



COUNTY OF SONOMA

Greenhouse Gas Inventory Results

(2017, 2019, 2021)



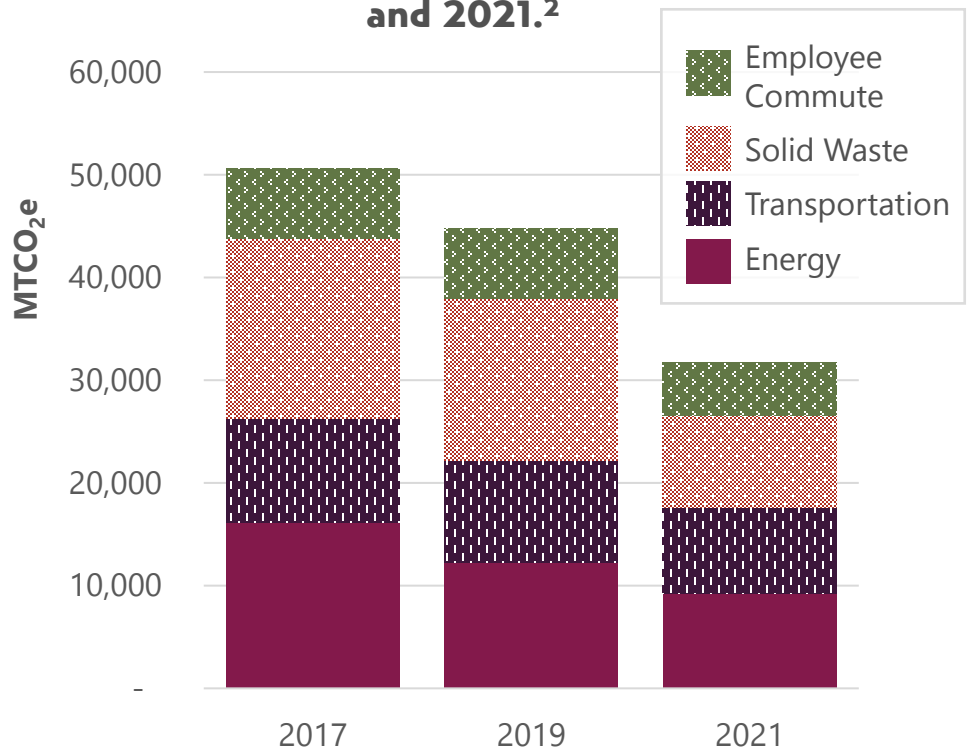
The County of Sonoma has committed to climate action through a collection of efforts, including declaring a climate emergency in Sonoma County, creating a Climate Action and Resiliency Division, and setting a target of reaching carbon neutrality for all County operations by 2030.¹

With climate change impacts significantly affecting the region—from increased heat, drought, and wildfires to storm surges and flooding—the need to better understand and reduce emissions is timely and essential.

As part of these climate efforts, the County completed **municipal greenhouse gas (GHG) emissions inventories** for 2017, 2019 and 2021 to understand where its operational emissions come from and how to address them.

County operations produced 50,635 metric tons of carbon dioxide equivalent (MTCO₂e) in 2017, 44,756 MTCO₂e in 2019, and 31,712 MTCO₂e in 2021. **Total emissions decreased 37% from 2017 to 2021.**

Total greenhouse gas emissions for 2017, 2019 and 2021.²



1. [Climate Action and Resiliency | sociostrategicplan.org](https://socostrategicplan.org)

2. Wastewater emissions were excluded from this figure because they were too small to be seen

In 2017 and 2019, solid waste was the largest source of emissions, followed by energy. In 2021, energy was the largest source of emissions, with solid waste as the next highest source.



For the County of Sonoma, solid waste represented a higher than usual proportion of total emissions; for governments and municipalities that do not own and operate landfills, emissions from solid waste are generally a small proportion of total emissions. Unlike most other sectors in these inventories—which only measured activity related to County government operations—solid waste included emissions from closed landfills that served residents and businesses county-wide, which inflated the sector’s total emissions in comparison to the rest of the inventory.

