City of Cupertino, CA - Cities 2021

0. Introduction

(0.1) Please give a general description and introduction to your city including your city's reporting boundary in the table below.

	Administrative boundary	Description of city
Please complete	City / Municipality	The City of Cupertino (population 61,000, 13 square miles) is located against the foothills of the Santa Cruz Mountains at the west end of the world famous Silicon Valley. Corporate headquarters blend with tree-shrouded residential neighborhoods that climb into the foothills of the Santa Cruz Mountain range. Population density is 3,171 persons per square mile giving Cupertino a mix of urban and suburban neighborhoods with a central commercial corridor, known as the "Heart of the City," along Stevens Creek Boulevard, which itself is an important route to the nearby major city of San José. With 2,000 businesses, Cupertino is home to many well-known high-tech companies including Apple, Inc. DeAnza College, one of the largest single-campus community colleges in the country, offers high-quality and accessible education. Quality schools and proximity to jobs and beautiful open spaces make Cupertino a desirable location for a highly educated and culturally diverse population. Cupertino is proud of its diversity, with 53% of residents born outside of the United States. Cupertino's ecosystem ranges from the urban environment in the flatlands to semi-rural and rural environment in the western foothills of the Santa Cruz Mountains. There are approximately 16 square miles of hillsides included in and around the boundary of the city. A land use map is attached which indicates the approximate boundaries of our community-wide GHG accounting. LandUseMa.pdf

(0.2) If you have not previously submitted your Letter of Commitment to the Global Covenant of Mayors, either through the relevant regional covenant or through the Global Covenant secretariat, please attach the letter signed by an appropriately mandated official (e.g. Mayor, City Council) to this question.

Letter of Commitment was submitted in 2015.

City Details

(0.3) Please provide information about your city's Mayor or equivalent legal representative authority in the table below.

	Leader title	Leader name	Current term end year
Please complete	Mayor	Darcy Paul	2022

(0.4) Please select the currency used for all financial information disclosed throughout your response.

USD US Dollar

(0.5) Please provide details of your city's current population. Report the population in the year of your reported inventory, if possible.

	Current population	Current population year	Projected population	Projected population year
Please complete	60170	2018	75487	2050

(0.6) Please provide further details about the geography of your city.

	Land area of the city boundary as defined in question 0.1 (in square km)
Please complete	29.29

1. Governance and Data Management

Governance

(1.0) Please detail sustainability goals and targets (e.g. GHG reductions) that are incorporated into your city's master plan and describe how these are addressed in the table below.

Sustainability goals and targets	Description
Emissions reduction targets	The Master Plan references emissions reduction target development in Strategy ES-1.1.1: Climate Action Plan (CAP): Adopt, implement and maintain a Climate Action Plan to attain greenhouse gas emission targets consistent with state law and regional requirements.
Adaptation targets	Adaptation target development addressed in ES-1.1.3: Climate Adaptation and Resiliency: Conduct a climate vulnerability assessment and set preparedness goals and strategies to safeguard human health and community assets susceptible to the impacts of a changing climate (e.g., increased drought, wildfires, flooding). Incorporate these into all relevant plans, including the Emergency Preparedness Plan, Local Hazard Mitigation Plan, Dam Failure Plan, Climate Action Plan, Watershed Protection Plan, and Energy Assuredness Plan.
Energy efficiency targets	Energy efficiency target assessment addressed in ES-2.1.1: Coordination: Continue to evaluate, and revise as necessary, applicable City plans, codes and procedures for inclusion of Federal, State and regional requirements and conservation targets. Also in ES-2.1.2: Comprehensive Energy Management: Prepare and implement a comprehensive energy management plan for all applicable municipal facilities and equipment to achieve the energy goals established in the City's Climate Action Plan. Track the City's energy use and report findings as part of the Climate Action Plan reporting schedule.
Renewable energy targets	Renewable energy addressed in ES-2.1.6 which requires the City to promote and increase the use of alternate and renewable energy resources and renewable energy resources for the entire community through effective policies, programs, and incentives. Also in ES-2.1.10 which required the City to collaborate with regional partners to evaluate feasibility for development of a community choice energy program.

(1.6) Please provide information on the overall impact of COVID-19 on climate action in your city.

	Impact of COVID-19 on climate action in your city	Comment
Response	Increased emphasis on climate action	During the COVID-19 Shelter in Place period, Cupertino and the surrounding area experienced a drastic drop in vehicle traffic. This had an effect of reducing air pollution and drew attention to the affects of vehicle-based emissions. Our municipal operations shifted to providing virtual services, employee teleworking, and virtual community meetings. This has provided an opportunity for the City to rethink its policies and systems to capture the benefits of teleworking and virtual services as we transition to reopening the economy statewide. The local activity in the 2020 Black Lives Matter movement in the United States also made clear to City leaders and staff that equity must be a key piece of Cupertino's Climate Action response, prompting the Mayor to declare not only a Climate Emergency declaration but statements of support for Black Lives Matter and seeking a study of racial justice in our own policy and processes.

(1.7) Please provide information specifically on the impact of the COVID-19 economic response on climate action in your city and synergies between COVID-19 recovery interventions and climate action.

	Impact of COVID-19 economic response on city's budget for financing climate action in your city	COVID-19 recovery interventions and climate action synergies	Explanation
Response	Increased finance available for climate action	Recovery interventions that develop or strengthen universal social protection systems that enhance resilience to shocks, including climate change	The City of Cupertino distributed one-time emergency relief grants of $5,000 to 37 eligible small businesses to help local businesses to survive through the COVID-19 pandemic and continue providing jobs to low-moderate income persons. The City partnered with the Enterprise Foundation, a 501c3 organization, to administer the program. To help foster positive and healthy community connections during Shelter in Place, the City launched the #CupertinoCares initiative. The City posted fun "virtual recreation" activities for residents of all ages on its website and Facebook, Twitter and Instagram accounts. These activities encourage our community to write, draw, dance, sing, and laugh together while at home. The City encourages participants to share their their experiences by posting photos and videos with the hashtag #CupertinoCares. Website: cupertino.org/cupertinocares The City Council actually increased funding for sustainability initiatives during the pandemic, including authorizing a major update to the Climate Action Plan and initiating the work to update and create a climate adaptation plan and a roadmap to a carbon-neutral City by 2040 or earlier.

2. Climate Hazards and Vulnerability

Climate Risk and Vulnerability Assessment

(2.0) Has a climate change risk and vulnerability assessment been undertaken for your city?

Yes

(2.0a) Please select the primary process or methodology used to undertake the risk and vulnerability assessment of your city.

	Primary methodology	Description
Risk assessment methodology	State or region vulnerability and risk assessment methodology	County of Santa Clara specific study and risk assessment. Key methodology elements include: climate variable data, community asset data, vulnerability assessment (exposure analysis, sensitivity analysis, adaptive capacity analysis), and risk assessment (likelihood analysis, consequence analysis). Planning efforts that informed project methodology and gap analyses (abbreviated list): - Safeguarding California Climate Adaptation Strategy (California Natural Resources Agency) - State Hazard Mitigation Plan (Federal Emergency Management Agency) - Regional Multi-Jurisdictional Local Hazard Mitigation Plan (Association of Bay Area Governments) - Adapting to Rising Tides (San Francisco Bay Conservation and Development Commission and National Oceanic and Atmospheric Administration)

(2.0b) Please attach and provide details on your climate change risk and vulnerability assessment. Please provide details on the boundary of your assessment, and where this differs from your city's boundary, please provide an explanation.

Publication title and attach the document
Silicon Valley 2.0 Climate Adaptation Guidebook
1_150803_Final Guidebook_W_Appendices.pdf

Web link
https://sustainability.sccgov.org/sites/g/files/exjcpb976/files/documents/1_150803_Final Guidebook_W_Appendices.pdf

Year of publication or approval from local government
2015

Boundary of assessment relative to city boundary (reported in 0.1)
Larger – covers the whole city and adjoining areas

Explanation of boundary choice where the assessment boundary differs from the city boundary
Assessment covers 15 cities within the boundaries of Santa Clara County, including the City of Cupertino. The assessment was part of an extensive regional, multi-year, multi-stakeholder process to create a proactive framework for Santa Clara County cities to work together in preparing the region for the impacts of climate change.

Primary author of assessment
Regional / state / provincial government

Does the assessment identify vulnerable populations?
Yes

Areas/sectors covered by the risk and vulnerability assessment
Energy
Water Supply & Sanitation
Transport
Food and agriculture
Waste Management
Information & Communications Technology
Environment, Biodiversity and Forestry
Industrial
Commercial
Residential
Education
Public health
Emergency Management
Land use planning

Please explain

Climate Hazards

(2.1) Please list the most significant climate hazards faced by your city and indicate the probability and consequence of these hazards, as well as the expected future change in frequency and intensity. Please also select the most relevant assets or services that are affected by the climate hazard and provide a description of the impact.

Climate Hazards
Water Scarcity > Drought

Did this hazard significantly impact your city before 2021?
Yes

Current probability of hazard
High

Current magnitude of hazard
Medium High

Social impact of hazard overall
Increased demand for public services
Increased risk to already vulnerable populations

Most relevant assets / services affected overall
Water supply & sanitation
Environment, biodiversity, forestry

Please identify which vulnerable populations are affected
Low-income households

Future change in frequency
Increasing

Future change in intensity
Increasing

Future expected magnitude of hazard
High

When do you first expect to experience those changes in frequency and intensity?
Immediately

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future

In June 2021, Valley Water Board of Directors declared a water shortage emergency condition requiring water restrictions across its service area due to extreme drought conditions: 15% reduction from 2019 levels. In July 2021, Governor Newsom issued Executive Order N-10-21 with a proclamation of a state of emergency due to drought conditions in Santa Clara County. Drought periods are projected to increase, which may increase subsidence risk from groundwater depletion. There are seven recorded instances of drought within Santa Clara County between 1927 and 2015. The drought between 2012-2014 is the most recent to have affected Santa Clara County. Statewide precipitation during this three-year period ranked the second lowest since official measurements began in 1895. The September 2014 assessment of statewide water storage revealed that water levels were at 50% of average for that time of year, according to the California Department of Water Resources. Water supply depletion has not resulted from the lack of precipitation alone, but also from very high temperatures, with the 2013/14 winter being the state's warmest on record. In 2014, Santa Clara County experienced extreme drought conditions. Drought does not directly impact physical urban infrastructure assets in the county. While drought can potentially have significant impacts on water supply services, these services are within the domain of the Santa Clara Valley Water District (Valley Water), who is engaged in numerous collaborative water conservation efforts with communities in Santa Clara County.

