

THE CITY OF



PLEASANTON®

CLIMATE ACTION PLAN

2.0

Adopted February 2022

Updated February 2023

Acknowledgments

This Climate Action Plan (CAP) 2.0 builds on the success of the previous plan to develop a new suite of greenhouse gas emissions reduction targets and actions to mitigate the acceleration of climate change and improve community resilience. The City of Pleasanton (City) expresses great appreciation to the following staff, community members, and organizations for their contributions in developing the CAP 2.0.

City Council

Karla Brown, Mayor

Julie Testa, Vice Mayor

Valerie Arkin, Councilmember

Jack Balch, Councilmember

Kathy Narum, Councilmember

Jerry Thorne, Previous Mayor

Jerry Pentin, Previous Councilmember

City Staff

Brian Dolan, Assistant City Manager and Interim City Manager

Pamela Ott, Deputy City Manager

Megan Campbell, Associate Planner

Zachary Reda, Management Analyst

Ellen Clark, Community Development Director

Becky Hopkins, Assistant to the City Manager

Nelson Fialho, Previous City Manager

Committee on Energy and the Environment (EEC)

Andrea Bloom, Regular Member

Catherine Brown, Regular Member

Aryan Jain, Youth Member

Linda Kelly, Regular Member

Greg Klein, Regular Member

Joel Liu, Regular Member

Chiman Lee, Regular Member

Eric Cartwright, Previous Regular Member

Terry Chang, Previous Regular Member

Bruce Daggy, Previous Regular Member

Robert Gan, Previous Youth Member

Professional Services Team

Andrea Martin, Cascadia Consulting Group

P.J. Tillmann, Cascadia Consulting Group

Mike Chang, Cascadia Consulting Group

Addie Bash, Cascadia Consulting Group

Megan Lee, Cascadia Consulting Group

Julie Stein, Cascadia Consulting Group

Kelsey Bennett, Rincon Consultants, Inc.

Ryan Gardner, Rincon Consultants, Inc.

Andrew Hatt, Rincon Consultants, Inc.



The City extends a special recognition to the following implementation partners, community organizations, and businesses:

Implementation Partners

Altamont Corridor Express (ACE)
Bay Area Rapid Transit (BART)
Bay Area Air Quality Management District (BAAQMD)
Dublin San Ramon Services District (DSRSD)
East Bay Community Energy (EBCE)
Livermore Amador Valley Transit Authority (LAVTA)
Metropolitan Transportation Commission (MTC)
Pacific Gas & Electric (PG&E)
Pleasanton Garbage Service (PGS)
San Joaquin Regional Rail Commission
StopWaste
Visit Tri-Valley
Wheels
Zone 7 Water Agency

Community

Bay East Association of REALTORS
Chinese American Cooperative Council
Council on American Islamic Relations
Hacienda
GoGreen Initiative
Hindu Swayamsevak Sangh (HSS)
Hines
Muslim Community Center
Pleasanton Chamber of Commerce
Pleasanton Downtown Association
Tri-Valley Citizens' Climate Education
Workday

City Council's Welcome

Pleasanton is an incredible place with a unique character that is reflected in its location, setting, history, and people. Our community is vibrant and rich with small-town character and a scenic backdrop that gives our city a direct connection to the natural environment. In recent years, like much of California, our community has experienced dangerous heat waves, public safety power shutoffs, and unhealthy air quality from devastating wildfires. We know the climate is changing. We have heard stories from community members about the changes they see in their own lives and the future they want to experience and pass down to generations to come.

To meet these challenges and usher in a sustainable future, Pleasanton will continue to preserve and protect the environment to meet the needs of the current generation without compromising the ability to meet the needs of future generations. The CAP 2.0 is a critical part of realizing this vision. It recognizes the value of our people, our community, our neighborhoods, our thriving economy, and our natural resources: the CAP 2.0 is for, and by, the community. The goals and actions outlined in these pages are responsive to your concerns, priorities, and ambitious vision. Many of you contributed through workshops, online surveys, public hearings, and individual expertise to make the CAP 2.0 possible. Thank you for helping to make sure that the CAP 2.0



reflects Pleasanton and protects what we love, while responding to the changing climate. We are honored to work with our residents, businesses, and organizations to be a leader locally, regionally, and nationally.

Climate change is one of the greatest challenges we face and Pleasanton should be proud for taking initiative to continue our preparation and adaptation. Reducing emissions and responding to the impacts of climate change will not be easy, but we have shown that by working together, we can create a sustainable, prosperous, and healthy city.

The CAP 2.0 is our community roadmap to a climate-friendly future. Implementation will deliver a more inclusive future powered by clean energy, a sustainable and secure water supply, clean transportation options, less waste in our landfills, and a thriving local economy. Although our work has just begun, we have the opportunity to celebrate the many collaborations and innovative ways our community will come together. We hope you will join us in creating a prosperous, sustainable, and healthy future.

Your City Council

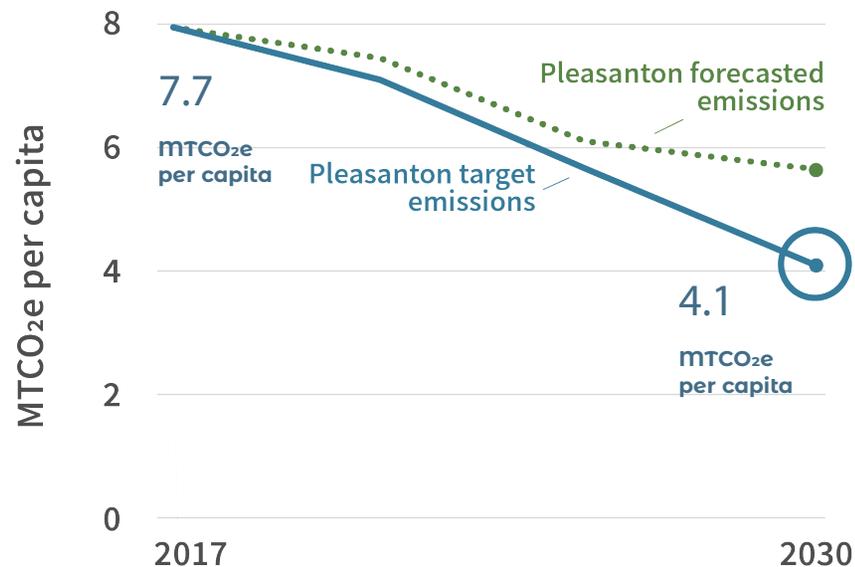
Executive Summary

Vision

This CAP 2.0 looks to not only reduce Pleasanton's greenhouse gas emissions, but also improve quality of life and public health, cultivate community resilience and adaptability, and promote thriving ecosystems and a vibrant economy now and for future generations. Through an inclusive and equitable process, the CAP 2.0 will position Pleasanton as a regional leader addressing climate change.

Targets

CAP 2.0 sets a target to reduce GHG emissions to **4.1 MTCO₂e per capita by 2030** and work towards **per-capita carbon neutrality by 2045**.



Actions and Strategies

Pleasanton's CAP 2.0 re-envision what a climate-smart future looks like in the near- and long-term, and how to get there in an efficient, equitable, and sustainable way. It calls for continuation of existing and ongoing environmental efforts, and details 16 new primary actions to be implemented and 9 secondary actions to be implemented as time and resources allow. The actions are designed to address Pleasanton's most significant GHG emissions sources—transportation (64%), natural gas use (20%), and electricity use (10%)—with ample community benefits beyond emissions reduction. As detailed in Tables 1 to 3, CAP 2.0 actions will:

- Decarbonize and modernize Pleasanton's buildings and transportation.
- Make it easier, safer, and more enjoyable to travel without a privately-owned vehicle.
- Increase water and energy security.
- Make the local economy more circular and sustainable.
- Beautify Pleasanton while capitalizing on the carbon storage capacity of trees, plants, and soil.
- Equip current and future generations with the knowledge needed to act on climate change.
- Demonstrate continued City leadership in sustainability.

Table 1. Existing ongoing CAP 2.0 actions

Existing Ongoing Actions	Emissions Reduced (MTCO _{2e}) ¹	Net City Cost	Net Community Cost
Buildings & Energy: This sector includes strategies to advance the decarbonization of buildings (BE-1), improve energy consumption and efficiency (BE-2), and expand use of renewable energy (BE-3).			
E1. Maintain zero-emissions energy as the default EBCE choice for municipal operations	2,200	N/A	N/A
E2. Maintain zero-emissions energy as the default EBCE choice for the community	269,600	N/A	N/A
Transportation & Land Use: This sector includes strategies to advance vehicle decarbonization (TLU-1), advance active, shared, and public transportation (TLU-2), and Advance sustainable land use (TLU-3).			
E3. Bicycle & Pedestrian Master Plan and Trails Master Plan	5,900	N/A	N/A
E4. Regional transit support	4,800	N/A	N/A
E5. Complete Streets implementation	1,000	N/A	N/A
E6. Housing Element implementation	17,200	N/A	N/A
Materials & Consumption: This sector includes strategies to increase waste diversion and optimize collection and disposal systems (MC-1), and enhance sustainable production and reduce consumption (MC-2).			
E7. SB 1383 implementation	135,100	N/A	N/A
E8. Outreach and education	 ²	N/A	N/A
E9. Local purchasing		N/A	N/A
E10. Textile recovery		N/A	N/A
Natural Systems: This sector includes a strategy to increase and optimize carbon sequestration and improve ecosystem resilience (NS-1).			
E11. Pesticide Posting Program		N/A	N/A
E12. Municipal landscape management practice		N/A	N/A
E13. Sustainable land management education		N/A	N/A
Water Resources: This sector includes strategies to improve water supply & increase conservation (WR-1), and improve stormwater resilience (WR-2).			
E14. Controller assistant program		N/A	N/A
E15. Smart water meter installation		N/A	N/A
E16. Water Conservation Program		N/A	N/A
E17. On-site stormwater management		N/A	N/A
Community Resilience & Wellbeing: This sector includes a strategy to improve community resilience and reduce vulnerability to climate change (CRW-1).			
E18. School climate action planning		N/A	N/A
E19. Access to green spaces		N/A	N/A
E20. Community cooling centers	N/A	N/A	N/A
E21. Community gardens		N/A	N/A

¹ Cumulative reductions across all years through 2030. Estimates are rounded to the nearest hundred MTCO_{2e}.

² The  symbol indicates an action that indirectly supports emissions reduction.

Table 2. Primary CAP 2.0 actions

Primary Actions	Emissions Reduced (MTCO _{2e}) ¹	Net City Cost ²	Net Community Cost ²
Buildings & Energy: This sector includes strategies to advance the decarbonization of buildings (BE-1), improve energy consumption and efficiency (BE-2), and expand use of renewable energy (BE-3).			
P1. All-electric reach code for new construction	10,100	\$49k	(\$2.7M)
P2. Existing Building Electrification Plan	49,500	\$138k	\$137k
P3. Modify Municipal Code definition of “covered projects”	1,300	(\$0)	\$287k
P4. Solar and storage on "covered projects"	2,300	(\$0)	(\$0)
Transportation & Land Use: This sector includes strategies to advance vehicle decarbonization (TLU-1), advance active, shared, and public transportation (TLU-2), and advance sustainable land use (TLU-3).			
P5. ZEV Infrastructure Plan	315,300	\$218k	(\$31k)
P6. Electrify municipal small engine equipment and reduce emissions of off-road equipment upon replacement	 ³	(\$0)	(\$0)
P7. Electrify community small engine equipment	76,200	(\$0)	(\$2.4M)
P8. Bicycle amenities	1,800	(\$0)	\$2.4M
P9. Bicycle rack incentive program	1,600	\$8k	(\$777k)
P10. Increase transit ridership	4,600	\$75k	(\$585k)
P11. Promote LEED Neighborhood Development	15,300	\$1k	(\$850k)
Materials & Consumption: This sector includes strategies to increase waste diversion and optimize collection and disposal systems (MC-1), and enhance sustainable production and reduce consumption (MC-2).			
P12. Single use plastic reduction		(\$0)	(\$0)
Natural Systems: This sector includes a strategy to increase and optimize carbon sequestration and improve ecosystem resilience (NS-1).			
P13. Urban Forest Master Plan	1,200 ⁴	\$486k	\$470k
P14. Soil management carbon sequestration projects	3,900 ⁴	\$35k	\$2.8M
Water Resources: This sector includes strategies to improve water supply & increase conservation (WR-1), and improve stormwater resilience (WR-2).			
P15. Water efficiency and retrofits		\$1.6M	(\$4.6M)
Community Resilience & Wellbeing: This sector includes a strategy to improve community resilience and reduce vulnerability to climate change (CRW-1).			
P16. Comprehensive climate awareness, education, and outreach	26,200	\$119k	(\$0)

¹ Cumulative reductions across all years through 2030. Estimates are rounded to the nearest hundred MTCO_{2e}.

² Numbers shown within parentheses represent net savings to the City or community.

³ The  symbol indicates an action that indirectly supports emissions reduction.

⁴ Represents carbon sequestration.

