Climate Action Plan

Progress Report

A glance at our progress towards carbon neutrality.

2022-2024

CITY OF CUPERTINO

Charting a Path to Net Zero

The Cupertino City Council adopted the **City's Action Plan 2.0 (CAP 2.0)** in August 2022. The CAP 2.0 created a roadmap to reduce greenhouse gas (GHG) emissions in Cupertino. This report is an overview of Cupertino's progress toward meeting its GHG reduction goals through programs and policies. It builds upon the City's prior climate action efforts and was designed with four guiding principles: equity, innovation, urgency and flexibility, and resilience and adaptation.

CAP 2.0 SECTORS

CAP 2.0 consists of **21 measures** across **five sectors** that are supported by **140 actions**.

Building Energy: Making our buildings more energy efficient and transitioning away from natural gas.

Transportation: Promoting EV adoption, public transit, and infrastructure for walking and biking.

Greenspace & Water: Expanding our urban forest, conserving water, and fostering sequestration.

Zero Waste: Diverting waste from landfills through recycling, composting, and other programs.

Adaptation & Resilience: Preparing our community for climate impacts and promoting local resiliency.

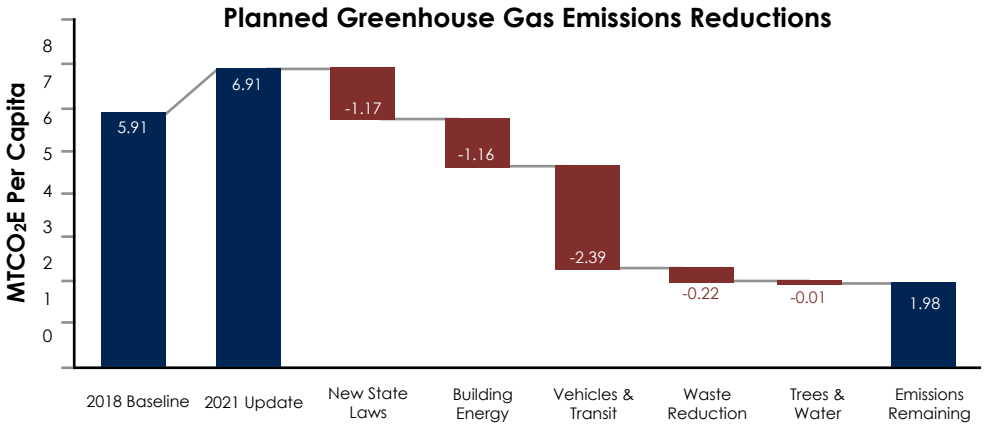
Emissions Reduction Goals

The City of Cupertino's goal is to reach 50% greenhouse gas (GHG) reduction by 2030 and carbon neutrality by 2040, using a 2018 baseline. The CAP 2.0 lists a set of actions to reach that goal, which exceed state requirements and further align with the Paris Agreement to limit global temperature rise to 1.5°C. However, even as adopted, the actions laid out in the CAP 2.0 are not enough to achieve the goal based on GHG projections.

Emissions Update

The City is actively implementing the actions and measures detailed in the Climate Action Plan 2.0, but an update to the emissions data projects that the City is further from attaining our goals. This increase is partially due to updated transportation-related emissions calculations. Other jurisdictions are seeing similar trends.

The City must do even more than the actions detailed in the CAP 2.0 to help bridge the gap between projected reductions and the carbon neutrality goal. The chart below shows the projected emissions reduced through the CAP 2.0 and the remaining reduction we would need to achieve.



Climate Action Dashboard

Cupertino launched the Climate Action Dashboard in 2024 to help residents:

- **Explore** City-led climate and sustainability initiatives
- **Learn** about how residents can reduce their personal carbon footprint
- **Stay updated** about the City's latest programs and events
- **Analyze** emissions data and other climate-related metrics

Visit the Dashboard at cupertino.climatenavhub.com or scan the QR code.

Understanding the City's Emissions

In 2024, Cupertino conducted its **2021 Greenhouse Gas (GHG) Inventory Report**. This type of report monitors how the City's greenhouse gas emissions are trending over time.