Climate Hazards
Extreme hot temperature > Extreme hot days

Did this hazard significantly impact your city before 2021?
Yes

Current probability of hazard
High

Current magnitude of hazard
Medium

Social impact of hazard overall
Increased incidence and prevalence of disease and illness
Increased demand for public services
Increased demand for healthcare services
Increased risk to already vulnerable populations
Increased resource demand
Other, please specify (Decreased worker productivity and student performance)

Most relevant assets / services affected overall
Energy
Public health
Emergency services

Please identify which vulnerable populations are affected
Children & youth
Elderly
Persons with chronic diseases
Low-income households
Persons living in sub-standard housing
Other, please specify (Seasonal and outdoor workers)

Future change in frequency
Increasing

Future change in intensity
Increasing

Future expected magnitude of hazard
High

When do you first expect to experience those changes in frequency and intensity?
Short-term (by 2025)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future
According to data sources such as NCDC and SHELDUS, a total of six extreme heat events have been recorded in Santa Clara County in the summers of 1961, 1973, 1992, 2000, 2006, and 2009. Of these, the impacts of the 2000 and 2006 extreme heat events were the most notable. The extreme heat event in 2000 resulted in one death and 11 heat-related illnesses in Santa Clara County. The extreme heat in 2006 spanned 14 days from late July to early August. This event caused extensive damage to the agriculture sector and had significant impacts on public health. According to the Santa Clara County of Public Health, the Emergency Medical System Agency (EMS Agency) of Santa Clara County saw a 50% increase in volume of calls in the last week of July as a result of the heat wave. The 2006 extreme heat event also resulted in power outages all over the County. The Bay Area is expected to experience longer, more frequent, and more severe heat waves in the future, but like annual changes, these changes are somewhat variable across the region. Daytime and night-time temperature is projected to increase during extreme heat events in both summer and winter. Based on the Cal-Adapt Extreme Heat tool under Representative Concentration Pathway (RCP) 8.5, extreme heat days in Cupertino are projected to increase to an average of ten days per year from 2025 to 2050, 15 days per year from 2050 to 2075, and to 25 days per year from 2075 to 2099. This represents a 400% increase by end of century from the historic average of five extreme heat days per year. Extreme heat can cause disruptions to business and community operations, increase health risks for vulnerable populations, decrease overall productivity for individuals and businesses, and increased risk of power outages. During heat waves, when electrical demand is high, the California Independent System Operator (ISO) can declare a Flex Alert for voluntary energy conservation. Since 2011, California ISO has issued 30 Flex Alert notices and ten Stage 1, 2, and 3 Emergencies. Nine of the ten emergency declarations since 2011 occurred from January 2020 to July 2021. Heat impacts to electric grid infrastructure, including decrease in power transmission efficiency and accelerated aging of power systems, will become more impactful as the community transitions to electric power for buildings and transportation.

Climate Hazards
Extreme Precipitation > Rain storm

Did this hazard significantly impact your city before 2021?
Yes

Current probability of hazard
Medium

Current magnitude of hazard
Medium

Social impact of hazard overall

Increased risk to already vulnerable populations

Most relevant assets / services affected overall
Energy
Transport

Please identify which vulnerable populations are affected
Low-income households

Future change in frequency
Do not know

Future change in intensity
Do not know

Future expected magnitude of hazard
High

When do you first expect to experience those changes in frequency and intensity?
Short-term (by 2025)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future
While literature does not indicate a clear historical trend in the frequency and intensity of riverine flooding in the Santa Clara County region, that rain storm recurrence intervals for larger 10-year, 25-year, and 50-year events have declined between 1890 and 2010 in the San Jose area. It should be noted that other parts of the Bay Area have seen marked increases in larger storms. While the frequency of flooding may have declined in areas of Santa Clara County, the severity of individual extreme precipitation events has been high, such as in the flooding event of 1998. While overall annual precipitation is not projected to change by mid-century, increased precipitation is projected to occur in winter in the form of more frequent and stronger storms. Storm events with 1% probability of occurrence in the historical record are projected to become 10 times more likely by the 2060s.

Climate Hazards
Flood and sea level rise > River flood

Did this hazard significantly impact your city before 2021?
Yes

Current probability of hazard
Do not know

Current magnitude of hazard
Do not know

Social impact of hazard overall
Increased demand for public services

Most relevant assets / services affected overall
Information & communications technology
Commercial
Residential
Emergency services

Please identify which vulnerable populations are affected
Children & youth
Elderly
Low-income households

Future change in frequency
Increasing

Future change in intensity
Increasing

Future expected magnitude of hazard
High

When do you first expect to experience those changes in frequency and intensity?
Long-term (after 2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future
Approximately 40 instances of riverine/inland flooding have occurred in the Santa Clara County region between 1832 and 2012. Three of these flooding events (winter storms in 1963, 1997, and 1998) were declared as disasters by FEMA. The impacts of these flooding events have included dam/levee failures, inundation of roads and highways, power outages, physical damage to property and roads, evacuations, injuries, and deaths. One of the six rivers and creeks within the county that experience frequent flooding is Calabazas Creek which runs through Cupertino. In 1998, Calabazas Creek received up to seven inches of rain by the fifth day of the rain storm. Overbaning led to the flooding of homes and businesses and the closure of major roads. A projected increase in frequency of extreme precipitation events could cause more riverine flooding.

Climate Hazards
Wild fire > Forest fire

Did this hazard significantly impact your city before 2021?
Yes

Current probability of hazard
Do not know

Current magnitude of hazard
Medium

Social impact of hazard overall

Increased demand for public services
Increased risk to already vulnerable populations
Population displacement

Most relevant assets / services affected overall
Energy
Environment, biodiversity, forestry
Commercial
Residential
Emergency services

Please identify which vulnerable populations are affected
Persons with chronic diseases
Low-income households
Persons living in sub-standard housing
Other, please specify (Seasonal and outdoor workers)

Future change in frequency
Increasing

Future change in intensity
Increasing

Future expected magnitude of hazard
High

When do you first expect to experience those changes in frequency and intensity?
Long-term (after 2050)

Please describe the impacts experienced so far, and how you expect the hazard to impact in the future
There are 64 recorded instances of major wildfires within Santa Clara County between 1978 and 2012, with the two largest fires occurring in 2003 and 2007. In August of 2020, the SCU Lightning Complex fire burned a total of 396,624 acres and spanned across five counties, including Santa Clara County. This fire was in the top five largest California wildfires in state history. Climate change is projected to increase the frequency of wildfire events, the extent of burned areas across California, and the duration of wildfire seasons. Wildfire seasons are projected to begin earlier in the spring due to drier and warmer spring conditions on average, potentially requiring longer periods of firefighting services. Greater inter-annual variability in temperature and precipitation may also affect wildfire intensity. For example, multiple wet years can result in larger fuel buildup in landscapes. This may result in increasingly intense and frequent wildfires, if followed by drought years. Wildfire risk will also vary depending on population growth and land use characteristics, including rates of residential expansion and infrastructure into fire prone areas over the next century. Cupertino experiences secondary risks from wildfires, including air pollution from smoke and ash and potential power outages. To reduce wildfire risk, PG&E proactively shuts off access to electrical lines during extreme weather conditions, called Public Safety Power Shutoff (PSPS) events. During PSPS events, customers can be without power for several days. Cupertino contains areas that are more likely to be affected by a PSPS power outage event. Since 2019, four of the PSPS events have affected parts of Cupertino's service area.

(2.2) Please identify and describe the factors that most greatly affect your city's ability to adapt to climate change and indicate how those factors either support or challenge this ability.

Factors that affect ability to adapt	Indicate if this factor either supports or challenges the ability to adapt	Level of degree to which factor challenges/supports the adaptive capacity of your city	Please describe how the factor supports or challenges the adaptive capacity of your city
Access to education	Supports	Moderately supports	Silicon Valley municipalities have access to a number of higher education institutions and cutting edge science and research which enhances our ability to prepare studies and plan responses to climate threats as a city and region.
Environmental conditions	Challenges	Significantly challenges	Extensive droughts, such as the five-year drought California experienced recently, put stress on our city's physical, economic, and natural resources. Severe droughts will challenge our city's ability to adapt and prepare for climate change.
Land use planning	Challenges	Moderately challenges	Our city's land use is low- to moderate- density suburban and our built environment includes a lot of hardscape and roadways. This land use exacerbates the urban heat island effect and will challenge our city's ability to adapt and prepare for climate change. The City has very little available land and the cost of construction presents major challenges to further sustainable development activities.

(2.3) Is your city facing risks to public health or health systems associated with climate change?
Yes

(2.3a) Please report on how climate change impacts health outcomes and health services in your city.

Area affected by climate change
Health outcomes

Health-related risk and vulnerability assessment undertaken
Yes

Identify the climate hazards most significantly impacting the selected areas
Extreme hot temperature > Heat wave
Wild fire > Forest fire

Identify the climate-related health issues faced by your city
Heat-related illnesses
Exacerbation of Non-Communicable Disease Symptoms (e.g. respiratory disease, cardiovascular disease, renal disease)

Timescale of climate-related issues for the selected health area
Current

Please identify which vulnerable populations are affected by these climate-related impacts
Children and youth
Elderly
Marginalized groups
Outdoor workers
Persons with pre-existing medical conditions
Low-income households

Please explain
The California Department of Health conducted a climate / health vulnerability assessment for Santa Clara County; the above info and risks reflect county-level information from this report. Source: California Building Resilience Against Climate Effects (CalBRACE) 2017 Climate Change and Health Profile Report for Santa Clara County. Below are exerts from the report on population vulnerabilities in the County: - Disparities in death rates among race/ethnicity groups, with the highest death rate occurring among American Indians and Pacific Islanders - Annual average of 99 heat related emergency room visits from 2005-2010 - Climate-vulnerable groups, including children under age five, adults over 65 years old, households with limited English proficiency, low-income households, outdoor workers, households lacking air conditioning, etc. - Increase of displacement of victims as natural disasters worsen, placing stress on resources - Increase of violent crime during heat events Source: https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CHPRs/CHPR085SantaClara_County2-23-17.pdf; Accessed 7/28/21

3. Adaptation

Adaptation Actions

(3.0) Please describe the main actions you are taking to reduce the risk to, and vulnerability of, your city's infrastructure, services, citizens, and businesses from climate change as identified in the Climate Hazards section.