Table 3. Secondary CAP 2.0 actions

Secondary Actions	Emissions Reduced (MTCO ₂ e) ¹	Net City Cost ²	Net Community Cost ²
Buildings & Energy: This sector includes strategies to advance the decarbonization of buildings (BE-1), improve energy consumption and efficiency (BE-2), and expand use of renewable energy (BE-3).			
S1. Refrigerant management in new construction	 ³	\$43k	(\$262k)
S2. Community energy efficiency upgrades	8,300	\$958k	(\$1.9M)
S3. Energy benchmarking and City facility retrofits	400	(\$3.1M)	(\$0)
Transportation & Land Use: This sector includes strategies to advance vehicle decarbonization (TLU-1), advance active, shared, and public transportation (TLU-2), and advance sustainable land use (TLU-3).			
S4. VMT reduction for K-12 activities	11,700	\$571k	(\$6.3M)
Materials & Consumption: This sector includes strategies to increase waste diversion and optimize collection and disposal systems (MC-1), and enhance sustainable production and reduce consumption (MC-2).			
S5. Environmentally preferable purchasing policy		(\$0)	(\$0)
S6. Embodied Carbon Reduction Plan		(\$0)	(\$89k)
Natural Systems: This sector includes a strategy to increase and optimize carbon sequestration and improve ecosystem resilience (NS-1).			
S7. Carbon sequestration research and tracking		(\$0)	(\$0)
Water Resources: This sector includes strategies to improve water supply and increase conservation (WR-1), and improve stormwater resilience (WR-2).			
S8. Green Stormwater Infrastructure Plan		(\$0)	(\$0)
Community Resilience & Wellbeing: This sector includes a strategy to improve community resilience & reduce vulnerability to climate change (CRW-1).			
S9. Wildfire preparation, prevention, and education		(\$0)	(\$0)

¹ Cumulative reductions across all years through 2030. Estimates are rounded to the nearest hundred MTCO₂e.

² Numbers shown within parentheses represent net savings to the City or community

³ The  symbol indicates an action that indirectly supports emissions reduction

Key Definitions

AB	Assembly Bill in the State of California.	KPI	Key performance indicators are values used to monitor and measure the trends and effectiveness of overall sustainability performance.
ABAU	Adjusted business as usual is a scenario that adjusts the BAU to account for GHG emissions reductions expected from federal, state, and regional policy such as vehicle emissions standards and renewable energy requirements.	LEED ND	Leadership in Energy and Environmental Design for Neighborhood Development is a rating system that recognizes new neighborhood-scale developments that achieve sustainability and energy efficiency. It assesses neighborhood pattern and design, connection to services and amenities, habitat and species conservation, green infrastructure and buildings, and innovation and the design process.
AMI	Advanced Metering Infrastructure is a system that enables two-way communication between utilities and customers. It provides utility companies with real-time data about power consumption and allows customers to make informed choices about energy usage.	LEV	The most recent Low Emission Vehicles regulations impose stringent emission standards for criteria pollutants and greenhouse gases for new passenger vehicles through the 2025 model year.
BAU	Business as usual is a scenario that assumes that current activities do not significantly change relative to current, normal conditions and circumstances.	MMBTU	Million metric British thermal units is a common unit to measure heat content, particularly of energy sources like natural gas.
CAFE	Federal Corporate Average Fuel Economy standards are the required average fuel economy of cars and light trucks produced in the U.S.	MTCO_{2e}	Metric tons of carbon dioxide equivalent is a standard unit of measurement for GHGs that includes consideration of the major GHGs, including carbon dioxide (CO ₂), methane (CH ₄), and nitrous oxide (N ₂ O). It expresses the “global warming potential” of GHGs in a standardized unit, the equivalent amount of carbon dioxide.
CAP 2.0	Pleasanton’s Climate Action Plan 2.0 is the City’s plan to reach per capita carbon neutrality by 2045, consistent with state requirements.	NPDES	National Pollution Discharge Elimination System is a permit program that regulates point sources that discharge pollutants into waters across the country.
CARB	California Air Resources Board is California’s lead agency for climate change programs and oversees all air pollution control efforts.	PMC	Pleasanton Municipal Code refers to ordinances (i.e., laws) that are currently in effect within Pleasanton city limits.
CEQA	The California Environmental Quality Act requires state and local government agencies to inform decisionmakers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible.	TDM	Transportation demand management is the application of policies, strategies, and incentives to maximize the efficiency of the transportation system through enhanced mobility, reduced congestion, and low-carbon transportation.
City	The City of Pleasanton, CA developed and will implement CAP 2.0, in consultation with community members, stakeholders, and other implementation partners.	VMT	Vehicle miles traveled is a metric used in transportation planning to measure the cumulative miles traveled by all vehicles in a geographic region over a given time period.
EVs	Electric vehicles are vehicles that derive all or part of their power from electricity.	EO	Executive Order for the State of California.
GHG	Greenhouse gas is a gas that traps heat in the air and causes climate change. Examples include carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), and chlorofluorocarbons (CFCs).	SB	Senate Bill in the State of California.
GWP	Global warming potential is a measure that allows comparison of global warming impacts among different types of GHGs. Different GHGs can have different impacts on the Earth’s warming. For example, compared to CO ₂ , methane has 84 times the GWP of CO ₂ but stays in the atmosphere for a shorter timeframe.	ZEV	Zero emission vehicles are vehicles that emit no carbon pollution during operations. Electric vehicles and hydrogen-fuel cell vehicles are two examples.

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Section 1. Introduction



Pleasanton rests in the scenic and economically important Tri-Valley area of Alameda County in California, north of San Jose and east of San Francisco. The nearly 80,000 residents of this diverse community enjoy warm summers and mild winters.¹ Pleasanton is a prosperous city full of opportunity and innovation and serves as the home headquarters of many businesses, including Safeway, Workday, and 10x Genomics. The city has an active art scene, with several galleries and theaters that host events throughout the year. Pleasanton values open space, with more than 40 community parks, nearly 150 miles of bike paths, bike lanes, and trails, and 700 acres of undeveloped open space for hikers, cyclists, and equestrians to play.² Thanks to these integrated economic, cultural, and community development successes, Pleasanton has been ranked

one of the wealthiest middle-sized cities in the United States by the Census Bureau, and it was ranked 4th in USA Today's list of "America's 50 best cities to live" in 2014.³

The City of Pleasanton has already begun its climate action work, having completed its first greenhouse gas (GHG) emissions inventory in 2007 and its first climate action plan (CAP 1.0) in 2012. Pleasanton surpassed the CAP 1.0 target of reducing emissions 15% below 2005 levels by 2020, ahead of schedule. Since then, extreme heat, water uncertainty, wildfire smoke, and flooding have become more frequent and intense, putting vital systems at risk.

Pleasanton surpassed the CAP 1.0 target of reducing emissions 15% below 2005 levels by 2020 ahead of schedule.

In recognition of escalating climate threats and the latest Intergovernmental Panel on Climate Change (IPCC) report, this climate action plan update (CAP 2.0) reaffirms Pleasanton's commitment to help slow climate change.⁴ As Pleasanton continues to grow and thrive, the City needs new strategies to balance economic growth and technological innovation—and maintain the community's culture—without depleting natural resources and compromising the quality of life of current and future generations. Collectively, the City and community must reduce greenhouse gas emissions while building resilience to climate change within our community to maintain a vibrant, healthy, and sustainable home, now and for decades to come. Local climate action planning is a vital and effective tool for reducing greenhouse gas emissions, and the City is committed to achieving its climate goals through evidence-based, equitable, and accountable leadership.

¹ See the 2020 Decennial US Census.

² See the City of Pleasanton's Parks & Trails webpage and Trails Master Plan for more information on the City's park and trail system.

³ See <https://www.usatoday.com/story/money/business/2014/09/17/24-7-wall-st-50-best-cities-to-live/15736533/> (accessed 01/05/2022).

⁴ IPCC. (2021). Climate Change 2021: The Physical Science Basis. Available at www.ipcc.ch/report/sixth-assessment-report-working-group-i/ (accessed 8/31/2021).

1.1 CAP 2.0 Overview

Why update the Climate Action Plan?

- CAP 1.0 has a horizon year of 2020. Updating the CAP was a City Council priority to continue building on CAP 1.0.
- Climate science has evolved, as have state, regional, and local policies and initiatives. Pleasanton must continue to take an evidence-based approach to climate action that aligns with the latest science and current and anticipated policies.
- The City needs a clear path forward that continues to respond to climate change.

Objectives

- Create a plan with evidence-based, actionable, and achievable local policies.
- Reduce Pleasanton’s greenhouse gas emissions.
- Enhance local environmental sustainability and improve resilience and vulnerability to climate change.
- Create a qualified CAP under the California Environmental Quality Act (CEQA) that complies with current regulations.

Document Organization

The CAP 2.0 is organized into the following sections:

- **Section 1. Introduction:** This section introduces the CAP 2.0 and describes CAP 1.0 progress, shaping of the CAP 2.0 through analysis and a public process, the CAP 2.0’s local, regional context, and state context.

- **Section 2. Climate Vulnerability and GHG Emissions:** This section articulates Pleasanton’s GHG emissions and vulnerability to climate change. This section also covers best available science and outlines GHG emissions reduction targets.
- **Section 3. Pleasanton’s Climate Solutions:** This section is the main policy focus of the document. It outlines the strategies and actions Pleasanton will take to reduce GHG emissions locally, comply with state emissions targets, and enhance the city’s resilience to climate change.
- **Section 4. Implementation:** This section provides the CAP 2.0 implementation and monitoring plan. It identifies partners, resources, and a monitoring protocol. It also outlines staffing, costs, equity considerations, and phasing of CAP 2.0 actions.

WHAT IS A “QUALIFIED CAP”?

A "qualified CAP" allows projects to streamline future analyses under the California Environmental Quality Act (CEQA). To be a qualified GHG Reduction Plan (i.e., CAP) through 2030, the CAP shall:

- Quantify GHG emissions within a defined area.
- Establish a GHG emissions level below which planned activities would not be “cumulatively considerable.”
- Identify and analyze emissions from planned activities.
- Specify measures and performance standards to achieve the specified level of emissions.
- Establish a mechanism to monitor progress toward achieving the specific emissions level and amend if necessary.
- Be adopted through a public process following environmental review.

CAP 2.0 envisions Pleasanton in 2030...

Electricity is almost 100% renewable and natural gas consumption has declined by almost 10%

Homes and buildings are better able to withstand power supply fluctuations because they are more efficient, emit 30% fewer GHG emissions, and generate more renewable energy

Youth continue to drive innovation and ambition in climate action and sustainability, and have a sense of optimism about the environment of the future

People walk and bike more; when they drive, it's most likely in a zero-emissions vehicle

Green space is accessible to all, healthy, and abundant, storing over 70,000 MTCO_{2e} in trees, plants, and soil

Per capita emissions are 70% lower than in 1990 and on track to reach carbon neutrality by 2045

It's second-nature to consider climate change in everything the City and community does, and the community is more resilient to both climate and non-climate risks as a result

Water is used and reused wisely, so there is enough to go around even as the city grows

About 90,000 more tons of waste are recycled, composted, or never generated in the first place

1.2 CAP 1.0 Progress

The City's first Climate Action Plan, CAP 1.0, included a GHG emission reduction target of 15% below its 2005 baseline by 2020. Since adopting the CAP 1.0, the City has developed plans, created committees, enacted policies, and taken other notable action to address climate change. The City and its partners expanded and improved the pedestrian and bicycle network; conserved community and municipal water; and increased recycling, organics diversion, and waste reduction. The City also increased the proportion of clean, renewable resources in the electricity mix and improved green building adoption, energy efficiency, and energy conservation. Several key accomplishments and events have led Pleasanton to where it is today.

Collectively, these actions along with state and regional regulations and policies have reduced Pleasanton's emissions 28% between 2005 and 2017, and the City met the CAP 1.0 target ahead of schedule. Along the way to meeting the CAP 1.0 target, the City learned key lessons in both planning and implementing climate actions. Specifically of note, the CAP 1.0 included actions that went far above and beyond the available resources to implement.

CAP 2.0 accounts for these lessons, building upon and improving the work that the City, residents, and businesses have done over the last decade and focusing on a short list of highly implementable actions.



1.3 CAP 2.0 Public Process and Engagement

How We Got Here

Pleasanton's CAP 2.0 took two years to complete. The Committee on Energy and the Environment (EEC) was the primary City committee providing input and guidance to staff and the City's professional services team. The City relied on EEC direction and community input to inform every stage of the plan's development, from its overarching goals, vision and targets, to sectors of focus, specific strategies and actions, and their implementation. The City Council, commissions, committees, residents, businesses, implementation partners, City staff, and the professional services team worked together to:

- Conduct a **baseline assessment** of existing plans, policies, state legislation, and progress since the 2012 CAP to understand the existing context and build on lessons learned.
- Assess **vulnerabilities** to climate change impacts, especially increased heat, extreme weather, wildfire, and water uncertainty.
- Prepare a **comprehensive community engagement plan** to guide public outreach, engagement, and communications. The plan was adjusted to focus on virtual engagement in light of COVID-19.
- Articulate a **vision** and **guiding principles** to guide strategy and action development, co-benefits, and action selection criteria.
- Evaluate existing emissions and forecast future emissions, explore **emission reduction pathways**, and set 2030 and 2045 GHG emission reduction targets.
- Develop and refine **strategies and actions** through focus groups, workshops, and surveys; qualitative analysis of impact, cost, feasibility, level of support, equity, and co-benefits; and quantitative analysis of emissions reductions, costs, cost savings, and staff time to implement CAP 2.0 actions.
- Prepare this **CAP 2.0 document** and corresponding CEQA materials for environmental and public review.