Trend Analysis

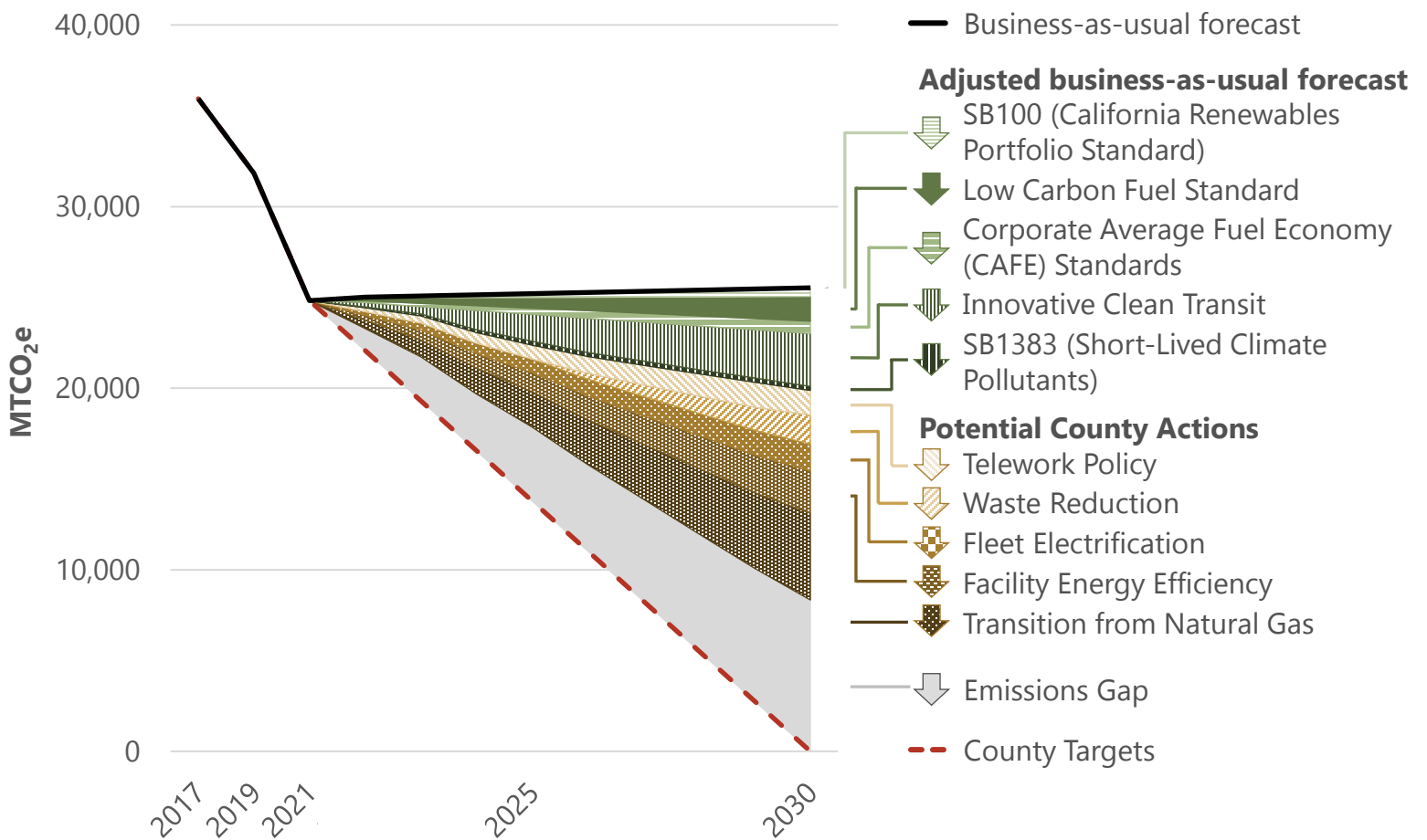
Many factors can affect operational emissions.

- **Energy emissions decreased 43%** from 2017 to 2021, driven in part by the **decommissioning of the Sonoma County Fuel Cell** (a power generation plant that converted natural gas into electricity) at the end of 2020.
- **Transportation emissions decreased 18%** from 2017 to 2021, influenced by the **COVID-19 pandemic**, which began disrupting County operations in March 2020.
- **Solid waste emissions decreased 49%** from 2017 to 2021. This source includes emissions from closed landfills that the County owns and operates and solid waste generated by the County. Emissions normally decline over time in closed landfills.
- **Employee commute emissions decreased 25%** from 2017 to 2021, due to more employees teleworking because of the COVID-19 pandemic.



Wedge Analysis

The County conducted a wedge analysis—a visual representation of potential future GHG emissions based on different scenarios—to forecast the County’s emissions through 2030 and inform climate action efforts. The County’s emissions experienced a significant decrease from 2017 to 2021 due to changing operations, including decreased natural gas and propane consumption, and increased employee telework. This wedge analysis focuses on emissions produced by operations that the County has the most control over, such as energy consumption, transportation, solid waste generation, and employee commuting.



The “business-as-usual” forecast shown in this analysis depicts the County’s projected emissions increases if all operations remained unchanged from 2021 but scales these emissions based on projected employee and population growth. If no federal, state or local climate action is taken, the County’s emissions are projected to increase 3% by 2030.

The adjusted business-as-usual scenario represents anticipated decreases in emissions from adopted federal and state policies. Considering the impacts of existing federal and state climate policies and regulations, emissions are expected to decrease 20% by 2030. Each “potential County actions” wedge illustrates the forecasted impact of relevant climate action initiatives that the County could pursue.

If the County implements key strategies to reduce emissions, emissions are expected to decrease **66%** by 2030. These actions include:

- Modifying the County's telework policy.
- Achieving zero waste by 2030.
- Continuing to electrify the County's vehicle fleet.
- Improving facility energy efficiency.
- Retrofitting buildings to transition buildings from natural gas to electricity or renewable energy sources.

When considering the collective impact of the scenarios described above, remaining County emissions will largely consist of:

- Employee commute (**35%** of remaining emissions).
- Electricity consumption (**25%** of remaining emissions).
- On-road vehicle fleet (**23%** of remaining emissions).

These remaining emissions make up the "emissions gap" shown in the wedge analysis and are estimated to be approximately 8,343 MTCO_{2e}, which should be addressed through additional County action.



Next Steps

The County will use the inventory and analysis results to develop a Climate & Resilience Master Action Plan. **The Plan will consider strategies to reduce emissions**, such as:

- Shifting County electricity purchases to Sonoma Clean Power's Evergreen program and completing energy efficiency upgrades and electrification retrofits.
- Electrifying County fleet (on-road, transit, and off-road vehicles and equipment).
- Increasing diversion of waste from landfills through education and improved waste receptacles.
- Exploring ways to reduce workforce commute emissions.