Climate hazards
Water Scarcity > Drought

Action
Promoting and incentivizing water efficiency

Action title
Rebate programs and Climate Victory Gardens pilot to conserve water use

Status of action
Operation

Means of implementation
Financial mechanism

Co-benefit area
Enhanced climate change adaptation
Improved resource efficiency (e.g. food, water, energy)
Resource conservation (e.g. soil, water)
Ecosystem preservation and biodiversity improvement

Sectors/areas adaptation action applies to
Water

Action description and implementation progress
Santa Clara Valley Water District (Valley Water) offers a Landscape Rebate Program for residents and businesses to convert lawns or pools to drought tolerant landscaping and receive $3 per square foot. This rebate amount is made possible by the City of Cupertino's agreement with Valley Water to add an additional $1 per square foot to the District's existing $2 per square foot rebate. The City also matches rain barrel and cistern rebates offered by Valley Water. The City hosts free graywater information workshops for residents on how to qualify for Valley Water's $200 Laundry to Landscape Rebate Program and matches the graywater rebate for Cupertino residents. In 2020, Cupertino launched a pilot project to support residents, multifamily owners, and nonprofit organizations with project management services to convert lawn area to drought tolerant landscaping. The $332,600 total cost reflected below includes $230,500 total for the cost share agreement with Valley Water for rebate matching and $102,100 for the pilot Climate Victory Gardens project. The $230,500 is the City of Cupertino's contribution to the rebate funding; additional funding comes from the water district. Over the course of the last 10 years (2010-2020), Cupertino has created an estimated 9 million gallons of annual water savings in the community with the funding and promotion of these incentive programs. The Cupertino Library also offers a free Do-It-Yourself energy & water savings toolkit available for checkout.

Finance status
Finance secured

Majority funding source

Local

Total cost of the project (currency)
332600

Total cost provided by the local government (currency)
332600

Total cost provided by the majority funding source (currency)
332600

Web link
https://www.valleywater.org/saving-water/rebates www.cupertino.org/climategarden

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Climate hazards
Extreme hot temperature > Extreme hot days

Action
Community engagement/education

Action title
Website and social media communication about cooling centers

Status of action
Operation

Means of implementation
Please select

Co-benefit area
Disaster preparedness

Sectors/areas adaptation action applies to
Please select

Action description and implementation progress
The City provides information on locations of City-run cooling centers on its website and social media accounts during heat events. The City also advertises advice and tips for staying cool and healthy during heat events. This information is posted on facebook, NextDoor, twitter, and the City's website. As this communication is rolled into normal operations, no specific cost is allocated to this project at this time.

Finance status
Finance secured

Majority funding source
Local

Total cost of the project (currency)
800000

Total cost provided by the local government (currency)
0

Total cost provided by the majority funding source (currency)
250000

Web link
When heat events occur, information is published at www.cupertino.org.

Climate hazards
Extreme Precipitation > Rain storm

Action
Public preparedness (including practice exercises/drills)

Action title
Public outreach and preparedness for flooding and rain storms

Status of action
Operation

Means of implementation
Please select

Co-benefit area
Disaster preparedness

Sectors/areas adaptation action applies to
Please select

Action description and implementation progress
The City provides sand bags at no cost to residents during the wet season, conducts outreach to residents in flood risk areas around clearing out leaves from storm drains and other preparedness activities, and regularly publishes content about flood preparedness for residents and businesses in City publications and on the City website. This outreach is part of normal city operations and no specific cost is allocated to this project at this time.

Finance status
Finance secured

Majority funding source
Local

Total cost of the project (currency)
0

Total cost provided by the local government (currency)
0

Total cost provided by the majority funding source (currency)

Web link
https://www.cupertino.org/Home/ShowDocument?id=7920

Climate hazards
Flood and sea level rise > River flood

Action
Flood mapping

Action title
FEMA Flood Zones in Cupertino are mapped and available in an online and paper map format. These maps are used for planning and emergency preparedness.

Status of action
Operation

Means of implementation
Please select

Co-benefit area
Disaster preparedness
Improved access to data for informed decision-making

Sectors/areas adaptation action applies to
Please select

Action description and implementation progress
Flood zones, as designated by the Federal Emergency Management Agency (FEMA), have been mapped for planning and emergency preparedness purposes. Flood zones include areas subject to inundation by the 1-percent-annual-chance flood event, areas where there are possible but undetermined flood hazards, areas of minimal flood hazard, areas subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are between one and three feet, areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet, and areas with 0.2% annual chance flood. Some areas have been determined using approximate methodologies and other using detailed hydraulic analyses. These maps are available in an online format and in print form. This action is part of normal city operations and thus a project cost was not determined.

Finance status
Finance secured

Majority funding source
Local

Total cost of the project (currency)
0

Total cost provided by the local government (currency)
0

Total cost provided by the majority funding source (currency)

Web link
http://gis.cupertino.org/servicefinder/?varname=fema

Climate hazards
Wild fire > Forest fire

Action
Community engagement/education

Action title
Workshops, training, and resources for residents and staff on preparedness for wildfire emergencies.

Status of action
Operation

Means of implementation
Please select

Co-benefit area
Disaster preparedness

Sectors/areas adaptation action applies to
Please select

Action description and implementation progress
Cupertino's Office of Emergency Services, the Santa Clara County Fire Department and teams of volunteer responders ensure that emergency preparedness and disaster response resources are in place for our community. This effort is part of normal city operations and thus there is not specific project budget.

Finance status
Finance secured

Majority funding source
Local

Total cost of the project (currency)

0

Total cost provided by the local government (currency)
0

Total cost provided by the majority funding source (currency)

Web link
https://www.cupertino.org/our-city/community-services-programs/emergency-services

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Climate hazards
Wild fire > Forest fire

Action
Air quality initiatives

Action title
Pilot program to measure air quality and pollutants block-by-block

Status of action
Implementation complete but not in operation

Means of implementation
Monitor activities

Co-benefit area
Enhanced resilience
Improved access to data for informed decision-making

Sectors/areas adaptation action applies to
Public Health and Safety

Action description and implementation progress
The City is exploring the use of an application, Aclima Pro, to measure and report on air quality for the community. This program is currently in the pilot phase.

Finance status
Finance secured

Majority funding source
Local

Total cost of the project (currency)
50000

Total cost provided by the local government (currency)
50000

Total cost provided by the majority funding source (currency)

Web link
https://aclima.tools/

Climate hazards
Water Scarcity > Drought

Action
Promoting and incentivizing water efficiency

Action title
Valley Water Conservation Subcommittee collaboration

Status of action
Operation

Means of implementation
Other, please specify (Regional working group for water conservation and coordination)

Co-benefit area
Enhanced resilience
Improved resource efficiency (e.g. food, water, energy)
Improved access to data for informed decision-making

Sectors/areas adaptation action applies to
Water

Action description and implementation progress
The City is an active member of the Santa Clara Valley Water District's Water Conservation Subcommittee, made up of municipal water program staff, water retailers, and the water district staff. The Subcommittee coordinates outreach activities and program development for water conservation in Valley Water's service area. Recently, the Subcommittee is serving to coordinate the member cities and retailers' response to the local emergency water shortage declaration and water restrictions. *Participation in the Subcommittee is part of normal city operations, no separate project cost is determined.

Finance status
Finance secured

Majority funding source
Please select

Total cost of the project (currency)

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

Web link

Climate hazards
Extreme hot temperature > Extreme hot days

Action
Retrofit of existing buildings

Action title
Sustainable Infrastructure Capital Improvement Program

Status of action
Pre-implementation

Means of implementation
Infrastructure development
Financial mechanism

Co-benefit area
Enhanced resilience
Reduced GHG emissions
Improved resource efficiency (e.g. food, water, energy)
Social inclusion, social justice
Improved public health

Sectors/areas adaptation action applies to
Energy
Building and Infrastructure
Public Health and Safety

Action description and implementation progress
The City's designated mass care and shelter facility and a major cooling center is currently lacking in sufficient emergency power backup services. The City Council directed staff to carry out a Sustainable Infrastructure capital improvement program which combines an Energy Services Program to address needed upgrades to the facility and generate energy cost savings, but also to deploy clean power backup services to reduce reliance on diesel backup generators. The Silicon Valley Clean Energy Authority has provided a $240,000 grant to pursue clean resilient power such as a solar microgrid system at this facility. In addition to this funding, the Sustainability Division and the Office of Emergency Services has secured additional funding to address Planned Safety Power Shutdown (PSPS) events in the region and from the City General Fund.

Finance status
Feasibility finalized, and finance partially secured

Majority funding source
Local

Total cost of the project (currency)
1200000

Total cost provided by the local government (currency)
500000

Total cost provided by the majority funding source (currency)
240000

Web link
https://www.svcleanenergy.org/wp-content/uploads/2020/02/Community-Resilience-Flyer_092520.pdf

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Climate hazards
Extreme Precipitation > Rain storm

Action
Implementing climate-resilient sustainable urban drainage systems

Action title
Hardscape Conversion Rebate Program

Status of action
Operation

Means of implementation
Awareness raising program or campaign
Infrastructure development
Financial mechanism

Co-benefit area
Resource conservation (e.g. soil, water)
Ecosystem preservation and biodiversity improvement

Sectors/areas adaptation action applies to
Building and Infrastructure
Water

Action description and implementation progress
One innovative feature of the comprehensive set of water conservation programs is to partner with our Environmental Services team to also promote resilient stormwater infrastructure. By incentivizing the removal of hardscapes, we deploy the use of creek protection and clean water fees that are collected in the property tax roll. Projects that reduce or remove impervious surfaces, such as removing a concrete driveway and installing a paver system or installing a rainwater capture system, are eligible for enhanced rebates and incentives as part of our water conservation program. These promote environmental benefits such as fewer pollutant runoffs into our creeks, and reduce risk of overwhelming our stormwater system in the event of intense storms.

