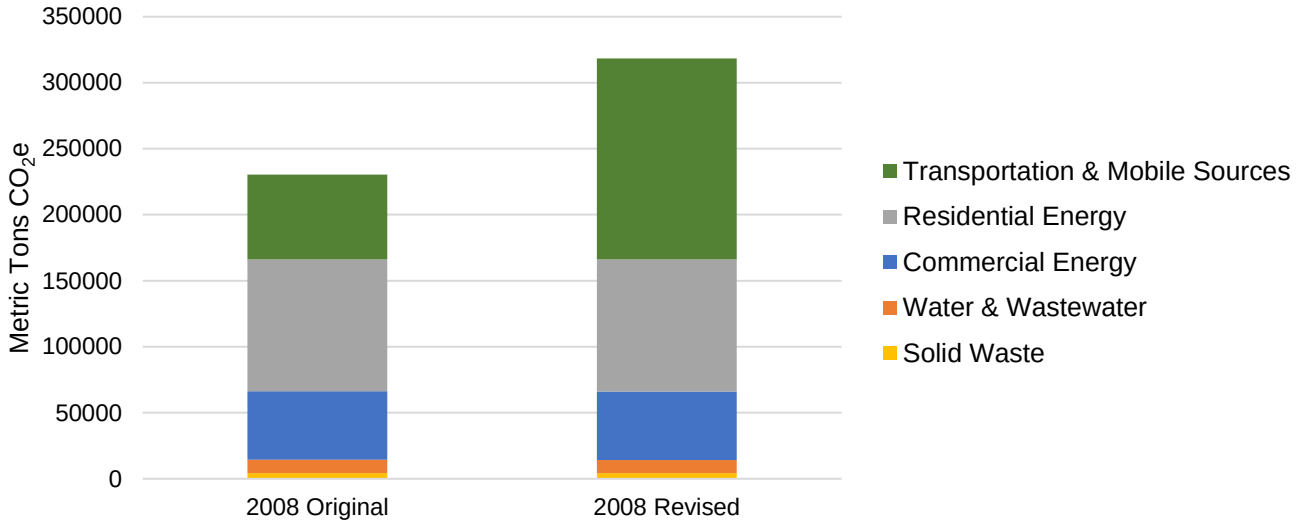


Updated Vehicle Mile Traveled (VMT) Estimates

As part of the 2022 community-wide inventory, transportation sector emissions were re-calculated for the Town of Truckee's 2008 and 2016 community inventories based on updated estimates of vehicle miles traveled (VMT). The previously estimated VMT for 2008 and 2016 truncated trips at the traffic model boundary and, therefore, did not include trip lengths outside the Town of Truckee boundaries. For example, the VMT associated with a trip between Truckee and Sacramento under the previous methodology would have only included the distance between the origin in Truckee and the Town's western boundary on Interstate 80. However, because accepted standards for community-wide GHG inventory calculations require VMT to take into account the entire trip length between origin and destination, the original 2008 & 2016 GHG inventories significantly underestimated the VMT generation and overall transportation sector emissions. This impacted the Town's adopted GHG emissions reduction goals, as the targets are based on a percentage of the 2008 baseline emissions. It was important to re-calculate our baseline emissions along with our updated inventory to ensure our 40% and 80% reduction targets are reachable.

Updated VMT estimates were calculated based on the 2040 General Plan CEQA analysis, which utilized a 2018 traffic analysis and anonymized data collected from individual personal Bluetooth devices to assess traffic patterns. Growth rates extrapolated from the traffic model outputs were applied to the 2018 data to estimate 2008, 2016, and 2022 VMT. The total trip length was then allocated to Truckee's GHG inventory by the standard methodology for community-wide inventories: 50% of each trip length that starts or ends outside of Truckee is attributed to Truckee, and the other 50% is attributed to the trip origin or destination jurisdiction. For trips that both start and end inside Truckee, 100% of the trip length is counted. Pass-through travel is not included in the GHG inventory. Note, however, that the updated methodology does not include trip lengths in Nevada, as trips were cut at the state line to be consistent with CEQA. Because of the truncated trip length, this methodology will also underestimate VMT to a lesser degree, but Town staff do not have access to trip data that would address this gap.

Figure 3: Updated 2008 Baseline GHG Emissions



Updating VMT estimates increases 2008 baseline transportation sector GHG emissions by 138% and increases the total community baseline GHG emissions by 38%, as seen in Figure 3. These updated estimates show that transportation is now the largest emission sector in all three inventory years, which is typical for local jurisdictions in the United States. The attached 2022 Community-Wide Greenhouse Gas Emissions Inventory Report reflects these updated VMT and transportation sector GHG emission estimates for 2008, 2016, and 2022 inventories. The updated VMT estimates and transportation sector GHG emissions are presented in Table 1 below.

Table 1: Updated VMT and GHG Emission Estimates

	Truckee Annual VMT (Miles)		**Transportation Sector GHG Emissions (Metric Tons CO2e)**				
						Percent of Total GHG Emissions	
	Old Baseline	**Updated Baseline**	**Old Baseline**	**Updated Baseline**	**Percent Change**	**Old Baseline**	**Updated Baseline**
2008	100,199,763	254,840,478	64,044	152,420	138%	28%	48%
2016	92,773,135	263,579,691	56,428	146,051	158%	37%	60%
2022	**-**	300,872,788	-	159,088	-	-	58%

Truckee's CAP identifies goals, policies, and actions to reduce GHG emissions from transportation-related activities, based on VMT and GHG emissions estimated in the Town's original 2008 baseline inventory. These updated VMT and GHG estimates will be integrated into the next update of the CAP but are not expected to substantially change the recommended strategies to reduce emissions from the transportation sector. Estimates of GHG emissions reduction from transportation-related CAP measures are based on a percentage reduction in total VMT, so these outlined programs and policies are still applicable for reducing community wide transportation GHG emissions even with a higher baseline VMT. While updated GHG estimates are unlikely to affect the overall strategies outlined in the

CAP, more total VMT reductions are needed to achieve GHG reduction targets. The CAP update will determine if any adjustments are needed to the type or scale of the transportation sector strategies.

Priority:

☐	Enhanced Communication	☒	Climate and Greenhouse Gas Reduction	☐	Housing
☐	Infrastructure Investment	☐	Emergency and Wildfire Preparedness	☐	Core Service

Fiscal Impact: There is no fiscal impact to adopting the municipal operations or community-wide GHG inventories.

Public Communication: Agenda posting.

Attachments:

1. 2022 Municipal Operations Greenhouse Gas Inventory Report
2. 2023 Municipal Operations Greenhouse Gas Inventory Report
3. 2022 Community-Wide Greenhouse Gas Inventory Report