How We Engaged

The City engaged community members and organizations, businesses, other community stakeholders, City committees and commissions, and City staff throughout the planning process using a range of in-person and digital platforms. Due to the COVID-19 pandemic, the City paused in-person engagement in March 2020 and transitioned all engagement to the virtual environment, including the addition of virtual surveys, trivia, and workshops to diversify engagement methods and reach more residents.

By the Numbers

685	responses from two community surveys
13	Committee on Energy and the Environment public hearings
5	public hearings across City commissions and committees
4	City Council public hearings
2	meetings with the Chamber of Commerce
6	focus groups with representation from approximately 25 different implementation partners and community organizations and businesses
2	community meetings
22,700	utility customers reached with mailer to raise awareness about the CAP 2.0 planning process
600+	views of youth- and City-created videos on climate action
Dozens	of social media posts, community newsletters, and newspaper and TV ads to engage the community

Engagement Themes

During engagement, several themes emerged as priorities for the community. These themes guided each stage of the planning process, ensuring that the City developed policies that align with the community’s priorities.

<p>Reliable Renewable Energy</p> <p>Residents support transitioning away from fossil fuels to renewable energy sources, including electrification and expanding local renewable energy generation, particularly solar panels. Simultaneously, the community is concerned about future blackouts and energy shortages, underscoring the importance of technologies like battery storage to ensure that renewables are both a clean and reliable energy source.</p> <p>What we heard</p> <ul style="list-style-type: none"> “Vacant or large open land like parking lots and shopping centers are ideal for adding solar.” “Reliability of the grid; quality and cost (are critical).” 	<p>Water Conservation</p> <p>Community members recognize the threat that severe droughts and water scarcity poses to Pleasanton. They identified safe and clean water as a priority early in the engagement process and reiterated support throughout for water conservation actions, such as expanding recycled water systems.</p> <p>What we heard</p> <ul style="list-style-type: none"> “We need to ensure that our water supply is safe to drink and bathe in.” “Please put money into our water supply.” 	<p>Sustainable Transportation</p> <p>Community members and City leaders alike highlighted the need for adopting more policies and programs to reduce GHG emissions from transportation, noting support for electrifying transportation, expanding telecommuting, incentivizing carpooling, making the city more bike- and walk-friendly, making public transportation more convenient, and using sustainable land use policy to reduce VMT.</p> <p>What we heard</p> <ul style="list-style-type: none"> “More specific targets focused on reducing VMT.” “Electrification across transportation and buildings highest lever (for reducing emissions).”
<p>Waste Reduction and Diversion</p> <p>Early on, community members elevated reducing community waste as a top priority for CAP 2.0 and reiterated this support throughout the engagement. They noted the importance of both community reuse programs to reduce waste overall and improving waste diversion to divert unavoidable waste from landfills.</p> <p>What we heard</p> <ul style="list-style-type: none"> “REDUCE waste, then divert what is left.” “Stop the waste at source; businesses using disposable everything!” “City events and programs need to focus on food recycling/composting.” 	<p>Green Space and Carbon Storage</p> <p>Community members emphasized the importance of expanding green spaces and ensuring proper soil management, both to support healthy habitat and to increase local carbon sequestration. This feedback resulted in focusing the Natural Systems strategy on local carbon sequestration and ecosystem resilience.</p> <p>What we heard</p> <ul style="list-style-type: none"> “How could Pleasanton offset emissions with low-cost investments in carbon sequestration projects?” “Community gardens would be great!” “More trees in parks & on streets will clean the air and provide more shade from the heat.” 	<p>Accessibility and Cost</p> <p>The community voiced concern over the cost and equity implications of climate action, noting cost as a barrier to climate action and highlighting the need to provide support for low-income residents to ensure that implementing CAP 2.0 does not inadvertently increase existing economic disparities. Additionally, City staff reiterated throughout the planning process that CAP 2.0 should focus on a short list of highly impactful strategies and actions that are cost effective and feasible to implement.</p> <p>What we heard</p> <ul style="list-style-type: none"> “I am concerned about the rising cost of living in Pleasanton as a result of the plan.” “Need to consider cost associated (with energy efficiency retrofits); need to incentivize.” “What are the equity/cost implications of EBCE’s Renewable 100?”

1.4 CAP 2.0 Local and Regional Context

The CAP 2.0 does not exist within a vacuum. To understand the strategies, gaps, and opportunities that exist, the City and professional services team reviewed relevant existing plans, policies, and programs that inform or relate to current and future climate activities in the City. Development of CAP 2.0 also intentionally aligned with and built upon several sustainability-related plans and efforts.

Table 4 (right) links to the various documents reviewed for the City of Pleasanton Baseline Assessment. Figure 1 (next page) highlights the City's key sustainability actions to date.

Beyond Pleasanton's immediate context, regional efforts include but are not limited to:

- **Bay Area Air Quality Management District (BAAQMD) programs** such as Climate Protection Planning Program, Healthy Homes Initiative, and Wildfire Air Quality Response Program.
- **Alameda County programs** such as Green Business Certification, Climate Protection Project, and Cool Counties Climate Stabilization Declaration.
- StopWaste programs **that help the community waste less and use resources more efficiently.**
- **Plan Bay Area 2040** details how the nine-county Bay Area can make progress toward the region's long-range transportation and land use goals.
- **Climate action plans in neighboring jurisdictions;** for example, Dublin and Livermore recently established GHG reduction targets for carbon neutrality by 2045.

Table 4. Documents reviewed for the City of Pleasanton Baseline Assessment

Cross-cutting
Tri-Valley Local Hazard Mitigation Plan (2018)
StopWaste's Climate Change Adaptation Measures: Building and maintaining soil health to assist in climate change mitigation (2018)
Emergency Operations Plan (2018)
Pleasanton General Plan – Air Quality and Climate Change Element (2005)
Pleasanton General Plan – Economic and Fiscal Element (2005)
Pleasanton General Plan – Housing Element (2005)
Pleasanton General Plan – Community Character Element (2005)
Transportation and Land Use
Downtown Pleasanton Parking Strategy & Implementation Plan (2017)
Downtown Specific Plan (2019)
Pleasanton Pedestrian and Bicycle Master Plan (2010)
Trails Master Plan (2019)
Pleasanton General Plan – Land Use Element (2005)
Buildings and Energy
City greenhouse gas inventories for 2012 and 2017
Pleasanton General Plan – Energy Element (2005)
Materials and Consumption
The Alameda County Integrated Waste Management Plan (amended 2017)
SB 1383 Draft Text
Natural Systems and Water Resources
Zone 7 Water Agency Stream Management Master Plan (2005)
StopWaste's Climate Change Adaptation Measures: Building and maintaining soil health to assist in climate change mitigation (2018)
Urban Water Management Plan – Pleasanton Municipal Code (amended in 2016)
City of Pleasanton Recycled Water Use Guidelines (2015)
Pleasanton General Plan – Water Element (2005)
Pleasanton General Plan – Conservation and Open Space Element (2005)
Pleasanton General Plan – Land Use Element (2005)
Pleasanton 2018 Annual Water Quality Report and Pleasanton's Water Quality webpage

Figure 1. Key sustainability actions to date¹



¹ For more information on City plans, the 2012 CAP 1.0, and EEC, visit the City of Pleasanton website.

1.5 CAP 2.0 State Context

Pleasanton must take an evidence-based approach to climate action planning that aligns with the latest science, current and anticipated policies, and neighboring communities.

Since adoption of the CAP 1.0, several strategies to monitor and address climate change have emerged and California has continued to be a leader in developing climate action goals. Key California legislation and executive orders (EO) that set statewide emissions targets include:

EO S-3-05 (2005) established statewide targets for reducing GHG emissions to 2000 levels by 2010, 1990 levels by 2020, and 80% below 1990 levels by 2050.

CEQA Guidelines Sections 15183.5 (2010) required, as part of Senate Bill (SB) 97, that public agencies review the environmental impacts of proposed projects and planning documents, including CAPs and specific kinds of development projects, to address GHG emissions and provide guidance about the analysis, mitigation, and effects of GHG emissions. Completion of this environmental review is one of six factors that support a GHG Reduction Plan (i.e., CAP) to be considered qualified.

SB 32 (2016) established an update statewide goal of reducing GHG emissions to 40 percent below 1990 levels by 2030.

California Climate Change Scoping Plan Update (2017) lays out California's strategy for meeting its GHG emissions reduction goals, including targets and standards for clean energy, clean transportation, energy efficiency, land use and agriculture, industry, and other sectors. The state adopted the Assembly Bill (AB) 32 and SB 32 Scoping Plans in 2014 and 2017, respectively.

EO B-55-18 (2018) created a statewide goal of reaching carbon neutrality by 2045 (in addition to meeting SB 32 targets for 2030).





In addition to GHG emission reduction target setting legislation, the state has passed legislation that will help reduce Pleasanton's emissions including:

AB 1493 (2002) required that the California Air Resources Board (CARB) adopt regulations to achieve the maximum feasible and cost-effective reduction in GHG emissions from California vehicles. These are known as the Pavley Regulations and Fuel Efficiency Standards.

SB 375 (2008) directs CARB to set regional targets for GHG emissions reduction, offers CEQA streamlining incentives for GHG emissions reduction, and establishes a collaborative process to develop a regional Sustainable Communities Strategy that coordinates land use and transportation planning.

California's Advanced Clean Cars Program (2012) establishes regulations and incentives that support the transition to Low Emission Vehicles and Zero Emission Vehicles. This program exceeds federal Corporate Average Fuel Economy (CAFE) fuel efficiency standards and sets some of the most aggressive standards in the country.

SB 1383 (2016) requires that California reduce organic waste to landfill by 75% by 2025 and rescue 20% of surplus edible food in phases beginning in 2022. The bill requires jurisdictions to expand organic waste collection, procure organic waste products such as compost, mulch, and biogas; and conduct education and outreach on organics recycling to residents and businesses.

California Air Resources Board Climate Change Scoping Plan Update (2017) lays out California's strategy for meeting its GHG emissions reduction goals, including targets and standards for clean energy, clean transportation, energy efficiency, land use and agriculture, industry, and other sectors.

AB 1346 (2021-2022) would require the California State Air Resources board to adopt cost-effective and technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines, such as leaf blowers.

SB 100 (2018) created the state's renewable portfolio standards, requiring 100% renewable energy with zero-carbon energy sources by 2045.

California Code of Regulations Title 24 (2019) was updated with new California Green Building Standards (part 11) and Building Energy Efficiency Standards (part 6). These energy efficiency and other sustainable building and construction standards apply to all newly constructed and renovated California buildings.

SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule (2019) is a federal policy that revoked California's authority to set its own GHG emissions standards and ZEV mandates. The Final SAFE Rule relaxed federal GHG emissions and Corporate Average Fuel Economy (CAFÉ) standards to increase in stringency at only about 1.5% per year from model 2020 levels over model years 2021-2026.

EO N-79-20 (2020) requires sales of all new passenger vehicles to be zero-emission by 2035.

While state and regional efforts will help Pleasanton reduce GHG emissions, they alone will be insufficient to meet the state's 2030 and 2045 targets. This CAP 2.0 provides a roadmap of proactive City actions and coordination with regional partners to reduce GHG emissions, so that the City can do its part to mitigate climate change and adapt to climate impacts.

Section 2. Climate Vulnerability and GHG Emissions

2.1 Pleasanton's Climate Vulnerability

Pleasanton, like many communities, faces vulnerabilities to climate change. To better understand the extent to which climate change will affect the community, the City completed a Pleasanton-specific climate vulnerability assessment.¹ This assessment evaluated anticipated climate threats to the community—including impacts to social, environmental, and infrastructure systems—and the City's level of readiness to respond to them. The assessment revealed that the community is already experiencing and will continue to experience impacts from climate change. These impacts will build upon one another, with one impact intensifying another, and threaten the safety, health, and wellbeing of residents, particularly vulnerable populations such as outdoor workers, the very young, and the elderly. Some of the specific threats that Pleasanton faces are shown in Table 5 on the following page, with relative risk levels indicated for different public and natural systems. The relative risk scores (1 being "lowest risk level" and 5 being "highest risk level") can help the City better determine how to prioritize protecting different sectors from climate impacts.

¹ To view the full Climate Vulnerability Assessment, visit the City of Pleasanton [CAP 2.0 webpage](#) (accessed August 16, 2021).



Table 5. Vital systems vulnerability to climate change impacts

This table shows the extent to which Pleasanton's greatest climate change impacts (increased heat, extreme weather, wildfire, water uncertainty) are likely to affect the city's most vital public and natural systems.



Increased heat

Summers are expected to warm in Alameda County, with the number of extreme heat days and heat waves at least doubling by mid-century.¹ Rising temperatures will exacerbate drought, wildfire, and water uncertainty.

Rising temperatures impact nearly every vital system in Pleasanton. For example, a severe summer heat wave threatens public health from heat-related illness. Higher demand for air conditioning could strain the energy supply.



Extreme weather

Climate change will cause rain events to be less frequent but more intense.² In the Bay Area, these heavy rain events are likely to increase flooding, landslides, and mudslides.