Finance status
Finance secured

Majority funding source
Local

Total cost of the project (currency)

Total cost provided by the local government (currency)

Total cost provided by the majority funding source (currency)

Web link
https://www.cupertino.org/our-city/departments/environment-sustainability/water/clean-water-rebates

Adaptation Planning

(3.2) Does your city council, or similar authority, have a published plan that addresses climate change adaptation and/or resilience?
In progress

(3.2a) Please provide more information on your plan that addresses climate change adaptation and/or resilience and attach the document. Please provide details on the boundary of your plan, and where this differs from your city's boundary, please provide an explanation.

Publication title and attach the document
Cupertino Climate Change Risk and Vulnerability Assessment Peer Review Memorandum
Risk-Vulnerability Assessment Peer Review Memo.pdf

Web link

Sectors/areas covered by plan that addresses climate change adaptation
Please select

Climate hazards factored into plan that addresses climate change adaptation
Please select

Year of adoption of adaptation plan by local government

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan in development

Type of plan
Other, please specify (Consistency analysis memo to review the 2019 Cupertino Climate Change Risk and Vulnerability Assessment (CCRVA) against State climate change adaptation planning guidance)

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
In Progress

Describe the synergies, trade-offs, and co-benefits of this interaction
The Sustainability Division staff is partnering with the Planning Division in order to discover the most effective ways to bring climate adaptation into the land use planning procedures of the City. Early discussions have identified potential to bring climate adaptation to an update of the City's Safety Element, a State-mandated document which addresses hazards in the City and their relation to the General Plan land use designations. We believe this approach will offer the most streamlined way for developers and staff to incorporate climate-aware features into early project decisions.

Primary author of plan
Consultant

Description of the stakeholder engagement processes
A major stakeholder engagement process is beginning in summer 2021 which will include at least three public workshops, targeted stakeholder meetings, and an equity framework which guides City staff towards more inclusive outreach and collaboration with front-line communities. Cupertino.org/climateaction describes the schedule of events.

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
Cupertino Climate Change Adaptation Strategies Gap Analysis Memorandum
Adaptation Strategies Gap Analysis Memo.pdf

Web link

Sectors/areas covered by plan that addresses climate change adaptation
Transport (Mobility)
Building and Infrastructure
Public Health and Safety

Climate hazards factored into plan that addresses climate change adaptation
Extreme Precipitation > Rain storm
Extreme hot temperature > Extreme hot days
Wild fire > Forest fire
Flood and sea level rise > River flood

Year of adoption of adaptation plan by local government

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan in development

Type of plan
Other, please specify (Analysis highlighting gaps in City- and County-adopted adaptation strategies and programs)

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Please select

Describe the synergies, trade-offs, and co-benefits of this interaction

Primary author of plan
Consultant

Description of the stakeholder engagement processes

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
Cupertino General Plan: Community Vision 2015-2040

Web link
https://records.cupertino.org/weblink/docview.aspx?dbid=0&id=873201&repo=CityofCupertino

Sectors/areas covered by plan that addresses climate change adaptation
Transport (Mobility)
Building and Infrastructure
Agriculture and Forestry

Climate hazards factored into plan that addresses climate change adaptation
Extreme Precipitation > Rain storm
Extreme hot temperature > Heat wave
Extreme hot temperature > Extreme hot days
Water Scarcity > Drought
Wild fire > Forest fire
Flood and sea level rise > Flash / surface flood

Year of adoption of adaptation plan by local government
2014

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan in implementation

Type of plan
Addressed in general city master plan

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Please select

Describe the synergies, trade-offs, and co-benefits of this interaction

Primary author of plan
Dedicated city team

Description of the stakeholder engagement processes

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
City of Cupertino Pedestrian Transportation Plan

Web link
https://www.cupertino.org/home/showpublisheddocument/16864/636650034974470000

Sectors/areas covered by plan that addresses climate change adaptation
Transport (Mobility)
Building and Infrastructure

Climate hazards factored into plan that addresses climate change adaptation
Extreme Precipitation > Rain storm
Extreme hot temperature > Heat wave
Flood and sea level rise > Flash / surface flood

Year of adoption of adaptation plan by local government
2018

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan in implementation

Type of plan
Addressed in city sector plan

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Yes

Describe the synergies, trade-offs, and co-benefits of this interaction
Curb extension benefits: extended sidewalk space can be used for plantings, street furniture, or green stormwater infrastructure to mitigate affects from storm flooding and heat. Choker/Pinch Point Benefits: Stormwater and greenspace elements can be combined to calm traffic while also making the street more attractive and addressing storm flooding.

Primary author of plan
Consultant

Description of the stakeholder engagement processes
The City conducted community outreach during each phase of the plan development. Outreach included hosting community open house events, tabling at Earth Day event, and walk audits with City staff and stakeholders. The plan was adopted by City Council in 2016.

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
City of Cupertino Parks and Recreation System Master Plan

Web link
https://parksmp.cupertino.org/Library/pdf/Jul20/final.pdf

Sectors/areas covered by plan that addresses climate change adaptation
Building and Infrastructure
Water
Public Health and Safety

Climate hazards factored into plan that addresses climate change adaptation
Extreme Precipitation > Rain storm
Extreme hot temperature > Heat wave
Water Scarcity > Drought
Flood and sea level rise > Flash / surface flood

Year of adoption of adaptation plan by local government
2020

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan in implementation

Type of plan
Addressed in city sector plan

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Yes

Describe the synergies, trade-offs, and co-benefits of this interaction
Storm flooding mitigation: Embrace storm water management, incorporating green infrastructure elements such as rain gardens, bioswales, permeable pavers and detention ponds to help reduce flooding, filter pollutants and replenish groundwater during storm events. Heat hazard mitigation: Provide benches, water fountains, distance markers, and other amenities along pathways and trails to encourage walking for fitness. Add fitness stations along suitable trails and walking routes in parks.

Primary author of plan
Consultant

Description of the stakeholder engagement processes
Community preferences, priorities and expectations underpin every recommendation in this Master Plan. As the plan was developed—between 2015 and 2018—residents, stakeholders, partners, businesses, elected officials, staff, youth, and people of diverse cultures were invited to share their aspirations for the parks and recreation system. More than an estimated 2,000 community members provided their input and feedback through varied online and in person activities.

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
Santa Clara County Operational Area Hazard Mitigation Plan

Web link
https://emergencymanagement.sccgov.org/sites/g/files/exjcpb261/files/For%20Partners/Local-Hazard-Mitigation-Plan-LHMP-Vol-1.pdf

Sectors/areas covered by plan that addresses climate change adaptation
Building and Infrastructure
Public Health and Safety

Climate hazards factored into plan that addresses climate change adaptation
Extreme Precipitation > Rain storm
Wild fire > Forest fire
Flood and sea level rise > River flood

Year of adoption of adaptation plan by local government
2017

Boundary of plan relative to city boundary (reported in 0.1)
Larger – covers the whole city and adjoining areas

If the city boundary is different from the plan boundary, please explain why
Region IX of the Federal Emergency Management Agency (FEMA) and the California Office of Emergency Services (CalOES) both encourage multi-jurisdictional planning for hazard mitigation. Such planning efforts require all participating jurisdictions to fully participate in the process and formally adopt the resulting planning document. Each participating planning partner has prepared a jurisdiction-specific annex to this plan.

Stage of implementation
Plan in implementation

Type of plan
Other, please specify (County Local Hazard Mitigation Plan)

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
In Progress

Describe the synergies, trade-offs, and co-benefits of this interaction
The office of Emergency Services was recently staffed with a professional full-time staff member for the first time in 2020. Immediately the Sustainability Division and the Cupertino Office of Emergency Services formed a close working relationship and have successfully secured grant funding of $250,000 to address energy resiliency issues presented by electricity grid Planned Safety Power Shutdowns (PSPS) events. The two staff offices have continues to deepen this relationship by partnering with Public Works on a major Energy Resiliency project planned for procurement in 2021, as well as in seeking additional Hazard Mitigation grants from FEMA for stormwater system improvements and also seeking funding for community-based microgrid deployments. The

Primary author of plan
Regional / state / provincial government

Description of the stakeholder engagement processes
A core planning group consisting of a contract consultant and Santa Clara County Office of Emergency Services staff was assembled to facilitate the update of this plan. A planning partnership was formed by engaging the eligible local governments within the Operational Area and making sure they understood their expectations for compliance under the updated plan. A 19-member working group was assembled to oversee the plan update, consisting of both governmental and not-governmental stakeholders within the Operational Area. Coordination with other county, state, and federal agencies involved in hazard mitigation occurred throughout the plan update process.

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
City of Cupertino Climate Action Plan

Web link
https://www.cupertino.org/home/showpublisheddocument/9605/636280426123030000

Sectors/areas covered by plan that addresses climate change adaptation
Energy
Building and Infrastructure
Agriculture and Forestry
Water

Climate hazards factored into plan that addresses climate change adaptation
Extreme hot temperature > Extreme hot days
Water Scarcity > Drought

Year of adoption of adaptation plan by local government
2015

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan update in progress

Type of plan
Integrated mitigation / adaptation

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Yes

Describe the synergies, trade-offs, and co-benefits of this interaction
Energy efficiency measures reduce reliance on fossil fuels as well as increase resilience to heat events in residential and commercial buildings. Development of water and energy conservation pilots to increase community resiliency to drought. Energy planning for the community to consider climate change impacts as well as reliability of energy sources. Policy development to promote efficient water use in landscaping, promote compost-friendly landscape maintenance and climate-sensitive plant selection, protecting natural systems as well as providing resilience to drought. Measures to protect and expand urban forest canopy, with co-benefits of public health, beautification of urban areas, as well as protection from heat risk / urban heat island effect.

Primary author of plan
Dedicated city team

Description of the stakeholder engagement processes

The development of the CAP was part of a Santa Clara County regional climate mitigation and adaptation initiative, Silicon Valley 2.0. Two community open house workshops were held to introduce the CAP project and gather public comments. Additional focus group meetings were held with members of the local business community. Public study sessions with the Planning Commission and City Council provided further refinement to the collection of measures.