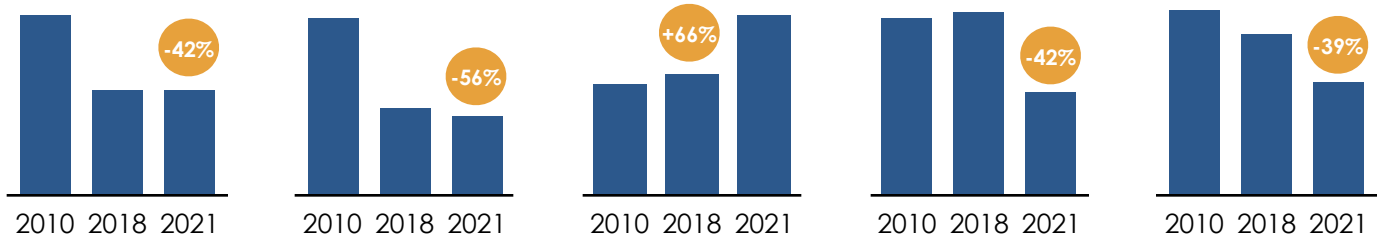
The 2021 inventory used an updated methodology for calculating transportation-related emissions. The 2010 and 2018 emissions data were not adjusted using the updated method. The trend diagram below shows an increase in overall emissions, but the 2010 and 2018 transportations emissions would be greater if updated or "backcast" to match the current methodology. Preliminary calculations suggest the model changes could be responsible for more than half of the emissions increase.

Breakdown of Emissions by Sector

A graphical breakdown of the different sectors and their contribution to the community-wide inventory is provided below.

Change in Emissions Over Time

The graphs below show the change in emissions over time in each sector, comparing the 2010, 2018, and 2021 GHG inventories.



KEY FINDINGS

Building Energy

The City's second largest source of GHG emissions remains use of natural gas by buildings. It decreased 2% between 2018 and 2021.

Transportation

Commercial gas-powered vehicles and passenger vehicles emitted 38% and 34% of the City's total emissions respectively, totaling 72% together. Gasoline powered passenger VMT went from 381 million to 464 million, a 22% increase. Electric vehicle VMT increased 50% in 3 years, from 6 million to 9 million miles.

Solid Waste

Waste emissions make up only 2% of the total emissions in 2021. Emissions attributed to landfilled waste decreased by nearly 50%, although there was 77% less waste attributed to construction in 2021 compared to 2018.

Wastewater

Water treatment generated 3.2% of the total emissions, but emissions from the treatment process reduced by 24% in 3 years.

Building Energy

HIGHLIGHTED METRICS

15,854,494 therms
Community-wide natural gas consumption (2021)

86,586 $MTCO_2e$
Building-related emissions (2021)

100%
Percentage of municipal facilities getting renewable electricity from SVCE (2024)

$84,500
Amount in rebates awarded to residents for electric appliance upgrades (2023)

Building Energy remained our second largest emissions source, with natural gas use in buildings contributing 17% of overall community-wide emissions.

Key Accomplishments in 2022-2024

1. Approved new reach code for newly constructed buildings to continue **encouraging all-electric construction**.
2. Partnered with SVCE to create programs and rebates for reside nts to **upgrade appliances in existing buildings**.
3. Received $139,000 in grant funding to continue **LED streetlight upgrades** through the DOE's Energy Efficiency and Conservation Block Grant (EECBG) Program.
4. Completed a **municipal building energy assessment** to identify top priority retrofitting and energy efficiency projects.
5. Hosted a live **induction cooktop showcase** with professional Chef Martin Yan.

SPOTLIGHT ON UPCOMING PROJECTS

1. Virtual Reality Decarbonization Simulator

Using grant funding from SVCE, the City is developing an interactive, virtual reality (VR) experience for residents to learn about how they can decarbonize their own homes. The VR demonstration will launch in April 2025 and will use immersive technology to raise public awareness of the importance of residential electrification.

2. Existing Building Electrification

CAP 2.0 features measures focused on electrifying existing residential and commercial buildings.

To facilitate building electrification, the City is designing a building energy benchmarking policy to introduce energy reporting requirements for larger commercial buildings. City staff engaged with local commercial building owners to explore using a tiered system that encourages natural gas appliance replacement at the end of equipment life, striking a careful balance between environmental goals and economic feasibility.

Transportation

Transportation represents our largest emissions source at 73 percent of total, community-wide emissions. Depite the change in VMT methodology, the City made progress in its efforts to address these emissions by advancing electric vehicle adoption, supporting active transportation, and enhancing mobility options.

Key Accomplishments in 2022-2024

1. Cupertino secured an $8.465 million grant from the California State Transportation Agency (CalSTA) to **expand the Silicon Valley (SV) Hopper rideshare program** into the City of Santa Clara and enhance access to Caltrain.
2. SV Hopper now operates with a **100 percent all-electric vehicle fleet**.
3. Expanded **public EV charging infrastructure** with two off-grid solar-powered EV charging stations, purchased with SVCE grant funding.
4. Streamlined permit review process for **installing new EV chargers**.