Flooding, landslides, and mudslides can put people in harm's way and increase risk of injury or death. Extreme weather can also cause property damage.



Wildfire

Climate change is causing more frequent, intense wildfires in the Bay Area, straining what the fire-prone landscape can handle. Rising temperatures, drought, and expanding wildland development increases wildfire risk for parts of the inland Bay Area.³

Wildfires are very likely to make air quality unhealthy: those with asthma and other health complications are at higher risk.



Water uncertainty

Pleasanton is particularly vulnerable to future water shortages. Warmer temperatures, an 80% decline in snowpack by 2100, and changing seasonal precipitation patterns will worsen summer water shortages and lead to more frequent, severe droughts.

Pleasanton recently declared a Local Drought Emergency. These water shortage challenges will become more severe and frequent in the coming years, with impacts to everyday water use, natural landscapes, habitats, and even hydropower energy sources.

PUBLIC INFRASTRUCTURE	Most Relevant Impacts	Risk Level (1-5)
Land Use	Heat, Extreme Weather, Wildfire, Water Uncertainty	1
Energy Infrastructure	Heat, Extreme Weather, Wildfire	2
Energy Supply & Demand	Heat, Water Uncertainty	3
Buildings	Extreme Weather, Wildfire	4
Dams	Extreme Weather	1
Transportation Systems	Heat, Extreme Weather, Wildfire	4
WATER MANAGEMENT	Most Relevant Impacts	Risk Level (1-5)
Wastewater Infrastructure	Extreme Weather	1
Water Supply & Availability	Heat, Water Uncertainty	5
Stormwater Infrastructure	Extreme Weather	3
NATURAL SYSTEMS & BIODIVERSITY	Most Relevant Impacts	Risk Level (1-5)
Terrestrial Habitats	Heat, Wildfire, Water Uncertainty	3
Aquatic Habitats	Heat, Extreme Weather, Water Uncertainty	4
Habitats & Biodiversity	Heat, Wildfire	3
Agriculture	Heat, Water Uncertainty	2
PUBLIC HEALTH	Most Relevant Impacts	Risk Level (1-5)
Mental Health	Heat, Extreme Weather, Wildfire, Water Uncertainty	1
Heat-related Illnesses	Heat	4
Respiratory Illnesses	Heat, Wildfire	3
Acute Injuries & Displacement	Extreme Weather, Wildfire	4
Health Access & Emergency Services	Heat, Extreme Weather, Wildfire	2

¹ An extreme heat day is defined as a maximum air temperature of at least 95°F, a heat wave is defined as three to nine days with maximum air temperature of at least 95°F, and an extreme heat wave is defined as ten or more days with maximum air temperature of at least 95°F. Warm months are defined as June through October. Source: Vahmani, P., Jones, A.D., and Patricola, C.M. (2019). Interacting implications of climate change, population dynamics, and urban heat mitigation for future exposure to heat extremes. Environ. Res. Lett. 14(0840851). DOI: doi.org/10.1088/1748-9326/ab28b0

² Cannon, S.H. and J.E. Gartner. (2005). Ch. 15 Wildfire-related debris flow from a hazards perspective. In: Debris-flow Hazards and Related Phenomena [eds. M. Jakob and O. Hungr]. Springer Praxis Books. Springer, Berlin, Heidelberg.

³ Ackerly, David, Andrew Jones, Mark Stacey, Bruce Riordan. (University of California, Berkeley). (2018). San Francisco Bay Area Summary Report. California's Fourth Climate Change Assessment. Publication number: CCCA4-SUM-2018-005.

Building a Resilient Community for Future Generations

The CAP 2.0 focuses on not only reducing emissions but also building a resilient community. The COVID-19 pandemic revealed the importance of understanding climate vulnerability through the lens of public health, emergency responses, quality of life, and those who are disproportionately impacted. The investments the City makes today will allow Pleasanton to shape what the community will look like, not just for current residents and visitors, but for children, grandchildren, and all future generations.

- **Some community members are more vulnerable to climate change impacts**, including children, older populations, people with chronic health conditions, low-income households, and communities of color.
- **Addressing climate vulnerability can build resilience to a broad range of crises and hazards, including natural disasters, water shortages, and public health crises**—all of which are expected to increase as a result of climate change.
- **Some of the most cost-effective strategies for increasing resilience and preparing for pandemics involve investing in essential public health infrastructure**, including water and sanitation systems, increasing community awareness and education, and increasing emergency response systems. Shoring up the local economy, especially small, local businesses, is another important opportunity to cost effectively prepare for public health and climate emergencies.
- By coordinating planning efforts, **multiple economic challenges generated by crises from climate change and other impacts can be addressed simultaneously.**



Did you know? Individual action is just as important as City action to ensure community resilience. Read on to learn what you can do!

What you can do today

Act locally

- Join and support local non-profits such as the [GoGreen Initiative](#) and/or [Tri-Valley Citizens Climate Education](#) to support local climate and sustainability action.
- Calculate your **household carbon footprint** and build an action plan for reducing your household's carbon pollution (e.g., how you get to work, what you buy and throw away, what you eat). The calculator will also offer funding and cost-saving resources!
- Increase your civic engagement to ensure your concerns, priorities, and values are heard and reflected, such as participating in the Pleasanton Committee on Energy and the Environment.
- Stay informed about recent climate science. For example, read parts of the most recent [IPCC report](#).
- Shop locally, supporting local businesses and clean manufacturing, and keeping transportation emissions down" or similar - it's really a great way to support the local economy while reducing your footprint!

Travel more sustainably and improve air quality

- Reduce your travel by minimizing flights and cutting down on driving.
- Enjoy alternative transportation modes, including walking, biking, and public transit—replacing just one car trip per week can really add up!
- If you purchase a car, go electric!
- Replace gas-powered landscaping equipment with electric plug-in or battery equipment.

Embrace zero waste

- Reduce consumption of high-emissions foods such as meat and dairy—replacing just one portion of meat per week with a plant-based alternative can really add up! Seasonal fruits and vegetables, grains, and unprocessed foods generally have a lower impact than out-of-season alternatives.
- Avoid unnecessary food waste by planning meals, right-sizing your grocery and restaurant purchases, and bring reusable containers when you shop or eat out.
- Avoid single-use plastic food wraps, utensils, or bags and instead use reusable storage containers, jars, beeswax, and shower caps.
- When purchasing clothing, electronics or household goods, look for items that are high quality, repairable, and long lasting.

Be water-wise, energy-smart, and nature-friendly

- Switch off and unplug appliances when not in use (computers, phone chargers, TVs, etc.).
- Install water- and energy-efficient appliances, such as WaterSense toilets and showerheads and Energy Star washing machines.
- Plant summer-dry native trees and vegetation in your backyard or garden.
- **Sheet mulch your yard** and practice xeriscaping, a process that reduces or eliminates the need for additional water in landscaping and gardening.
- Use mulch and compost to retain soil moisture, control weeds and build resilient soil.
- Organize a community group to help restore a local stream or park.
- Sign up for **automatic leak detection**.
- Avoid pesticides, herbicides, and insecticide use and instead practice [Integrated Pest Management](#).

2.2 Pleasanton's Greenhouse Gas Emissions

Every mile we travel, device we plug in, and ounce of food and waste we produce adds to Pleasanton's carbon footprint. As Pleasanton continues to grow and develop, more buildings, more vehicles, and more demand for goods and services come at a cost that we will eventually repay in impacts from climate change. Limiting the amount of climate pollution and other heat-trapping GHGs in the atmosphere is the most important action the City and community can take to slow climate change.

The City has completed several GHG emissions inventories with the most recent in 2017. These inventories help the City set community-wide targets, measure progress over time, and inform which actions will have the greatest GHG emissions reduction benefits.

Consumption-based Emissions

Traditionally, cities measure GHG emissions through geographic-based inventories. These inventories estimate emissions directly tied to actions taken with the physical Pleasanton boundary, such as from the burning of fossil fuels to power vehicles and buildings.

These traditional inventories do not tell the entire emissions story, however. Services and goods purchased within Pleasanton also carry an upstream GHG emissions impact, such as emissions produced through the production and transport of fuels, food, and construction materials. Efforts to reduce overall consumption or transition to less carbon-intensive goods and services are crucial components of an overall climate mitigation strategy.

The City measured the following sources of carbon pollution in the 2017 GHG emissions inventory:



BUILDINGS & ENERGY

Buildings and energy, including residential, commercial, industrial, and municipal electricity and natural gas use.



TRANSPORTATION & LAND USE

Transportation and land use, including fuels for community and municipal vehicle travel (e.g., passenger vehicle, commercial vehicles, off-road vehicles).



WASTE AND WASTEWATER

Waste and wastewater, including community solid waste generation and decomposition, and wastewater generation and treatment.

Like many cities, Pleasanton's major emissions sources are on-road transportation, especially from commercial and passenger vehicles, and building energy, especially natural gas consumption. In 2017, most of Pleasanton's GHG emissions came from three sources (Figure 2):

- **Transportation** (on-road and off-road transportation)
- **Building natural gas use** (residential and non-residential buildings)
- **Building electricity use** (residential and non-residential buildings)

As measured in the inventories, between 2005 and 2017, GHG emissions have declined 28%, exceeding the GHG emissions reduction target established in the CAP 1.0 (Figure 3). Even as Pleasanton has continued to experience a growing population and economy, the community achieved a per capita emissions reduction of 37%.

Figure 3. Communitywide emissions changes from 1990 to 2017, by sector

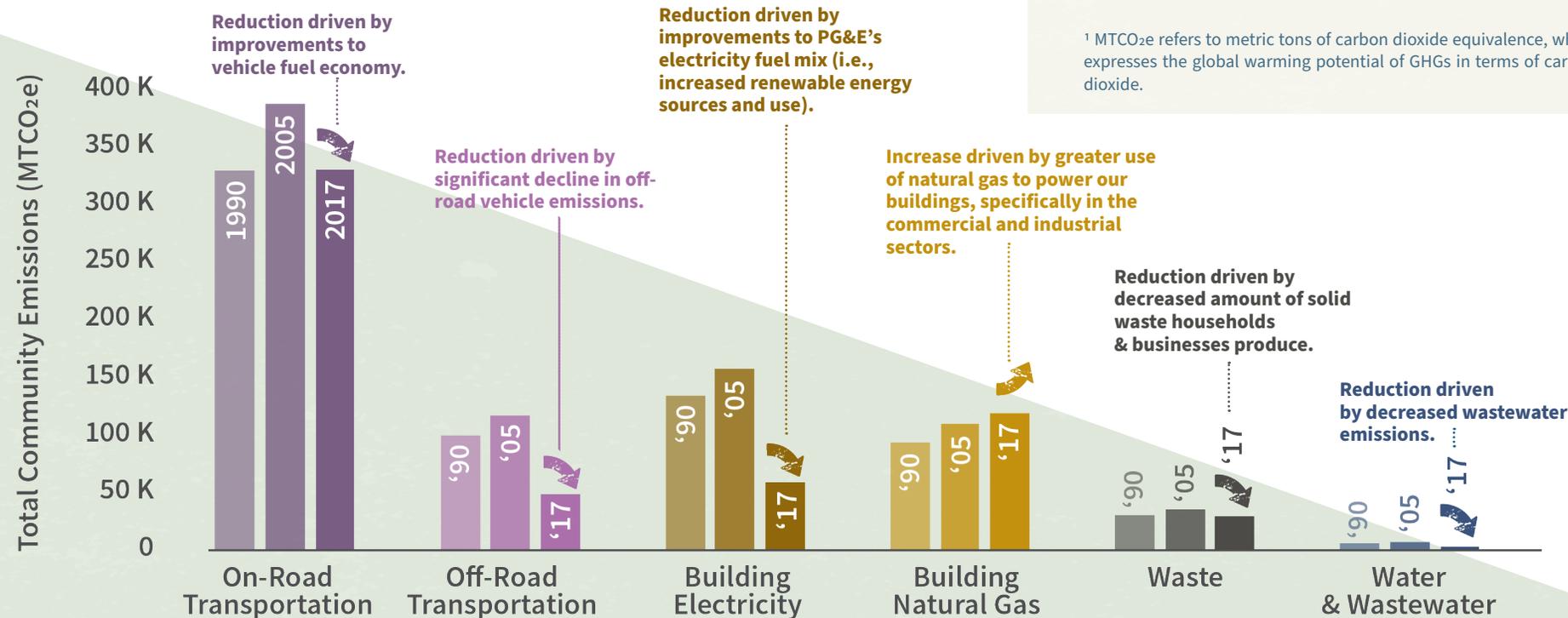
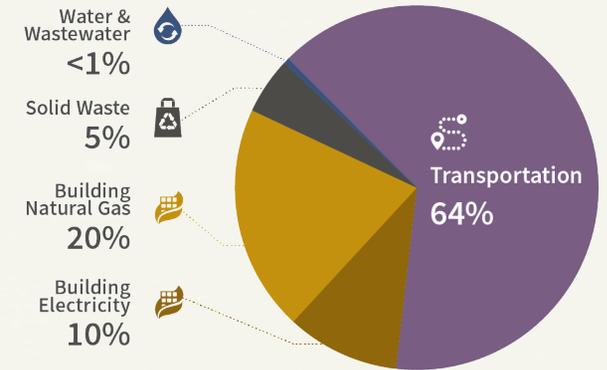


Figure 2. Pleasanton community GHG emissions by sector (2017 Total: 588,553 MTCO_{2e} | Per Capita: 7.67 MTCO_{2e}¹)



¹ MTCO_{2e} refers to metric tons of carbon dioxide equivalence, which expresses the global warming potential of GHGs in terms of carbon dioxide.