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Publication title and attach the document
City of Cupertino Green Stormwater Infrastructure Plan

Web link
https://www.cupertino.org/home/showpublisheddocument/28787/637468285901930000

Sectors/areas covered by plan that addresses climate change adaptation
Building and Infrastructure
Agriculture and Forestry
Water

Climate hazards factored into plan that addresses climate change adaptation
Extreme Precipitation > Rain storm
Extreme hot temperature > Extreme hot days
Water Scarcity > Drought
Flood and sea level rise > Flash / surface flood

Year of adoption of adaptation plan by local government
2019

Boundary of plan relative to city boundary (reported in 0.1)
Same - covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why

Stage of implementation
Plan in implementation

Type of plan
Other, please specify (Plan developed as a requirement of City's Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit)

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Yes

Describe the synergies, trade-offs, and co-benefits of this interaction
The GSI plan identifies potential green street projects for Cupertino with multiple criteria and co-benefits included, i.e. synergy with an existing public project, providing water quality source control, potential for flood-prone catchment, augmenting water supply, reestablishing natural hydrology, enhancement of habitat, and community enhancement. The plan notes multiple benefits of green stormwater infrastructure in addition to managing rainfall and runoff, including environmental, economic, social, and public health benefits.

Primary author of plan
Relevant city department

Description of the stakeholder engagement processes
The City's GSI Plan was developed in collaboration with Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP), an association of thirteen cities and towns in the Santa Clara Valley, the County of Santa Clara, and the Santa Clara Valley Water District (Valley Water) that collaborate on stormwater regulatory activities and compliance. The City, via SCVURPPP, coordinated with the Bay Area Stormwater Management Agencies Association (BASMAA) on regional GSI guidance to develop the GSI plan. Presentations on the development of the plan were made to City Council, Sustainability Commission, and Planning Commission during public meetings for receiving public comment and feedback.

Update/revision process in place for the Adaptation Plan
<Not Applicable>

Adaptation Goals

(3.3) Please describe the main goals of your city's adaptation efforts and the metrics / KPIs for each goal.

Intending to undertake this planning effort in the next 2 years.

Adaptation goal
Support development and maintenance of a healthy, vibrant urban forest through outreach, incentives, and strategic leadership.

Climate hazards that adaptation goal addresses
Extreme hot temperature > Heat wave
Extreme hot temperature > Extreme hot days

Target year of goal
2035

Description of metric / indicator used to track goal
2,800 net new trees planted in the city from 2015 onward

Does this goal align with a requirement from a higher level of government?
Do not know

Select the initiatives related to this adaptation goal that your city has committed to
Global Covenant of Mayors for Climate & Energy
Declaring Climate Emergency

Comment

Adaptation goal
Implement water conservation policies contained within Cupertino's Urban Water Management Plan

Climate hazards that adaptation goal addresses
Water Scarcity > Drought

Target year of goal
2035

Description of metric / indicator used to track goal
Climate Action Plan metric (2015): 20% per capita water use reduction of 2010 baseline use by 2035. Valley Water metric (2021): Recently, the Santa Clara Valley Water District set a water use reduction goal of 15% water reduction compared to a baseline of 2019.

Does this goal align with a requirement from a higher level of government?
Yes

Select the initiatives related to this adaptation goal that your city has committed to
Global Covenant of Mayors for Climate & Energy
Declaring Climate Emergency

Comment
The City updates its approach to water conservation to match water restrictions currently in effect. The Valley Water water use reduction goal of 15% below 2019 levels is a new development and will be implemented in coordination with the City's water retailers.

Adaptation goal
Energy assurance and resiliency plan

Climate hazards that adaptation goal addresses
Extreme hot temperature > Heat wave
Extreme hot temperature > Extreme hot days

Target year of goal

Description of metric / indicator used to track goal
Climate Action Plan (2015) goal marked for "long-term" phasing. Action step: Develop overarching energy plan for community that considers energy sources and their reliability with regards to estimated climate change impacts.

Does this goal align with a requirement from a higher level of government?
Do not know

Select the initiatives related to this adaptation goal that your city has committed to
Global Covenant of Mayors for Climate & Energy
Declaring Climate Emergency

Comment
Energy resiliency planning is being conducted via our community choice energy agency, Silicon Valley Clean Energy.

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4. City-wide Emissions

City-wide GHG Emissions Data

(4.0) Does your city have a city-wide emissions inventory to report?
Yes

(4.1) Please state the dates of the accounting year or 12-month period for which you are reporting your latest city-wide GHG emissions inventory.

	From	To
Accounting year dates	January 1 2018	December 31 2018

(4.2) Please indicate the category that best describes the boundary of your city-wide GHG emissions inventory.

	Boundary of inventory relative to city boundary (reported in 0.1)	Excluded sources / areas	Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)
Please explain	Same – covers entire city and nothing else		

(4.3) Please give the name of the primary protocol, standard, or methodology you have used to calculate your city's city-wide GHG emissions.

	Primary protocol	Comment
Emissions methodology	Global Protocol for Community Greenhouse Gas Emissions Inventories (GPC)	

(4.4) Which gases are included in your city-wide emissions inventory?

CO2
CH4
N20

(4.5) Please attach your city-wide inventory in Excel or other spreadsheet format and provide additional details on the inventory calculation methods in the table below.

Document title and attachment
Common Reporting Framework Report_ClearPath_Cupertino 2018 Community Inventory

Emissions inventory format
I have attached my inventory in the GPC format: ClearPath (ICLEI)

Web link

Emissions factors used
IPCC

Global Warming Potential (select relevant IPCC Assessment Report)
IPCC 5th AR (2013)

Please select which additional sectors are included in the inventory
No additional sectors included

Population in inventory year
60170

Overall level of confidence
Medium

Comment on level of confidence
Inventory includes a mix of primary and secondary sources as well as estimates based on models or scaling.

(4.6a) The Global Covenant of Mayors requires committed cities to report their inventories in the format of the new Common Reporting Framework, to encourage standard reporting of emissions data. Please provide a breakdown of your city-wide emissions by sector and sub-sector in the table below. Where emissions data is not available, please use the relevant notation keys to explain the reason why.

	Direct emissions (metric tonnes CO2e)	If you have no direct emissions to report, please select a notation key to explain why	Indirect emissions from the use of grid-supplied electricity, heat, steam and/or cooling (metric tonnes CO2e)	If you have no indirect emissions to report, please select a notation key to explain why	Emissions occurring outside the city boundary as a result of in-city activities (metric tonnes CO2e)	If you have no emissions occurring outside the city boundary to report as a result of in-city activities, please select a notation key to explain why	Please explain any excluded sources, identify any emissions covered under an ETS and provide any other comments
Stationary energy > Residential buildings	43542	Please select	469	Please select	0	NO	
Stationary energy > Commercial buildings & facilities	52424	Please select	4066	Please select	0	NO	"Commercial & Institutional Buildings" and "Manufacturing Industries & Construction" were combined for this inventory. Due to CPUC energy data privacy rules, PG&E was not able to provide a full breakdown of Commercial vs. Industrial electricity and natural gas usage. Thus, separating the two subsectors was not possible.
Stationary energy > Institutional buildings & facilities	0	IE	0	IE	0	NO	"Commercial & Institutional Buildings" and "Manufacturing Industries & Construction" were combined for this inventory. Due to CPUC energy data privacy rules, PG&E was not able to provide a full breakdown of Commercial vs. Industrial electricity and natural gas usage. Thus, separating the two subsectors was not possible.
Stationary energy > Industrial buildings & facilities	0	IE	0	IE	0	NO	"Commercial & Institutional Buildings" and "Manufacturing Industries & Construction" were combined for this inventory. Due to CPUC energy data privacy rules, PG&E was not able to provide a full breakdown of Commercial vs. Industrial electricity and natural gas usage. Thus, separating the two subsectors was not possible.
Stationary energy > Agriculture	0	NO	0	NO	0	NO	Not occurring.
Stationary energy > Fugitive emissions	3130	Please select	0	NO	0	NO	

	Direct emissions (metric tonnes CO2e)	If you have no direct emissions to report, please select a notation key to explain why	Indirect emissions from the use of grid-supplied electricity, heat, steam and/or cooling (metric tonnes CO2e)	If you have no indirect emissions to report, please select a notation key to explain why	Emissions occurring outside the city boundary as a result of in-city activities (metric tonnes CO2e)	If you have no emissions occurring outside the city boundary to report as a result of in-city activities, please select a notation key to explain why	Please explain any excluded sources, identify any emissions covered under an ETS and provide any other comments
Total Stationary Energy	99097	Please select	4535	Please select	0	NO	
Transportation > On-road	49248	Please select	0	IE	44714	Please select	Electric vehicle emissions included in the Stationary Energy sector. The origin-destination methodology was used to estimate total VMT in Cupertino.
Transportation > Rail	0	NO	0	NO	0	NO	No rail service in Cupertino.
Transportation > Waterborne navigation	0	NO	0	NO	0	NO	No waterborne activities in Cupertino.
Transportation > Aviation	0	NO	0	NO	0	NO	No airport within City boundaries.
Transportation > Off-road	25967	Please select	0	NO	0	NO	
Total Transport	75215	Please select	0	IE	44714	Please select	Electric vehicle emissions included in the Stationary Energy sector.
Waste > Solid waste disposal	0	NO	0	NO	15709	Please select	Waste is not treated within the city boundary; no landfills or open dumps within the city boundary. Waste sent to landfill outside of city boundary. The GPC methane commitment method for waste emissions was used.
Waste > Biological treatment	0	NO	0	NO	761	Please select	Commercial, single family, and multifamily composting sent to facility outside of city boundary.
Waste > Incineration and open burning	0	NO	0	NO	0	NO	Waste incineration and open burning not occurring in city boundary.
Waste > Wastewater	0	NO	0	NO	19574	Please select	Wastewater is treated outside of the City boundaries. Cupertino is served by the San José-Santa Clara Regional Wastewater Facility.
Total Waste	0	NO	0	NO	36044	Please select	
IPPU > Industrial process	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
IPPU > Product use	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
Total IPPU	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
AFOLU > Livestock	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
AFOLU > Land use	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
AFOLU > Other AFOLU	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
Total AFOLU	0	NE	0	NE	0	NE	Cupertino is reporting to the BASIC requirement of the GPC.
Generation of grid-supplied energy > Electricity-only generation	0	NO	0	NO	0	NO	Emissions not occurring.
Generation of grid-supplied energy > CHP generation	0	NO	0	NO	0	NO	Emissions not occurring.
Generation of grid-supplied energy > Heat/cold generation	0	NO	0	NO	0	NO	Emissions not occurring.
Generation of grid-supplied energy > Local renewable generation	0	NO	0	NO	0	NO	Emissions not occurring.
Total Generation of grid-supplied energy	0	NO	0	NO	0	NO	Emissions not occurring.
Total Emissions (excluding generation of grid-supplied energy)	174312	Please select	4535	Please select	80758	Please select	

(4.8) Please indicate if your city-wide emissions have increased, decreased, or stayed the same since your last emissions inventory, and describe why.