HIGHLIGHTED METRICS

567,450,922 miles
Community-wide vehicle miles traveled (2021)

16
Number of City-owned EV charging ports (2024)

5.15 miles
Total length of separated bike lanes (2024)

30.29 MTCO2E
Amount of emissions mitigated due to SV Hopper (Between October 2023 to September 2024)

SUCCESS STORY SPOTLIGHT

Streamlined Permit Review for New EV Charging Stations

In 2022, the City completed a review of existing EV charging permitting regulations and adopted ordinance 22-2244 and 22-2245 to streamline the permit review process. Since these ordinances were adopted, a total of 40 permits have been approved under the new process.

This streamlining is in compliance with state laws AB 1236 and AB 670 and completed CAP 2.0 measure TR 3.4. AB 1236 requires cities to create expedited permitting processes limited to health and safety reviews, and AB 970 added specific binding timelines based on project size and clarified parking requirements.

The ordinances created a standardized checklist with electronic submission capabilities and established a clear 20-40 day timeline for permit approvals. The new process removes barriers and encourages new EV charging infrastructure, supporting electric vehicle adoption and reducing GHGs.

Greenspace & Water

HIGHLIGHTED METRICS

98,964 sq ft
Amount of landscaping converted to be drought-tolerant (2023)

82 households
Number of recipients of water conservation rebates (2023)

30%
Percentage of urban tree canopy coverage (2024)

302
Number of trees given to the community for planting (2024)

The City continues to demonstrate leadership in water conservation, achieving significant reductions in per capita water usage in recent years.

While water-related emissions make up just 3% of the City's community-wide inventory, conservation remains a critical priority for ensuring climate resilience. Additionally, the City maintains a healthy urban forest that provides natural carbon sequestration benefits to the community.

Key Accomplishments in 2022-2024

1. Added **15 new community garden plots** at Wilson Park, completing CAP 2.0 measure CS 2.2.
2. Achieved **20% reduction in per capita water usage** from 2010 levels.
3. Supported **water conservation rebate programs**.
4. Piloted a **Climate Victory Gardens initiative**.*

SUCCESS STORY SPOTLIGHT

Green Stormwater Infrastructure with the Alan Row Development Project

In 2024, a stormwater infrastructure project was completed at Alan Row, a redevelopment project approved by Cupertino City Council in January 2022. As part of the project's comprehensive street frontage improvements, bio-retention areas were installed within new park strips along Stevens Creek Boulevard. These green infrastructure features mimic natural hydrology by directing hardscape runoff into specialized filtration zones.

Within these filtration zones, engineered landscape media naturally filters the stormwater before it flows into an underdrain system, which connects to the upgraded storm drain main installed along Stevens Creek Boulevard. This sustainable approach to stormwater management, integrated with new curb, gutter, and detached sidewalk improvements, demonstrates how urban infrastructure can be designed to better manage and treat roadway runoff while enhancing the streetscape.

** This program was funded temporarily in the 2022-2024 period and has since been discontinued.*

Zero Waste

The City has made progress toward zero waste goals through programs and policies that reduce the amount of waste sent to landfills.

While waste emissions only represent 2% of our community-wide GHG inventory, mainly from organic material decomposing in landfills, proper waste management remains crucial to meeting our climate goals.

Cupertino continues to pursue its 75% waste diversion target and is currently focused on implementing state requirements for organic waste collection and edible food recovery.

Key Accomplishments in 2022-2024

1. Implemented state law, **SB 1383**, ensuring residential and commercial organics diversion.
2. Supported creation of the **Santa Clara County Food Recovery Program** in collaboration with all jurisdictions in the County.
3. Adopted a **Single-Use Foodware Ordinance**.
4. Partnered with Recycletek to provide local **CRV redemption**.
5. Conducted new **waste characterization study** in 2024. Final results are pending, but there was a reduction in the amount of organic waste going to the landfill and an increase in the amount diverted to composting, an important shift in reducing methane production in landfills.

HIGHLIGHTED METRICS

357,777
Containers recycled through Recycletek (Aug '23 to Jun '24)

2,633
Number of visits to Recycletek machines (Aug '23 to Jun '24)

95%
Percentage of businesses compliant with SB 1383 (2024)

55
Number of businesses donating food (2024)

SUCCESS STORY SPOTLIGHTS

1. Diverting Edible Food from the Landfill to Those in Need

In 2022, Cupertino joined a countywide effort to launch the Santa Clara County Food Recovery Program, meeting SB 1383 requirements through a coordinated approach. From the program's launch through the end of 2023, 55 Cupertino businesses donated 449,117 pounds of food to recovery organizations.