Projected Emissions

Building off the 2017 GHG emissions inventory, emissions were forecasted into the future, in five-year intervals beginning in 2020 and ending in 2050 (see Appendix B and Figure 4 on page 29 for more information).

- A **Business as Usual (BAU) forecast** estimates how emissions would change over time without the influence of external or internal policies or programs. Population and economic growth are the key drivers of the BAU projection, specifically the growth projected in the City’s 2005-2025 General Plan and Association of Bay Government’s future demographic forecasts.
- An **Adjusted BAU (ABAU) forecast** considers the influence of policies external to Pleasanton—namely SB 100, Title 24 building efficiency standards, and vehicle emission standards—on projected communitywide emissions. These existing and anticipated policies will decrease Pleasanton’s local emissions even if the City takes no climate action.

In addition to state and federal regulations that affect local emissions, the City is already taking several actions that are anticipated to continue through the life of this plan. These actions are considered existing and ongoing. Some of these actions are GHG mitigating actions and contribute to additional GHG emissions reductions. Existing ongoing actions that were quantified for emission reduction potential are listed in Table 6 to the right. The gap between the 2030 reduction target set by the City (See Section 2.3) and the city’s projected emissions (accounting for the adjustments made for the ABAU forecast and considering existing ongoing actions) is the policy focus of the new actions in the CAP 2.0.

Table 6. GHG emission reduction estimates for local existing ongoing actions

Existing Ongoing Actions	Cumulative 2030 Emissions Reduced (MTCO _{2e})
E1. Maintain zero-emissions energy as the default EBCE choice for municipal operations	2,200
E2. Maintain zero-emissions energy as the default EBCE choice for the community	269,600
E3. Bicycle & Pedestrian Master Plan and Trails Master Plan	5,900
E4. Regional transit support	4,800
E5. Complete Streets implementation	1,000
E6. Housing Element	17,200
E7. SB 1383 implementation	135,100

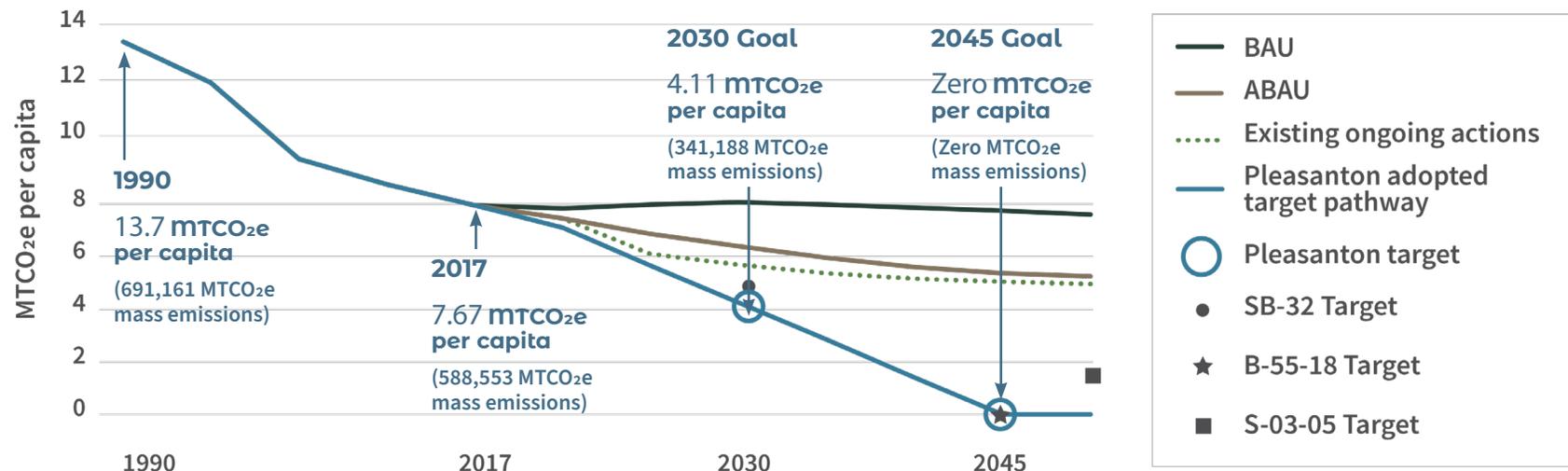


2.3 GHG Emissions Reduction Targets

Recognizing that state and federal policies will reduce emissions, the City aims to deepen GHG emissions reductions through local targets, strategies, and actions.

The CAP 2.0 includes a linear emissions reduction target pathway that complies with the latest state-level policies and supports a qualified CAP through 2030. This pathway includes GHG emission reduction targets to **reduce emissions to 4.1 MTCO₂e per capita by 2030** and work towards **per capita carbon neutrality by 2045**. The targets set in the CAP 2.0 align Pleasanton with the long-term path set by the state (i.e., SB 32, EO B-55-18, EO S-3-05), with a more aggressive interim 2030 target. The City chose a pathway that exceeds state GHG emissions reduction requirements in 2030 to underscore the importance of early and consistent action. Actions that are taken today set the foundation for achieving carbon neutrality, help ensure a smooth transition for system-changing actions, and enable emissions reductions to occur sooner, making them more impactful.

The CAP includes actions over the next 10 years and is intended to be qualified through 2030, at which point it will be updated to lay out the next decade of actions.



By 2030

Pleasanton's per-capita GHG emissions will be **~65% below 2005 levels** and **~70% below 1990 levels** (4.1 MTCO₂e per capita)

By 2045

Pleasanton will achieve **carbon neutrality** (0 net MTCO₂e per capita)

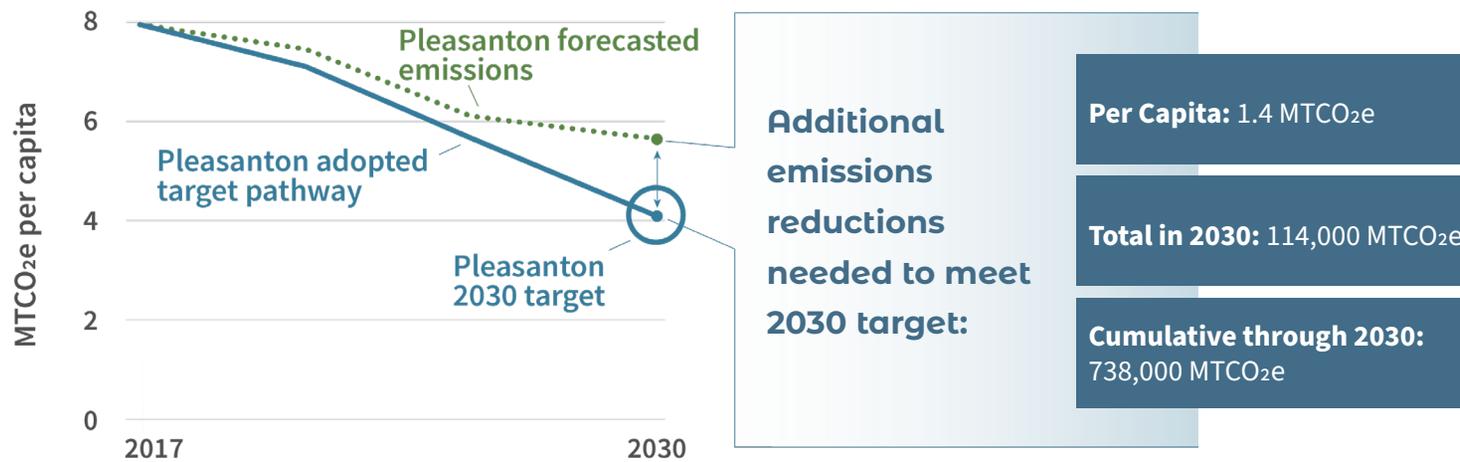


2.4 CAP 2.0 Policy Focus

As described in the previous section, existing state legislation (i.e., the ABAU forecast scenario) will help drive reductions in emissions. Further driving reductions are local existing and ongoing actions. However, that is not enough to reach the CAP 2.0 2030 target. As shown in Figure 4, further local action is needed to close the gap between the projected emissions and the CAP 2.0 target pathway. This gap is the policy focus of the CAP 2.0. The CAP 2.0 outlines new strategies and actions the City will implement over the next 10 years that will achieve the interim 2030 CAP 2.0 target and set the City up for success to meet the City’s long-term 2045 target of per-capita carbon neutrality (see Section 3: Pleasanton’s Climate Solutions).



Figure 4. CAP 2.0 Policy Focus



The City will monitor and assess progress toward meeting the 2030 goal through recurring GHG emission inventories. A comprehensive inventory will be conducted in 2030 to determine whether the goal was met.

The following pages present cumulative reduction estimations for CAP 2.0 strategies and actions to fully capture the estimated impact across CAP 2.0 implementation years.

Section 3. Pleasanton's Climate Solutions

3.1 Introduction and Orientation

Climate Solutions Introduction

Pleasanton's climate solutions since 2012 have led to meaningful benefits for residents and businesses. The policy focus for the CAP 2.0 builds off the solutions since 2012 and focuses on the gap between the forecasted emissions and the CAP 2.0 targets. CAP 2.0's climate solutions outline new strategies and actions combined with existing ongoing actions that slow the process of climate change by reducing GHG emissions from multiple sectors and storing carbon in natural systems. CAP 2.0 climate solutions also build resilience to extreme heat and weather, flooding, wildfire, fluctuations in the power supply, and water shortages. In addition to reducing emissions, the CAP 2.0's climate solutions have many social, economic, and environmental co-benefits for the community (see "Orientation to Climate Solutions Sectors, Strategies, and Actions" section on page 32 for details).

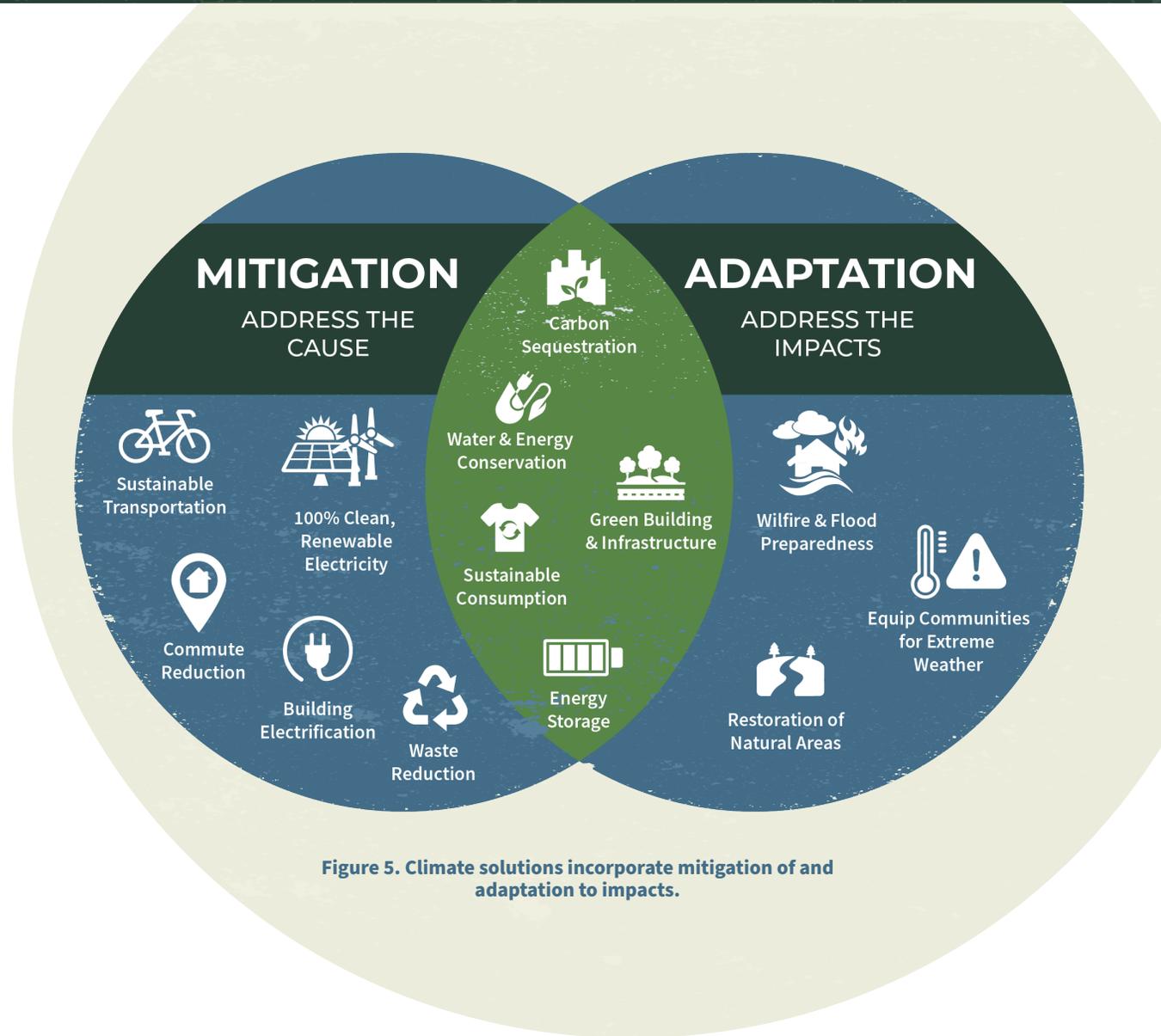


Figure 5. Climate solutions incorporate mitigation of and adaptation to impacts.