	Change in emissions	Primary reason for change	Please explain and quantify changes in emissions
Please explain	Decreased	Policy change	Emissions decreased 12% comparing the 2015 to the 2018 community inventory. This decrease was largely due to the launch of our community choice aggregation entity, Silicon Valley Clean Energy, resulting in a 92% decrease in electricity emissions. Other factors included improvement in on-road vehicle fuel efficiency and improvements in diversion of organic waste from landfills.

(4.9) Does your city have a consumption-based inventory to measure emissions from consumption of goods and services by your residents?

	Response	Provide an overview and attach your consumption-based inventory if relevant
Please complete	Yes	The University of California, Berkeley's CoolClimate Network and the Bay Area Air Quality Management District developed a consumption-based greenhouse gas inventory of all San Francisco Bay Area census block groups, cities and counties, including the City of Cupertino. The inventory is a full life-cycle analysis of the emissions generated in the production, use and disposal of each type of product or service. The methodology incorporates local consumption and emissions data wherever possible. In other cases, consumption is approximated using econometric analysis of national and statewide transportation and household consumption survey responses by S.F. Bay Area residents. UC Berkeley researchers calculated the carbon footprints based on household consumption, regardless of where on the globe emissions occurred. Website: coolclimate.berkeley.edu/inventory sf-bay-area-consumption-based-ghg-inventory-results-dashboard.xls

City-wide external verification

(4.12) Has the city-wide GHG emissions data you are currently reporting been externally verified or audited in part or in whole?

In progress

Historical emissions inventories

(4.13) Please provide details on any historical, base year or recalculated city-wide emissions inventories your city has, in order to allow assessment of targets in the table below.

Inventory date from

January 1 2010

Inventory date to

December 31 2010

Scopes / boundary covered

Total emissions
Scope 1 (direct)
Scope 2 (indirect)
Scope 3 (other indirect)

Previous emissions (metric tonnes CO2e)

338673

Is this inventory a base year inventory or a recalculated version of a previously reported inventory?

Base year inventory

Methodology

Global Protocol for Community Greenhouse Gas Emissions Inventories (GPC)

File name and attach your inventory

City of Cupertino 2015 Community-wide and Municipal Operations Greenhouse Gas Emissions Inventory Report

Web link

Comments

2010 baseline emissions were recalculated to reflect updated methodology (GPC, IPCC 5th AR) as part of our 2015 GHG inventory update . Attached 2015 GHG inventory report includes the 2010 updated inventory data.

GCoM Emission Factor and Activity Data

(4.14) State if the emissions factors and activity data used to calculate your cities emissions are accessible within the attached emissions inventory in question 4.5. If so, please describe where these are located within the attached inventory.

Emissions factors and Activity Data Reported

Emissions factors and activity data accessibility

Emissions factors and activity data are accessible within the attached inventory in question 4.5

State the location of emissions factors and activity data within the attached inventory in question 4.5

Included in the ClearPath outputs in the attached Excel spreadsheet

5. Emissions Reduction

Mitigation Target setting

(5.0) Do you have a GHG emissions reduction target(s) in place at the city-wide level?
Base year emissions (absolute) target

(5.0a) Please provide details of your total city-wide base year emissions reduction (absolute) target(s). In addition, you may add rows to provide details of your sector-specific targets, by providing the base year emissions specific to that target.

Sector
All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions
Base year emissions for 2010 were calculated at 307,288 MT CO2e in our original Climate Action Plan. The base year emissions figure below reflects our recalculated base emissions (the 2010 inventory was recalculated as part of our 2015 re-inventory process to align our inventory to GPC Protocol and IPCC 5th AR). The 100% reported for "Percentage of target achieved so far" is based on our community wide emissions in 2018, 259,605 MTCO2e.

Boundary of target relative to city boundary (reported in 0.1)
Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year
2010

Year target was set
2015

Base year emissions (metric tonnes CO2e)
338673

Percentage reduction target
15

Target year
2020

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]
287872.05

Percentage of target achieved so far
100

Is this target considered to be your cities most ambitious target?
No

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?
No

Select the initiatives that this target contributes towards
Global Covenant of Mayors for Climate & Energy
Cities Race to Zero
Declaring Climate Emergency
We Are Still In

Does this target align to a requirement from a higher level of government?
Yes

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.
California Executive Order S-3-05 established a long-range GHG reduction target of 80% below 1990 levels by 2050. AB 32, the California Global Warming Solutions Act of 2006, required California to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 also directed the Air Resources Board (ARB) to develop and implement regulations that reduce statewide GHG emissions. Many local governments do not have access to sufficient historical data to prepare a 1990 baseline emissions inventory, which would allow local governments to establish reduction targets that exactly mimic the state's own targets. In its 2008 Scoping Plan, the ARB "encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the state's commitment to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020." Based on this language, many community-wide CAPs have selected a reduction target of 15% below baseline levels by 2020 to parallel the state's target. Considering guidance from the Governor's Office of Planning and Research and the Bay Area Air Quality Management District at the time of CAP document preparation, Cupertino selected a reduction target of 15% below 2010 baseline levels by 2020 as a proxy for a return to 1990 levels.

Sector
All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions
Base year emissions for 2010 were calculated at 307,288 MT CO2e in our original Climate Action Plan. The base year emissions figure below reflects our recalculated base emissions (the 2010 inventory was recalculated as part of our 2015 re-inventory process to align our inventory to GPC Protocol and IPCC 5th AR). The % reported for "Percentage of target achieved so far" is based on our community wide emissions in 2018, 259,605 MTCO2e.

Boundary of target relative to city boundary (reported in 0.1)
Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year
2010

Year target was set
2015

Base year emissions (metric tonnes CO2e)
338673

Percentage reduction target
49

Target year
2035

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]
172723.23

Percentage of target achieved so far
48

Is this target considered to be your cities most ambitious target?
No

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?
Do not know

Select the initiatives that this target contributes towards
Global Covenant of Mayors for Climate & Energy
Cities Race to Zero
Declaring Climate Emergency
We Are Still In

Does this target align to a requirement from a higher level of government?
Yes

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.
California Executive Order S-3-05 established a long-range GHG reduction target of 80% below 1990 levels by 2050. AB 32, the California Global Warming Solutions Act of 2006, required California to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 also directed the Air Resources Board (ARB) to develop and implement regulations that reduce statewide GHG emissions. Many local governments do not have access to sufficient historical data to prepare a 1990 baseline emissions inventory, which would allow local governments to establish reduction targets that exactly mimic the state's own targets. In its 2008 Scoping Plan, the ARB "encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the state's commitment to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020." Based on this language, many community-wide CAPs have selected a reduction target of 15% below baseline levels by 2020 to parallel the state's target. Considering guidance from the Governor's Office of Planning and Research and the Bay Area Air Quality Management District at the time of CAP document preparation, Cupertino selected a reduction target of 15% below 2010 baseline levels by 2020 as a proxy for a return to 1990 levels. This 2020 target was also extrapolated to 2050 to determine what level of reductions the City would need to achieve 80% below 1990 levels, per the state's long-term target. The City also developed an additional 2035 target to serve as a mid-point check-in between the 2020 and 2050 horizon years.

Sector
All emissions sources included in city inventory

Where sources differ from the inventory, identify and explain these additions / exclusions
Base year emissions for 2010 were calculated at 307,288 MT CO2e in our original Climate Action Plan. The base year emissions figure below reflects our recalculated base emissions (the 2010 inventory was recalculated as part of our 2015 re-inventory process to align our inventory to GPC Protocol and IPCC 5th AR). The % reported for "Percentage of target achieved so far" is based on our community wide emissions in 2018, 259,605 MTCO2e.

Boundary of target relative to city boundary (reported in 0.1)
Same (city-wide) – covers entire city and nothing else

Explanation of boundary choice where the inventory boundary differs from the city boundary (include inventory boundary, GDP and population)

Base year
2010

Year target was set
2015

Base year emissions (metric tonnes CO2e)
338673

Percentage reduction target
83

Target year
2050

Target year absolute emissions (metric tonnes CO2e) [Auto-calculated]
57574.41

Percentage of target achieved so far
28

Is this target considered to be your cities most ambitious target?
Yes

Does this target align with the global 1.5 - 2 °C pathway set out in the Paris Agreement?
Do not know

Select the initiatives that this target contributes towards
Global Covenant of Mayors for Climate & Energy
Cities Race to Zero
Declaring Climate Emergency
We Are Still In

Does this target align to a requirement from a higher level of government?
Yes

Please describe your target. If your country has an NDC and your city's target is less ambitious than the NDC, please explain why.
California Executive Order S-3-05 established a long-range GHG reduction target of 80% below 1990 levels by 2050. AB 32, the California Global Warming Solutions Act of 2006, required California to reduce statewide GHG emissions to 1990 levels by 2020. AB 32 also directed the Air Resources Board (ARB) to develop and implement regulations that reduce statewide GHG emissions. Many local governments do not have access to sufficient historical data to prepare a 1990 baseline emissions inventory, which would allow local governments to establish reduction targets that exactly mimic the state's own targets. In its 2008 Scoping Plan, the ARB "encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the state's commitment to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020." Based on this language, many community-wide CAPs have selected a reduction target of 15% below baseline levels by 2020 to parallel the state's target. Considering guidance from the Governor's Office of Planning and Research and the Bay Area Air Quality Management District at the time of CAP document preparation, Cupertino selected a reduction target of 15% below 2010 baseline levels by 2020 as a proxy for a return to 1990 levels. This 2020 target was also extrapolated to 2050 to determine what level of reductions the City would need to achieve 80% below 1990 levels, per the state's long-term target. The City also developed an additional 2035 target to serve as a mid-point check-in between the 2020 and 2050 horizon years.

(5.2) Is your city-wide emissions reduction target(s) conditional on the success of an externality or component of policy outside of your control?
Yes

(5.2a) Please identify and describe the conditional components of your city-wide emissions reduction target(s).