2. CRV Recycling Program with Recycletek

In 2023, Cupertino partnered with Recycletek to launch an innovative CRV recycling program funded by a CalRecycle grant. The AI-powered EcoTrailer can process up to to 1,000 containers per minute. It operates at Creekside Park on Wednesdays and Mary Avenue on Saturdays. Residents can recycle on-site with staff assistance or use the bag-drop option for added flexibility.

Adaptation & Resilience

CLIMATE RISK ASSESSMENT RESULTS

Cupertino's vulnerability assessment helps prioritize adaptation actions based on their associated risk level.

POOR AIR QUALITY
High

EXTREME HEAT
High

DROUGHT
Medium

WILDFIRES
Medium

FLOODING
Medium

The City is taking decisive action to prepare our community for increasing climate impacts and build local resilience. Based on Cupertino's first comprehensive climate vulnerability assessment, our community faces several climate-related risks, with poor air quality and extreme heat identified as our highest priority hazards.

Through improved emergency preparedness and community education, we're working to protect our most vulnerable residents and strengthen our infrastructure against climate impacts.

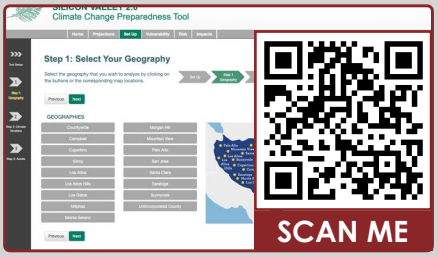
Key Accomplishments in 2022-2024

1. Launched the **Cupertino Climate Challenge and Green Blocks** programs.*
2. Completed a comprehensive **climate vulnerability assessment** in partnership with the County.
3. Partnered with Santa Clara County to develop the **Climate Change Preparedness Tool**.
4. Installed real-time **air quality monitoring network**.*
5. Cupertino adopted the **Multi-Jurisdicational Hazard Mitigation Plan** that was heavily influenced by climate hazards.

SUCCESS STORY SPOTLIGHTS

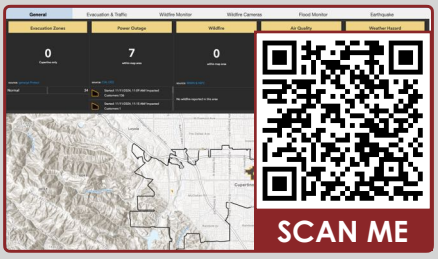
1. Climate Change Preparedness Tool

Cupertino contributed to the creation of the Climate Change Preparedness Tool which allows users to assess local vulnerability to climate hazards in the region. The interactive tool helps visualize how sea level rise, flooding, wildfire, and extreme heat could impact local communities and infrastructure, enabling customized risk analysis based on different climate projections. Visit the tool at siliconvalleytwopointzero.org or scan the first QR code on this page.



2. Cupertino Hazard Awareness Dashboard

Cupertino launched a live, real-time dashboard that keeps residents up to date on various climate risks, including power outages, flooding, and other hazards that are already actively impacting the City today. Visit the dashboard at gis.cupertino.org/webmap/eoc_dashboard_public or scan the second QR code on this page.



** These programs were funded temporarily in the 2022-2024 period and have since been discontinued.*

Ongoing and Upcoming Projects

The City of Cupertino has a number of ongoing and planned projects which will implement several measures in the CAP 2.0 and continue to improve sustainability within the community.

BUILDING ENERGY

The City is pursuing installation of photovoltaic panels on multiple City-owned buildings. These new solar panels would be installed by April 2026.

The City is seeking grant funding to replace existing gas appliances with all-electric options in City-owned buildings. This would improve building air quality, reduce emissions, and demonstrate leadership in building decarbonization.

TRANSPORTATION

The City has proposed new charging infrastructure at the Sports Center to power the SV Hopper fleet.

The City is transitioning our municipal fleet to electric in compliance with the Advanced Clean Fleet mandate. Fifty percent of vehicle purchases are zero-emissions beginning in 2024 and 100 percent of vehicle purchases are zero-emissions by 2027. A total of 10 new charging stations are expected to be installed in 2026 with 10 additional in the future.

The City is in the process of developing a comprehensive analysis to identify a prioritized list of locations for new electric vehicle charging stations. This is expected to be completed in 2025 and will complete CAP measure TR 3.1.

GREENSPACE & WATER

The City is in the process of updating the approved tree species list for public and private property. This updated list will encourage protection of existing trees and consider native and drought tolerant species when making species recommendations. This will further our carbon sequestration, water conservation and bio-diversity climate goals.

The City is beginning a recycled water feasibility study to explore bringing recycled water to the city from surrounding sources or producing recycled water locally.

ZERO WASTE

The City is exploring sending collected landfilled waste through a materials recovery facility to increase diversion before final disposal. This would complete CAP 2.0 measure W 1.2.