The strategies and actions included in the CAP 2.0 aim to meet the needs and reflect the values and concerns of the Pleasanton community. The primary pathway to reduce transportation emissions is to take advantage of zero-emissions electricity to **electrify vehicles and buildings**. The City will also **build out and connect its bicycle, pedestrian, and transit network** to further reduce emissions from remaining gas-powered vehicles, provide viable travel alternatives, and support healthy lifestyles. Natural gas emissions is also a key component on the primary pathway to reduce emissions. In July 2021, the Pleasanton City Council made the decision to opt into EBCE's 100% renewable energy portfolio which will help to make significant progress in this area. Since electrified buildings still use energy, electrification will be complemented by **expanding green building and energy conservation and efficiency efforts**, which also build resilience to extreme heat and fluctuations in the power supply. Together, the transportation and buildings/energy approaches will

account for ~40% of Pleasanton's needed emission reductions. The remaining reductions will come largely from **implementing existing state law on food waste reduction and recovery** and **storing carbon on the landscape** through an Urban Forest Master Plan.

To further address the impacts of climate change and support a healthy environment for Pleasanton residents to live, work, and play, the City will continue a number of ongoing efforts. They will continue to **implement water conservation, water quality, stormwater, and pollutant reduction programs** to preserve and protect the water supply. The City will also **support urban agriculture**, and **provide cooling centers** during extreme heat. Finally, the City will **support and in some cases expand community outreach and education programs**.



-  **BUILDINGS & ENERGY**

-  **TRANSPORTATION & LAND USE**

-  **MATERIALS & CONSUMPTION**

-  **NATURAL SYSTEMS**

-  **WATER & WASTEWATER**

-  **COMMUNITY RESILIENCE**

Orientation to Climate Solutions Sectors, Strategies and Actions

Orientation to Sectors and Strategies

Each sector (Buildings & Energy, Transportation & Land Use, Materials & Consumption, Natural Systems, Water Resources, and Community Resilience & Wellbeing) begins with a **two-page overview** of how the sector contributes to Pleasanton's carbon pollution and climate solutions.

- 1. Subheader:** The plan for the sector, in a nutshell
- 2. Introduction:** How the sector contributes to Pleasanton's climate pollution and what the City has done since 2012 to address it
- 3. Goal(s):** The outcome that Pleasanton intends to achieve and how progress will be tracked
- 4. Reductions:** The emissions reductions needed from the sector to achieve the 2030 target
- 5. Strategies:** Pleasanton's plan to accomplish goals in the sector, and the cumulative emissions reductions and other benefits expected from the sector through 2030
- 6. Actions:** The specific activities the City will implement; includes the cumulative costs or cost savings over a 10-year timeframe and cumulative emissions reductions expected through 2030. The 🏠 symbol indicates an action that indirectly supports emissions reduction



Buildings & Energy

1 Decarbonize buildings, expand the use of renewable energy sources, and use energy more wisely.



2

Buildings & Energy in Pleasanton

Building emissions come primarily from powering, heating, and cooling buildings, in particular increasing natural gas use.

- Pleasanton's second-largest source of emissions
- 30% of community emissions in 2017
- 20% of these emissions were from natural gas in 2017, and natural gas use increased 30% from 2005 to 2017

Performance since 2012

- Converted 5,400 sodium vapor streetlights to light emitting diodes (LEDs).
- Installed solar panels at four municipal buildings.

3

Buildings & Energy Goal(s)

Reduce GHG emissions from buildings and associated energy consumption and increase buildings and energy resilience which will result in cost savings, improved public health, and improved infrastructure.

Key Performance Indicators (vs. 2017)

- Reduce building emissions 31%, to ~123,000 MTCO₂e
- Reduce natural gas consumption 7%, to ~20,900,000 therms
- Maintain energy consumption despite population growth
- Reduce the carbon intensity of energy 100%, to 0 MTCO₂e/kWh
- Increase solar and battery permits
- Decrease municipal energy use

4

By 2030, 31% of emissions reductions will come from this sector.



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5

Strategy BE-1. Advance the decarbonization of buildings 285,900 MTCO₂e reduced

Pleasanton is now participating in EBCE's Renewable 100 program, ensuring all of Pleasanton is powered by 100% renewable energy and that low-income residents have access to discounted programs to keep energy affordable. Shifting electricity from natural gas to electric fuels in all new and existing buildings will address the biggest remaining source of building emissions—natural gas—and build a foundation for fully transitioning to carbon-free renewable energy. Making the transition to all-electric will support green job creation and improved indoor air quality, as natural gas equipment is replaced and new buildings are built electric. Paired with increased energy efficiency and small-scale renewable energy and storage, buildings will also become more resilient to fluctuations in energy supply.

E1. Maintain zero-emissions energy as the default EBCE choice for municipal operations	2,100
E2. Maintain zero-emissions energy as the default EBCE choice for the community	280,000
P1. All-electric reach code for new construction	12,000
P2. Existing Building Electrification Plan	17,000
S1. Refrigerant management in new construction	🏠

6

Strategy BE-2. Improve energy consumption and efficiency 9,200 MTCO₂e reduced

As the City electrifies buildings to ensure that they are powered with clean, renewable energy, Pleasanton can further reduce energy emissions right away by making homes and buildings more energy efficient. This strategy builds on the City's progress to date in financing, outreach, and partnerships in support of energy efficiency and conservation. Energy efficiency also has the added benefit of reducing energy bills for residents and businesses. These cost savings are particularly important for lower income residents and renters, who tend to face a disproportionately higher energy burden because they are more likely to live in older, less energy-efficient homes and apartment complexes.

Supporting Actions

P3. Modify Municipal Code definition of "covered projects"	1,300
S2. Community energy efficiency upgrades	8,300
S3. Energy benchmarking and City facility retrofits	350

Strategy BE-3. Expand use of renewable energy 300 MTCO₂e reduced

As the decarbonization strategy works to remove fossil fuel use from our buildings and the energy efficiency strategy works to reduce overall energy consumption, expanding the use of renewable energy will increase Pleasanton's general climate and energy resilience. The City will increase local renewable energy generation and storage to reduce reliance on the larger power grid and make the community less susceptible to potential energy shortages from climate impacts like heat waves. Expanding renewables and storage will increase community resilience during Power Safety Shut-off events and allow homes to maintain service during those times. The installation and maintenance of new solar technology will also support local green jobs. Equitable access to renewable energy technologies, such as residential solar panels, is important to successful implementation. The City can expand access through financial incentives and rebate programs that support residents in purchasing or leasing these technologies.

Supporting Actions

P4. Solar and storage on new construction	300
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Orientation to Actions

Following the two-page overview, the existing ongoing, primary, and secondary actions supporting each strategy are described in detail.

Existing ongoing actions either directly or indirectly support the emissions reductions goals of the CAP 2.0. The City is already implementing these actions and will continue to do so to meet its targets. GHG emissions and co-benefits were evaluated for these, but costs were not, as they are already contemplated in other plans and policies. These actions are denoted with an "E."

Primary actions are new actions in the CAP 2.0 that are primarily GHG mitigating actions. These actions are needed to meet emissions reduction targets. They will be implemented according to the implementation plan. These actions are denoted with a "P."

Secondary actions are new actions in the CAP 2.0 that are primarily resilience building actions. These actions will only be implemented as resources (e.g., staff time, grants, and other funding sources) and/or partnership opportunities become available. These actions are denoted with a "S."

Strategy BE-1. Advance the decarbonization of buildings

Existing Ongoing Actions

E1. Maintain zero-emissions energy as the default EBCE choice for municipal operations

Emissions reduction	2,200	City Cost	N/A
Co-benefits	Not assessed	Community Cost	N/A

Description of action

E2. Maintain zero-emissions energy as the default EBCE choice for the community

Emissions reduction	255,700	City Cost	N/A
Co-benefits	Not assessed	Community Cost	N/A

Description of action

Primary Actions

P1. All-electric reach code for new construction

Emissions reduction	10,100	City Cost	\$49k
Co-benefits		Community Cost	\$2.8 M saved

Description of action

P2. Existing Building Electrification Plan

Emissions reduction	16,500	City Cost	\$140k
Co-benefits		Community Cost	\$140k

Description of action

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CO-BENEFITS

	Increases resilience	Supports the ability of vital systems and the community to withstand or bounce back from climate change impacts and risks.
	Improves public health	Provides direct or indirect public health benefits, such as improved air and water quality or healthier lifestyles.
	Improves habitats and ecosystems	Positively affects natural systems, such as cleaner water or improved habitat.
	Advances racial and social justice	Fairly distributes social, environmental, and economic benefits and costs across the community in consideration of historically marginalized and underserved groups.
	Supports job creation	Likely to generate new jobs in Pleasanton.
	Improves mobility and transportation safety	Improves public transit reliability and equitable access, or helps residents and shipments move around more easily and safely.

3.2 Action Prioritization Process

The following process was used to develop the CAP 2.0 actions:

- 1 Develop initial set of actions**

An initial set of actions was prepared based on the CAP 1.0, current best practices and best available science, EEC workshop, peer cities, six focus groups, and community input. Importantly, all actions had to meet the three guiding principles of being **evidence-based, accountable, and actionable**.
- 2 Conduct qualitative analysis of actions**

To effectively rank the list of actions, actions were evaluated based on effectiveness, cost, feasibility, level of support, equity, and realization of co-benefits. The qualitative analysis highlighted the most promising CAP 2.0 actions. The actions were reviewed through **public hearings with several committees and commissions, meetings with the Chamber of Commerce, and a public workshop**. Based on the qualitative analysis and feedback received, approximately **50 actions** were recommended to move forward to a quantitative analysis, along with a suite of existing ongoing actions the City plans to continue.
- 3 Conduct quantitative cost-benefit analysis of existing ongoing and short list of actions**

For most actions, the potential **emissions reductions, costs (or cost savings)** to the City and community, and **City staff time** over the near-term (2022-2024), mid-term (2025-2028), and long-term (2029-2031). The cost-benefit analysis considered both start-up and ongoing costs and relied on published scientific literature, case studies, and expert opinion, including City staff input and consultation with peer cities, to conduct the analyses. Some actions were not modeled because they were not readily quantifiable, may have resulted in inconsequential GHG emissions reductions, or may have indirect benefits that do not result in emissions reductions. Results from the cost-benefit analysis are detailed in Sections 3.2 to 3.8. See Appendix A for the full analysis and results.
- 4 Finalize existing ongoing, primary, and secondary actions**

The EEC, community, and City Council reviewed the results of the quantitative analysis. Based on the results, a set of 16 new primary actions and 9 new secondary actions are included in the CAP 2.0. Secondary actions will be implemented as time and resources allow. Additionally, a set of existing ongoing actions will be continued through the life of the CAP 2.0 and are included for reference.



Guiding Principles

Actions in the CAP 2.0 must be:

- Evidence-based**

Actions rely on the best available scientific and local knowledge.
- Actionable**

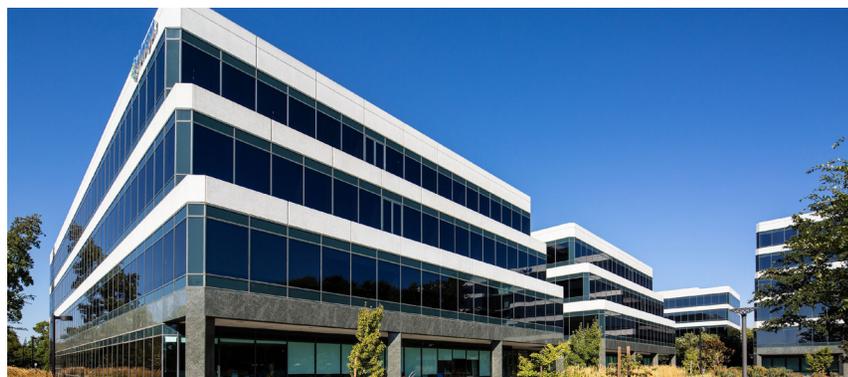
Actions are as ambitious as possible while being realistic about factors affecting implementation.
- Accountable**

Actions can be transparently evaluated, measured, and reported.



Buildings & Energy

Decarbonize buildings, expand the use of renewable energy sources, and use energy more wisely.



Buildings & Energy in Pleasanton

Building emissions come primarily from powering, heating, and cooling buildings, in particular increasing natural gas use.

- Pleasanton's second-largest source of emissions
- 30% of community emissions in 2017
- 20% of these emissions were from natural gas in 2017, and natural gas use increased 9% from 2005 to 2017

Performance since 2012

- Converted 5,400 sodium vapor streetlights to light emitting diodes (LEDs).
- Installed solar panels at four municipal buildings.

Buildings & Energy Goal(s)

Reduce GHG emissions from buildings and associated energy consumption and increase buildings and energy resilience which will result in cost savings, improved public health, and improved infrastructure.