City-wide emissions reduction targets take into consideration the emissions reduction impact of California State measures. Four key state measures were considered – California's Clean Car Standards, the Low Carbon Fuel Standard (LCFS), the Renewable Portfolio Standard (RPS), and the New Residential Zero Net Energy Action Plan.

(5.3) Does your city-wide emissions reduction target(s) account for the use of transferable emissions units?
No

Mitigation Actions

(5.4) Describe the anticipated outcomes of the most impactful mitigation actions your city is currently undertaking; the total cost of the action and how much is being funded by the local government.

Mitigation action
Energy Supply > Low or zero carbon energy supply generation

Action title
Carbon free electricity from community choice energy provider Silicon Valley Clean Energy.

Means of implementation
Development and implementation of action plan
Sustainable public procurement

Implementation status
Operation

Start year of action
2017

End year of action

Estimated emissions reduction (metric tonnes CO2e)
78000

Energy savings (MWh)
0

Renewable energy production (MWh)
0

Timescale of reduction / savings / energy production
Per year

Co-benefit area
Enhanced resilience
Improved resource efficiency (e.g. food, water, energy)

Action description and implementation progress
The City of Cupertino is a founding member of Silicon Valley Clean Energy (SVCE), a community choice energy agency. SVCE became the default electricity provider for Cupertino businesses and residents in 2017. SVCE provides carbon-free electricity to the community. The City of Cupertino has opted up to 100% renewable electricity for municipal electricity accounts. SVCE invests proceeds back into the community, providing rebates, resources, and tools to help residents and businesses switch to efficient, all-electric appliances and vehicles. SVCE supports the City of Cupertino and its other member cities with technical assistance and funding for integrating energy resiliency into critical assets and infrastructure. *Estimated emissions reduction of 78,000 MT CO2e is based on community-wide electricity emissions for 2018 compared to 2010. **Total cost of project unknown; SVCE purchases carbon-free electricity on behalf of the entire community and individual customers pay for their own electricity usage.

Finance status
Finance secured

Total cost of the project
0

Total cost provided by the local government

Majority funding source
Local

Total cost provided by the majority funding source (currency)

Web link to action website
www.svcleanenergy.org

Name of the stakeholder group
<Not Applicable>

Role in the GCC program
<Not Applicable>

Name of the engagement activities
<Not Applicable>

Aim of the engagement activities
<Not Applicable>

Attach reference document
<Not Applicable>

Mitigation action
Private Transport > Improve fuel economy and reduce CO2 from motorized vehicles

Action title
Silicon Valley Transportation Electrification Clearinghouse collaboration

Means of implementation
Stakeholder engagement
Infrastructure development
Development and implementation of action plan

Implementation status
Operation

Start year of action
2019

End year of action

Estimated emissions reduction (metric tonnes CO2e)

Energy savings (MWh)

Renewable energy production (MWh)

Timescale of reduction / savings / energy production
Please select

Co-benefit area
Reduced GHG emissions
Improved access to and quality of mobility services and infrastructure

Action description and implementation progress
The City is an active member of SVTEC, a collaboration of public, private, and nonprofit leaders working to accelerate electric vehicle (EV) adoption across Silicon Valley. SVTEC members receive regular updates on funding, policies and emerging EV programs and are invited to quarterly in person meetings to learn, connect, and advance solutions to key EV challenges. *Participation in SVTEC is part of normal city operations, no specific project budget is allocated.

Finance status
Finance secured

Total cost of the project

Total cost provided by the local government

Majority funding source
Please select

Total cost provided by the majority funding source (currency)

Web link to action website
https://www.svcleanenergy.org/svtec/

Name of the stakeholder group
<Not Applicable>

Role in the GCC program
<Not Applicable>

Name of the engagement activities
<Not Applicable>

Aim of the engagement activities
<Not Applicable>

Attach reference document
<Not Applicable>

Mitigation Planning

(5.5) Does your city have a climate change mitigation or energy access plan for reducing city-wide GHG emissions?
Yes

(5.5a) Please attach your city's climate change mitigation plan below. If your city has both mitigation and energy access plans, please make sure to attach all relevant documents below.

Publication title and attach document
City of Cupertino Climate Action Plan

Web link
http://cupertino.org/modules/ShowDocument.aspx?documentid=9605

Focus area of plan
Climate change mitigation plan

Year of adoption of plan by local government
2015

Areas covered by action plan
Energy
Transport (Mobility)
Building and Infrastructure
Agriculture and Forestry
Water
Waste

Boundary of plan relative to city boundary (reported in 0.1)
Same – covers entire city and nothing else

If the city boundary is different from the plan boundary, please explain why and any areas/other cities excluded or included

Stage of implementation
Plan update in progress

Has your local government assessed the synergies, trade-offs, and co-benefits, if any, of the main mitigation and adaptation actions you identified?
Yes

Describe the synergies, trade-offs, and co-benefits of this interaction
The following is a list of co-benefits for the Climate Action Implementation Measures: Improves air quality Increases natural habitat Reduces energy use Reduces heat island effect Promotes regional smart growth Improves public health Reduces traffic congestion Creates local jobs Reduces water use; Extends community water supply Reduces waste; Extends landfill lifespan Improves water quality; Reduces storm water run-off Provides long-term savings to residents, businesses, and local governments Improves local energy independence Raises community awareness Conserves natural resources Reduces landfill methane Regional Implementation Opportunities

Description of stakeholder engagement process
The City provided several public engagement opportunities during the plan development process to present information, gather comments, and begin a community dialogue that will continue through plan implementation. Two public workshops were held at the LEED Platinum Kirsch Center for Environmental Studies at De Anza College, along with supporting online surveys developed to mimic the workshop activities for residents who were unable to attend. The City also held two focus group meetings to collect additional input on specific topic areas. The first focus group meeting addressed the business community through the Cupertino Chamber of Commerce, while the second invited comments from representatives of the local real estate industry. The City also held study sessions with the Planning Commission and City Council prior to development of the CAP, both of which were open to the public, to ensure the Plan aligned with the expectations of the City's elected and appointed officials. Comments collected from each of these engagement opportunities were used to inform the climate planning approach presented throughout this plan.

Does your plan include policy goals that explicitly reflect one of the following principles?
<Not Applicable>

Primary author of plan
Relevant city department

Comment

6. Opportunities

Opportunities

(6.0) Please indicate the opportunities your city has identified as a result of addressing climate change and describe how the city is positioning itself to take advantage of these opportunities.

Opportunity	Describe how the city is maximizing this opportunity
Increased energy security	The creation of Silicon Valley Clean Energy created multiple opportunities for increasing energy security, resilience, and local control of energy procurement. Through SVCE, the City is engaged in energy resiliency planning for its own critical assets and infrastructure. SVCE is currently creating an energy resiliency roadmap on behalf of its member cities to guide future program development.
Development of circular economy models and businesses	The City is conducting a Single-Use Plastics Ordinance Project as part of its current City Work Program. Through the ordinance development, the City is working closely with a regional collaborative to explore various alternatives to disposable food ware products. Part of the research for this ordinance is reviewing best practices for reusable takeaway food ware programs and business models.
Increased opportunities for investment in infrastructure projects	The increased focus on climate resiliency on the state level has opened new opportunities for funding for infrastructure projects. The City is actively pursuing grant opportunities from CAL FIRE, CALeVIP, and other entities for supporting upgrades to critical community assets and expansion of electric vehicle charging infrastructure.
Development of climate change resiliency projects	In 2020, Cupertino launched a pilot project, Climate Victory Gardens, to support residents, institutional, and nonprofit property owners in "climate proofing" their property. This includes project management and direct install options for replacing turf with native and drought tolerant landscaping, improving irrigation systems, installing rain capture devices, etc. The recent drought and emergency shortage declaration in our county has increased interest and demand for this pilot.

Collaboration

(6.2) Does your city collaborate in partnership with businesses and/or industries in your city on sustainability projects?

Yes

(6.2a) Please provide some key examples of how your city collaborates with business and/or industries in the table below.

Collaboration area	Type of collaboration	Description of collaboration
Building and Infrastructure	Technical assistance	The City offers a green business certification program, GreenBiz Cupertino, in which business receive free energy, water, and waste assessments, free equipment to help save water, guidance throughout the certification process, and recognition. GreenBiz acts as a way for the City to educate businesses on environmentally preferable practices and can double as an adaptation education tool in the future.
Transport (Mobility)	Project delivery - Public Private Partnership	In 2019, the City launched Via-Cupertino, an on-demand community shuttle, in partnership with a mobility company. The shuttle provides rides to and from neighboring train and bus stations and other destinations in and around Cupertino. The service offers discounted fare for students and riders who are low-income, aged 65 or over, or have a valid disabled placard.
Please select	Please select	

Finance and Economic Opportunities

(6.5) List any mitigation, adaptation, water related or resilience projects you have planned within your city for which you hope to attract financing and provide details on the estimated costs and status of the project. If your city does not have any relevant projects, please select 'No relevant projects' under 'Project Area'.

Project area

No relevant projects

Project title

N/A

Stage of project development

Please select

Status of financing

Please select

Financing model identified

Please select

Identified financing model description

Project description and attach project proposal

N/A

Total cost of project

0

Total investment cost needed

0

8. Energy

(8.0) Does your city have a renewable energy target?

Yes

(8.0a) Please provide details of your renewable energy target(s) and how the city plans to meet those targets.

Scale
Local government operations

Energy sector
Electricity

Target type
Other, please specify (100% of municipal electricity from renewable sources.)

Base year
2010

Total renewable energy covered by target in base year (based on target type specified in column 3)

Percentage renewable energy of total energy in base year
16

Target year
2020

Total renewable energy covered by target in target year (based on target type specified in column 3)

Percentage renewable energy of total energy in target year
100

Percentage of target achieved
100

Comment
Create Community Choice Energy option with the target: 100% of municipal electricity use in 2020 comes from 100% renewable or zero carbon sources via the CCE program.

(8.1) Please indicate the source mix of electricity consumed in your city.

Electricity source

Coal
0

Gas
0

Oil
0

Nuclear
0

Hydro
61.8

Bioenergy (Biomass and Biofuels)
1

Wind
15.6

Geothermal
3.9

Solar (Photovoltaic and Thermal)
17.6

Waste to energy (excluding biomass component)

Other sources
0

Total - please ensure this equals 100%

Total electricity consumption (MWh)

Year data applies to
2018

What scale is the electricity mix data
City-wide mix reported

Comment
The City of Cupertino municipal operations have opted into 100% renewable electricity source from our Community Choice Aggregator, Silicon Valley Clean Energy. The 100% renewable product is 25% solar PV and 75% wind. The figures reported above reflect the default electricity mix for the entire community. Customers can opt-in to the 100% renewable product.
Power-Content-Label-2019-Res.pdf

(8.1a) Please indicate the source mix of thermal energy (heating and cooling) consumed in your city.

Thermal energy consumption

Coal
0

Gas
100

Oil
0

Bioenergy (Biomass and Biofuel)
0

Geothermal
0

Solar (Thermal)
0

Waste to energy (excluding biomass component)
0

Other sources
0

Total (auto-calculated)
100

Total consumption (MWh)

Year data applies to

What scale is the thermal energy mix data
Other, please specify

Comment
To our knowledge a vast majority of stationary thermal energy consumed in the City is natural gas. There is, however, a large portion of natural gas which may be landfill sourced bio-gas directed to and contracted directly with a electric-generation fuel cell operation located in the City boundaries. Utility privacy rules make this mix difficult for us to understand completely. A 2020 update to our GHG emissions inventory will study this question in more detail with respect to emissions generated from that operation.

(8.2) For each type of renewable energy within the city boundary, please report the installed capacity (MW) and annual generation (MWh).

	Installed capacity (MW)	Annual generation (MWh)	Year data applies to	Comment
Solar PV	0.76		Please select	This number represents photovoltaic capacity installed in the City of Cupertino for the year 2018 only for small/medium sized commercial, multi-family, and residential sectors.
Solar thermal			Please select	
Hydro power			Please select	
Wind			Please select	
Bioenergy (Biomass and Biofuels)			Please select	
Geothermal			Please select	
Other, please specify			Please select	

(8.3) Does your city have a target to increase energy efficiency?
Yes

(8.3a) Please provide details on your city's energy efficiency targets.

Scale
Local government operations

Energy efficiency type covered by target
Reduce total energy consumption (in MWh)

Base year
2010

Total energy consumed/produced covered by target in base year (in unit specified in column 2)
2855

Target year
2020

Total energy consumed/produced covered by target in target year (in unit specified in column 2)
2441

Percentage of energy efficiency improvement in target year compared to base year levels
14.5

Percentage of target achieved
100

Plans to meet target (include details on types of energy in thermal /electricity)
Currently we are exceeding our target for energy efficiency. Our target covers municipal building usage. The percentage of target achieved is based on our electricity usage as of 2017 (2,131 MWh).

Please indicate to which energy sector(s) the target applies (Multiple choice)
Public facility

(8.4) Please report the following energy access related information for your city.

Energy access

Electrification ratio of the city

Average electricity consumption per commercial establishment (MWh/annum)

Average electricity consumption per residential household (MWh/annum)

Average unit price of electricity (Currency unit as specified in 0.4/MWh)

Percentage of electricity distributed, but not billed

Percentage of city population with access to clean cooking

Comment

(8.5) How many households within the municipal boundary face energy poverty? Please select the threshold used for energy poverty in your city.

Energy Poverty

Number of households within the city boundary that face energy poverty

Threshold used for energy poverty
Do not measure energy poverty within the municipal boundary

Comment

10. Transport

(10.0) Do you have mode share information available to report for the following transport types?
Please select

(10.3) Please provide the total fleet size and number of vehicle types for the following modes of transport.

	Number of private cars	Number of buses	Number of municipal fleet (excluding buses)	Number of freight vehicles	Number of taxis	Transport Network Companies (e.g. Uber, Lyft) fleet size	Customer-drive carshares (e.g. Car2Go, Drivenow) fleet size	Comment
Total fleet size	46840		102					
Electric	1975		2					
Hybrid	3610		12					
Plug in hybrid	1000							
Hydrogen	39							

Notes: Number of private cars: Data based on CA Dept of Motor Vehicles registration data for Cupertino Number of municipal fleet (excluding buses): "Hybrid" includes hybrid and plug-in hybrid vehicles. Data from 2018.

(10.5) Does your city have a low or zero-emission zone or restrictions on high polluting vehicles that cover a significant part of the city? (i.e. that disincentivises fossil fuel vehicles through a charge, a ban or access restriction)
No

12. Food

(12.0) Report the total number of meals that are annually served and/or sold through programs managed by your city (this includes schools, hospitals, shelters, public canteens, etc.).

Total meals served or sold through programs managed by your city

Number of meals

Cities facilities

Comment

(12.1) What is the per capita meat and dairy consumption (kg/yr) in your city?

Meat consumption per capita (kg/year)

Kg/Year/Capita

Year data applies to

Is your city calculating emissions associated with this consumption?

Comment

Dairy consumption per capita (kg/year)

Kg/Year/Capita

Year data applies to

Is your city calculating emissions associated with this consumption?

Comment

(12.3) Does your city have any policies relating to food consumption within your city? If so, please describe the expected outcome of the policy.

	Response	Please describe the expected outcome of the policy
Please complete	No	

(12.4) How does your city increase access to sustainable foods?

Do you subsidise fresh fruits and vegetables?

Action implemented

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you tax/ban higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you use regulatory mechanisms that limit advertising of higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you use regulatory mechanisms that limit the sale of higher carbon foods (meat, dairy, ultra-processed)?

Action implemented

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you incentivise fresh fruit/vegetables vendor locations?

Action implemented

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

Do you have programs/policies/regulations on food surplus - either food surplus recovery and redistribution, or food waste avoidance programs (i.e. Love Food/Hate Waste)?

Action implemented

Please provide details and/or links to more information about the actions your city is taking to increase access to sustainable foods

13. Waste

(13.0) What is the annual solid waste generation in your city?

	Amount of solid waste generated (tonnes/year)	Year data applies to	Please describe the methodology used to calculate the annual solid waste generation in your city
Please complete	42800	2018	Includes landfilled waste and composting for Cupertino. Landfilled waste tonnage by facility is from CalRecycle's Disposal Reporting System (DRS): Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility web portal. Composting tonnage is from Cupertino's waste hauler. Does not include recycling tonnage.

14. Water Security

Water Supply

(14.0) What are the sources of your city's water supply?

Surface water, from sources located fully or partially within city boundary
Ground water

(14.1) What percentage of your city's population has access to potable water supply service?

100

(14.2) Are you aware of any substantive current or future risks to your city's water security?

Yes

While drought can potentially have significant impacts on water supply services, impacts on drought on urban asset sectors are not analyzed in our hazard assessment, Silicon Valley 2.0. These services are within the domain of the Santa Clara Valley Water District which is involved in numerous collaborative water conservation efforts with communities in Santa Clara County.

(14.2a) Please identify the risks to your city's water security as well as the timescale and level of risk.

Water security risk drivers	Anticipated timescale	Estimated magnitude of potential impact	Estimated probability of impact	Risk description
Drought	Current	Serious	High	The availability of local and imported surface water may be vulnerable to changes in precipitation patterns, as well as rising temperatures, which increases evaporation from surface waters and evapotranspiration that reduces infiltration and natural recharge to the local aquifers. Local and imported water availability may also be impacted by droughts, which may become more frequent and severe. Future droughts have been identified as our primary water supply challenge, as water supplies may be insufficient to meet Valley Water's level of service goal. Valley Water. (2021). Draft Climate Change Action Plan. https://www.valleywater.org/sites/default/files/Updated%20CCAP%20Draft%2003_2021.pdf
Increased water scarcity	Long-term (after 2050)	Extremely serious	Do not know	Imported water may be less reliable due to decreasing snowpack in the Sierra Nevada and Cascade mountain ranges. More than half of the Sierra Nevada snowpack may be lost by the end of the century (Reich et al., 2018). Snowpack may dwindle or nearly disappear during droughts (Berg & Hall, 2017). Additionally, seasonal shifts associated with climate change may cause snow to melt earlier in the season, which can be particularly problematic for imported water supply. Runoff from early snowmelt is not as easily conserved in reservoirs and is therefore unable to be used to meet summer demand (Wang et al., 2018). The availability of water from the Sacramento-San Joaquin Delta watershed (via the SWP and the CVP) and from Hetch Hetchy Reservoir (via the San Francisco Public Utilities Commission) is dependent on snowpack. Valley Water. (2021).
Increased water demand	Medium-term (by 2050)	Less Serious	Medium-low	Although an increase in water demand was ranked with a low risk in comparison to others assessed, regional water demand may change substantially in coming decades. As such, it is an important factor to consider when assessing climate vulnerability and risk. Climate change may affect water demand in Santa Clara County. As temperatures increase, plant evapotranspiration may also increase and both agricultural and household landscapes may require a higher volume of water for irrigation. A higher agricultural water demand will likely drive additional groundwater pumping, particularly in South County. In addition, several facilities, such as energy plants, data centers, and cooling towers are located in the county. Higher temperatures may increase demands by these users. Valley Water. (2021).
Inadequate or ageing water supply infrastructure	Current	Serious	High	Our County's largest surface water reservoir - Anderson Reservoir is out of service for a seismic retrofit. In a statement, Valley Water Board Chair Tony Estremera said "we know our largest drinking water reservoir will be out of service for 10 years. If the drought continues into next year, we could face the possibility there will not be enough water to meet basic demands without serious risk of subsidence in 2022." (Estremera, 2021: https://www.valleywater.org/drought)

Water Supply Management

(14.3) Please select the actions you are taking to reduce the risks to your city's water security.

(14.4) Does your city have a publicly available Water Resource Management strategy?

Yes

(14.4a) Please provide more information on your city's public Water Resource Management strategy.

There are three water retailers and a publicly-owned water district that serve Cupertino. Each has it's own Urban Water Management Plan per the CPUC rules. Here we link just one from the Santa Clara Valley Water District (Valley Water).

Publication title and attach document

Urban Water Management Plan

Year of adoption from local government

2020

Web link

https://fta.valleywater.org/dl/pggls1SeCr/?

Does this strategy include sanitation services?

No

Stage of implementation

Strategy in implementation

Submit your response

Please provide the following details about the amendments you have made to your response.

What language are you submitting your response in?

English

Please read and accept our Terms and Conditions

I have read and accept the Terms and Conditions

Please confirm how your response should be handled by CDP.

	Public or non-public submission
I am submitting my response	Publicly (recommended)