Key Performance Indicators (vs. 2017)

Success will be monitored in the Buildings & Energy sector by tracking progress against the following key performance indicators:

- Reduce building emissions 38%, to ~110,000 MTCO₂e
- Reduce natural gas consumption 17%, to ~18,700,000 therms
- Maintain energy consumption despite population growth
- Reduce the carbon intensity of energy 100%, to 0 MTCO₂e/kWh
- Increase solar and battery permits
- Decrease municipal energy use

By 2030, 28% of local emissions reductions will come from this sector.



Strategy BE-1. Advance the decarbonization of buildings		331,500 MTCO₂e reduced
<p>Pleasanton is now participating in EBCE’s Renewable 100 program, ensuring a high degree of Pleasanton is powered by 100% renewable energy and that low-income residents have access to discounted programs to keep energy affordable. Shifting from natural gas to electric (e.g., heat sources in homes) in all new and existing buildings will address the biggest remaining source of building emissions—natural gas—and build a foundation for fully transitioning to carbon-free renewable energy. Making the transition to all-electric will support green job creation and improved indoor air quality, as natural gas equipment is replaced and new buildings are built electric. Paired with increased energy efficiency and small-scale renewable energy and storage, buildings will also become more resilient to fluctuations in energy supply.</p>		
Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)	
E1. Maintain zero-emissions energy as the default EBCE choice for municipal operations	2,200	
E2. Maintain zero-emissions energy as the default EBCE choice for the community	269,600	
P1. All-electric reach code for new construction	10,100	
P2. Existing Building Electrification Plan	49,500	
S1. Refrigerant management in new construction		

Strategy BE-2. Improve energy consumption and efficiency		9,900 MTCO₂e reduced
<p>As the City electrifies buildings to ensure that they are powered with clean, renewable energy, Pleasanton can further reduce energy emissions right away by making homes and buildings more energy efficient. This strategy builds on the City’s progress to date in financing, outreach, and partnerships in support of energy efficiency and conservation. Energy efficiency also has the added benefit of reducing energy bills for residents and businesses. These cost savings are particularly important for lower income residents and renters, who tend to face a disproportionately higher energy burden because they are more likely to live in older, less energy-efficient homes and apartment complexes.</p>		
Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)	
P3. Modify Municipal Code definition of “covered projects”	1,300	
S2. Community energy efficiency upgrades	8,300	
S3. Energy benchmarking and City facility retrofits	400	

Strategy BE-3. Expand use of renewable energy		2,300 MTCO₂e reduced
<p>As the decarbonization strategy works to remove fossil fuel use from our buildings and the energy efficiency strategy works to reduce overall energy consumption, expanding the use of locally generated renewable energy will increase Pleasanton’s general climate and energy resilience. The City will increase local renewable energy generation and storage to reduce reliance on the larger power grid and make the community less susceptible to potential energy shortages from climate impacts like heat waves. Expanding renewables and storage will increase community resilience during Power Safety Shut-off events and allow homes to maintain service during those times. The installation and maintenance of new solar technology will also support local green jobs.</p>		
Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)	
P4. Solar and storage on "covered projects"	2,300	

Strategy BE-1. Advance the decarbonization of buildings

Existing Ongoing Actions

E1. Maintain zero-emissions energy as the default EBCE choice for municipal operations

Emissions reduction	2,200	City Cost	N/A
Co-benefits		Community Cost	N/A

The City commits to maintain the highest renewable energy choice as the default for all municipal facilities, including opportunities to secure Power Purchase Agreements with other EBCE jurisdictions.

E2. Maintain zero-emissions energy as the default EBCE choice for the community

Emissions reduction	269,600	City Cost	N/A
Co-benefits		Community Cost	N/A

The City commits to maintain the highest renewable energy choice as the default for the community.

Primary Actions

P1. All-electric reach code for "covered projects"

Emissions reduction	10,100	City Cost	\$49k
Co-benefits		Community Cost	(\$2.7M)

The City will adopt an all-electric building reach code for new construction that limits the development of new gas infrastructure where economically feasible. The City will ensure solutions are equitably tailored to different building, ownership, and use types, which will require a cost-effectiveness evaluation and further outreach. Exceptions to the code will be considered.

P2. Existing Building Electrification Plan

Emissions reduction	49,500	City Cost	\$138k
Co-benefits		Community Cost	\$137k

The City will develop and implement an Existing Building Electrification Plan to advance electrification of buildings. This plan will be phased in over time to allow property owners time to adjust and plan for the transition. With this effort, the following should also be considered:

Grid Analysis/Improvements

- Work with EBCE, PG&E, and regional partners to ensure a robust regional electrical grid that minimizes the risk of power outages, increases storage, and reduces demand for diesel or gas generators. Partnerships should consider opportunities for local renewable generation and storage, consistent with Strategy BE-3.
- Conduct an existing building electrification analysis to identify areas of opportunities, building types, and prerequisites needed to make electrification cost-effective in the community.
- Consider feasibility for neighborhood microgrids (e.g., neighborhood solar and battery storage) to enhance grid resilience.

Municipal and Public Buildings

- Phase implementation of electrification into existing municipal buildings, consistent with Action S3.
- Partner with the school district to phase implementation of

electrification into school buildings.

Community Buildings

- Review and enhance permitting process to simplify the process (e.g., permit streamlining) as feasible to encourage adoption of electrification and energy storage back-up practices throughout the community.
- Leverage partnerships to provide financial incentives for existing residential and commercial building electrification (e.g., EBCE’s Resilient Home program), consistent with Action S2.

Outreach and Education

- Build a residential and business toolkit (e.g., permit guide) to identify the steps needed to electrify buildings (e.g., panel upgrades) and promote rebates and incentives (e.g., hot water heater replacements and induction cooking through EBCE and Bay Area Regional Energy Network [BayREN]) to encourage and simplify the electrification process of existing buildings.
- Work with local businesses and change agents to influence behavior in community.
- Work with local organizations (e.g., Bay East Association of Realtors) to promote energy programs to business and homeowners.

Metrics and Evaluation

- Build in evaluation metrics to determine progress towards meeting electrification goals.
- Stay apprised of existing building electrification regulations, studies, and regional efforts.

Secondary Actions

S1. Refrigerant management in new construction

Emissions reduction		City Cost	\$43k
Co-benefits		Community Cost	(\$262k)

The City will require that all new construction use the lowest global warming potential (GWP) refrigerants available for appliances and heating, ventilation, and air conditioning (HVAC) systems.

Strategy BE-2. Improve energy consumption and efficiency

Primary Actions

P3. Modify Municipal Code definition of “covered projects”

Emissions reduction	1,300	City Cost	\$0
Co-benefits		Community Cost	\$287k

The City will modify the Pleasanton Municipal Code (PMC) Green Building chapter to expand the definition of “covered projects” to cover all new commercial buildings and all new residential homes. Under the current PMC, the existing definition (which would be updated with P3) for a “covered project” means (1) construction of any City-sponsored project; (2) construction of any commercial project that includes 20,000 gross square feet or more of conditioned space; (3) renovation of any commercial project or City-sponsored project that adds 20,000 gross square feet or more of additional conditioned space, but not a renovation project that consists solely of interior improvements to an existing building; (4) construction of any single-family residential project that is 2,000 square feet or more in size; (5) construction of

any multi-family residential project; (6) construction of any mixed use project; (7) additions to residential projects where the addition is 2,000 square feet or greater; or (8) additions of any size to residential projects where the residential project was less than 2,000 square feet when built and it has been less than five years from the date the certificate of occupancy was issued. Covered projects do not include historic buildings or privately owned commercial or mixed use buildings within the boundaries of the downtown specific plan.

Secondary Actions

S2. Community energy efficiency upgrades

Emissions reduction	8,300	City Cost	\$958k
Co-benefits		Community Cost	(\$1.9M)

The City will promote use of energy efficiency improvements (e.g., window upgrades, LED lighting) communitywide through incentives, partnerships, and/or education and outreach, consistent with P16.

S3. Energy benchmarking and City facility retrofits

Emissions reduction	400	City Cost	(\$3.1M)
Co-benefits		Community Cost	\$0

The City will use the U.S. Environmental Protection Agency’s Energy Star Portfolio Manager tool (or other similar tools) to measure and track energy and water usage across City facilities. The City will assess the performance of individual facilities over time, identify opportunities for efficiency upgrades and cost savings across City facilities, and conduct energy retrofits of existing City facilities and equipment. To build local resilience to energy shortages, the City will work with regional partners (e.g., EBCE) to install solar and storage systems on municipal facilities

(e.g., parks, library) where they will be the most effective.

Strategy BE-3. Expand use of renewable energy

Primary Actions

P4. Solar and storage on "covered projects"

Emissions reduction	2,300	City Cost	\$0
Co-benefits		Community Cost	\$0

Within the PMC Green Building chapter, the City will require “covered projects” to include solar installation that meets the power needs of the new development if feasible. Where solar is being installed, the covered projects will also be required to install energy storage systems (e.g., battery storage). Additionally, the City will encourage solar water heaters for “covered projects” and consider the feasibility of requiring solar water heaters within “covered projects.”



Transportation & Land Use

Advance vehicle decarbonization, alternative transportation, and sustainable land use.



Transportation & Land Use in Pleasanton

Transportation emissions come primarily from driving cars and light trucks, in particular on-road single occupancy vehicles.

- Pleasanton's largest source of emissions
- 64% of community emissions in 2017

Performance since 2012

Since 2012, Pleasanton has taken the following steps to reduce GHG emissions from the Transportation & Land Use sector.

- Doubled the amount of Class I bicycle paths and increased the Class II bicycle lanes from 27 to 40, including completion of the Iron Horse Trail through Hacienda Business Park and Johnson Drive Canal underpass to connect to Dublin.
- Supported the implementation of the LAVTA Rapid bus that increased transit ridership and reduced travel time to and from BART Station.
- Modified the PMC to require new residential developments within 1/2 mile of transit to offer discounted transit passes as part of HOA amenities.

Transportation & Land Use Goal(s)

Reduce GHG emissions from transportation and land use which will enhance community mobility, improve public health, and result in cost savings.

Key Performance Indicators (vs. 2017)

Success will be monitored in the Transportation and Land Use sector by tracking progress against the following key performance indicators:

- Reduce per-capita VMT 6%, to ~4,600 VMT per capita
- Reduce the average carbon intensity of passenger vehicles 51%, to 0.17 kg CO₂e/mile
- Increase electric vehicle charger permits
- Increase electric vehicles in municipal fleet
- Increase miles of bicycle lanes built
- Increase public transit ridership
- Increase percent of workforce that lives in Pleasanton

By 2030, 83% of local emissions reductions will come from this sector.



Strategy TLU-1. Advance vehicle decarbonization	391,500 MTCO₂e reduced
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The City of Pleasanton will expand existing zero-emissions vehicle (ZEV) fueling infrastructure throughout the community and transition the municipal fleet to EVs. Even with shifts toward active and public transportation, many community members in Pleasanton will still own or lease cars due to proximity and convenience. Acknowledging that car use will continue to persist (and perhaps dominate), this strategy is pivotal to reducing Pleasanton’s emissions. By engaging the local community, including school districts and regional organizations, the City of Pleasanton will educate key audiences and identify funding partnerships to support the switch to ZEVs (e.g., electric or hydrogen-fuel celled vehicles). This switch will not only reduce local GHG emissions, but also improve local air quality—especially near major roadways.

Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)
P5. ZEV Infrastructure Plan	315,300
P6. Electrify municipal small engine equipment and reduce emissions of off-road equipment upon replacement	
P7. Electrify community small engine equipment	76,200

Strategy TLU-2. Advance active, shared, and public transportation	31,400 MTCO₂e reduced
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Through continued work to support the Valley Link project and implement the City’s Trail Master Plan, Bicycle & Pedestrian Master Plan, and Complete Streets program, the City is actively integrating accessible infrastructure that accommodates multiple modes of transportation. The City will continue to expand bicycle infrastructure, encourage transit ridership, and invest in school programs that reduce VMT for curricular and co-curricular activities. The City’s investments in active, shared, and public transportation must expand into all areas of the city, and ensure reliable access to alternative transportation options. Convenience, affordability, and ease of use are imperative to the success of alternative transportation programs, as options that are inconvenient and difficult to navigate will likely not be used.

Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)
E3. Bicycle & Pedestrian Master Plan and Trails Master Plan	5,900
E4. Regional transit support	4,800
E5. Complete Streets implementation	1,000
P8. Bicycle amenities	1,800
P9. Bicycle rack incentive program	1,600
P10. Increase transit ridership	4,600
S4. VMT reduction for K-12 activities	11,700

Strategy TLU-3. Advance sustainable land use	32,600 MTCO₂e reduced
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Since Pleasanton’s population and job base is expected to increase, General Plan Housing Element implementation and LEED ND will be essential to support not only responsible community development, but reduce VMT and provide access to active and/or shared transportation. This strategy will prioritize housing near transit and job centers and encourage sustainable land development for new projects that get built. Current hurdles to active and public transit include convenience and accessibility linked to land use patterns in Pleasanton. Some of these issues can be solved for future development through conscious efforts to develop with sustainable principles from plan concept to implementation.

Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)
E6. Housing Element implementation	17,200
P11. Promote LEED Neighborhood Development	15,300



Strategy TLU-1. Advance vehicle decarbonization

Primary Actions

P5. ZEV Infrastructure Plan

Emissions reduction	315,300	City Cost	\$218k
Co-benefits		Community Cost	(\$31k)

The City of Pleasanton will develop and implement a ZEV Infrastructure Plan that strategically expands EV and other zero emissions fueling infrastructure throughout the community, electrifies portions of the municipal fleet, and bolsters community outreach and funding. As a part of this effort, the following should also be considered:

Infrastructure Analysis

- Review existing alternative fuels infrastructure to identify gaps (e.g., location and quantity of EV charging).
- Work with regional partners to create a job training program to expand trade knowledge around electric and zero emissions fueling alternative vehicles.
- Support regional organizations (e.g., EBCE and LAVTA) and other regional efforts to transition medium and heavy-duty trucks to electric and other ZEV (e.g., hydrogen-fuel celled vehicles).

Municipal Fleet

- Collaborate with EBCE to establish and implement a plan that guides municipal fleet transition to all-electric in the coming decade.

Community Infrastructure

- Update, adopt, and implement the EV Charger and Parking Ordinance requiring alternative vehicle parking and charging infrastructure for non-residential properties.
- Modify the PMC section requiring new housing units (e.g., apartments, condominiums, mixed use units, and single-family residences) include EV charging capabilities (e.g., in a SFR this may include a 220V outlet in the garage or for an apartment complex it may require several tenant charging stations).
- Expand publicly available EV infrastructure as indicated in the ZEV Infrastructure Plan, which may include installing EV chargers on municipal properties (e.g., parks, library, senior center). This may also include collaborating with schools to expand EV infrastructure on school properties.
- Collaborate with existing gas stations to encourage installation of EV and alternative carbon free fueling stations.
- Provide preferential parking for ZEVs in public parking lots.

Education, Outreach, and Funding

- Conduct an education and outreach campaign in the community and in high schools about electric vehicles, consistent with P16.
- Partner with regional organizations (e.g., EBCE) to promote incentives and rebates for ZEVs including EVs and electric bicycles. This may include identifying grant funds to help replace private vehicles with ZEVs, with a focus on supporting ZEV purchases for low-income demographics.
- Partner with businesses and employers, especially those with large vehicle fleets, to accelerate ZEV adoption.
- Provide alternative financial models for City-owned EV charging, including sliding scales and Electronic Benefits Transfer (EBT) card features.

P6. Electrify municipal small engine equipment and reduce emissions of off-road equipment upon replacement

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	\$0

The City has already made significant progress to reduce emissions from off-road transportation. To further reduce those emissions, the City will identify municipal off-road equipment (e.g., mowers, chippers, tractors) that fall below current emissions standards and switch to lower-emissions alternatives upon replacement. City staff are encouraged to consider prioritizing high-emissions equipment for replacement. Further, the City will work with regional partners and local organizations (e.g., the Tri Valley Air Quality Community Alliance) to monitor advancements around battery technology in small-engine options and transition City operations to electric landscaping equipment when feasible.

P7. Electrify community small engine equipment

Emissions reduction	76,200	City Cost	\$0
Co-benefits		Community Cost	(\$2.4M)

To build on the City’s success significantly reducing off-road transportation emissions, the City will partner with local organizations to provide incentives to the community to purchase all-electric small-engine equipment (e.g., lawn mowers, leaf blowers) and will continue to investigate opportunities to incorporate all-electric small equipment in large-scale commercial projects. This will include a feasibility study to identify and implement a pathway to reduce citywide offroad construction equipment GHG emissions by 50% (e.g., adding conditions of approval). This action may also include a gas-powered leaf blower ban, consistent with new statewide legislation (AB 1346).

Strategy TLU-2. Advance active, shared, and public transportation

Existing Ongoing Actions

E3. Bicycle & Pedestrian Master Plan and Trails Master Plan

Emissions reduction	5,900	City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to implement the Bicycle & Pedestrian Master Plan and Trails Master Plan, with an emphasis on closing bicycle, pedestrian, and trail network gaps. Under the Trails Master Plan, trail miles will nearly double from 80 to 159 miles.

During implementation, the City will:

- Continue to implement existing programs as part of this process (e.g., the Commendable Commute program, which collaborates with employers to provide incentives as part of transportation demand management (TDM) programs to encourage alternative modes of travel and reduce single-occupant vehicle use).
- Encourage development project amenities (when amenities are required) to include contribution of funds or land to further the trails network as outlined in the Trails Master Plan and bicycle and pedestrian networks as in the Bicycle & Pedestrian Master Plan.
- Support the expansion of the complete streets network as outlined in the Bicycle & Pedestrian Master Plan with a focus on designated and protected bike lanes to businesses, parks, and schools.
- Prioritize City contributions to building and expanding networks and improving public access to open space and waterways.
- Report progress indicators such as miles of new bike lanes in CAP 2.0 monitoring.

E4. Regional transit support

Emissions reduction	4,800	City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue working with regional partners to support the Valley Link project. This new rail line will connect the Bay Area to northern San Joaquin County with seven new stops between the Dublin/Pleasanton BART station and the North Lathrop ACE station. Valley Link will increase connectivity to jobs, housing, and people within the Tri Valley and beyond, and serve as a model of sustainability in its design, construction, and operation.

E5. Complete Streets implementation

Emissions reduction	1,000	City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue implementing the City's Complete Streets program to ensure transportation improvement projects include multimodal elements and maintain safe and convenient street travel.

Primary Actions

P8. Bicycle amenities

Emissions reduction	1,800	City Cost	\$0
Co-benefits		Community Cost	\$2.4M

The City will update the PMC to require showers, lockers, changing areas, bike parking, and protected bicycle storage for new commercial developments of a certain size; and commercial, mixed-use, and multi-family projects to install bicycle parking (consistent with the Bicycle &

Pedestrian Master Plan recommended programs 6.4.2 (2) and 6.6.2 (1)).

P9. Bicycle rack incentive program

Emissions reduction	1,600	City Cost	\$8k
Co-benefits		Community Cost	(\$777k)

The City will develop and implement a citywide bicycle rack request program that receives requests from businesses and residents to install bicycle racks free of charge on public property next to business properties (consistent with the Bicycle & Pedestrian Master Plan recommended policy 4-2). The City will maintain an inventory of installed bicycle racks.

P10. Increase transit ridership

Emissions reduction	4,600	City Cost	\$75k
Co-benefits		Community Cost	(\$585k)

The City will partner with transit agencies (e.g., BART, ACE, and LAVTA) to improve access across the city. Improving access across the city should consider the following:

- Provide convenient connections to destinations throughout the city (e.g., BART to Main Street and ACE to Hacienda).
- Provide connections between transit facilities and the bicycle and trail network.
- Ensure sufficient transit connections to higher-density areas that currently have low or limited access to transit.
- Enhance secure bicycle parking at transit stations and major bus stops.

Secondary Actions

S4. VMT reduction for K-12 activities

Emissions reduction	11,700	City Cost	\$571k
Co-benefits		Community Cost	(\$6.3M)

The City of Pleasanton will explore opportunities to reduce VMT related to K-12 curricular and extra-curricular activities. As part of this effort, the following should be considered:

- Partner with school districts and clubs to encourage active transportation (i.e., walking and bicycling) and carpooling to schools and after-school activities (e.g., sports).
- Partner with school districts to create a bicycle safety course that can be integrated into the curriculum (e.g., physical education class or otherwise).
- Partner with the California Air District on the anti-idle campaign and working with schools to reduce idling.
- Adjust traffic signals to prioritize those walking and cycling around schools.
- Explore and encourage potential school bus ridership options.
- Incentivize and encourage electric bicycle usage.

Strategy TLU-3. Advance sustainable land use

Existing Ongoing Actions

E6. Housing Element implementation

Emissions reduction	17,200	City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to support General Plan Housing Element implementation including aiming to achieve a balance between jobs and housing. This action includes working with regional partners to prevent displacement and increase affordable housing, and encouraging transit-oriented development near BART stations, along transportation corridors, and in business parks/near employment hubs.

Primary Actions

P11. Promote LEED Neighborhood Development

Emissions reduction	15,300	City Cost	\$1k
Co-benefits		Community Cost	(\$850k)

The City of Pleasanton will promote and encourage the use of LEED ND as new developments are proposed and redevelopment occurs in the city. It may be added to the CAP checklist for new development.

This action could also include introducing a more general mechanism to prioritize development applications with low GHG impacts.



Materials & Consumption

Reduce waste and promote sustainable consumption.



Materials & Consumption in Pleasanton

Materials and consumption emissions come primarily from solid waste collection and processing. Consumption-based emissions were not measured.

- 5% of community emissions in 2017

Performance since 2012

Since 2012, Pleasanton has taken the following steps to reduce GHG emissions from the Materials & Consumption sector.

- Expanded residential yard and food waste collection program to multi-family residences.
- Expanded commercial curbside recycling to include organics.

Materials & Consumption Goal(s)

Reduce GHG emissions from materials management and consumption which will support regional waste reduction efforts.

Key Performance Indicators (vs. 2017)

Success will be monitored in the Materials & Consumption sector by tracking progress against the following key performance indicators:

- Reduce waste in landfills by 8%, to ~93,800 tons annually
- Track per-capita waste generated across all streams

13% of local emissions reductions will come from this sector



Strategy MC-1. Increase waste diversion and optimize collection and disposal systems	135,100 MTCO₂e reduced
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Waste collection and processing release a significant amount of methane gas, a greenhouse gas with a global warming potential 84 times greater than carbon dioxide. Diverting waste from the landfill and optimizing collection and disposal not only reduces processing emissions, it increases the supply of recycled and composted content available for a variety of uses and helps improve local air and soil quality.

Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)
E7. SB 1383 implementation	135,100
E8. Outreach and education	
P12. Single use plastic reduction	

Strategy MC-2. Enhance sustainable production and reduce consumption	Supports emissions reduction
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Recognizing the significant GHG emissions from consumption must ultimately be reduced through consumer behavior change, efforts to reduce barriers to and incentivize sustainable consumption are essential to meaningful reductions in consumption-based emissions. Sustainable consumption can increase waste diversion, which supports local air and soil quality improvements. It also supports the local economy and can strengthen social ties and financial resilience as communities rely more on local businesses.

Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO₂e)
E9. Local purchasing	
E10. Textile recovery	
S5. Environmentally preferable purchasing policy	
S6. Embodied Carbon Reduction Plan	

Strategy MC-1. Increase waste diversion and optimize collection and disposal systems

Existing Ongoing Actions

E7. SB 1383 implementation

Emissions reduction	135,100	City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to implement SB 1383, which includes establishing a robust food recovery program, developing an implementation plan to reduce methane emissions by decreasing organics in the landfill, and increasing education and outreach around compliance.

E8. Outreach and education

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will build upon existing outreach and education efforts around reducing waste generation, educating about proper sorting, and increasing waste diversion to bolster understanding of ways to reduce the amount of waste that ends up in landfills.

Primary Actions

P12. Single-use plastic reduction

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	\$0

The City will continue to explore viable paths to reduce single-use plastic, working with key regional partners such as StopWaste. Actions aimed at reducing single-use plastics are popular in the community and benefit both human and ecosystem health. The City can support businesses in the transition to sustainable products to address potential business concerns. As part of this effort, the following should be considered:

- Update the PMC to require large and special events producers to provide and use reusables, provide recycling and composting infrastructure, and divert waste from landfill after the event.
- Work with regional partners to promote participation in waste reduction and reusable programs (e.g., ReThink Disposables), for businesses to incorporate more reusable food ware.
- Implement a citywide ordinance that reduces single-use plastics, and enhances the use of reusable products, particularly food and drink ware.

Strategy MC-2. Enhance sustainable production and reduce consumption

Existing Ongoing Actions

E9. Local purchasing

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue its ongoing efforts to promote local purchasing for businesses and residents to support local vendors, services, and stores and to reduce GHG emissions from commerce-related transportation, food production, and distribution.

E10. Textile recovery

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will implement textile recovery drop-off service as outlined in the City's Franchise Agreement with PGS. This service will support waste diversion goals and provide convenient means for residents and businesses to donate used textiles. This action will support SB 1383 implementation (Action E7).

Secondary Actions

S5. Environmentally preferable purchasing policy

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	\$0

Using existing resources provided by Alameda County, the City will adopt an Environmentally Preferable Purchasing Policy that includes alternatives for the most carbon-intensive materials the City purchases, such as building materials (e.g., concrete, metals). This policy will complement local purchasing (Action E9) to further support local businesses and support SB 1383 implementation (Action E7).

S6. Embodied Carbon Reduction Plan

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	(\$89k)

The City will participate and support a regional Embodied Carbon Reduction Plan that uses a variety of approaches to reduce the total lifecycle carbon footprint of materials (i.e., that considers the carbon footprint of raw materials, manufacturing, transportation, use, and disposal of products).

The regional Embodied Carbon Reduction Plan should consider:

- Whole building lifecycle analysis for new construction and incentives for achieving reductions
- Participation in regional efforts to build local supply chains and economic opportunities
- Partnerships to promote low-carbon products
- Encouraging carbon-smart and recycled building materials
- A low-carbon concrete requirement
- Education campaigns and resources



Natural Systems

Store more carbon on resilient natural landscapes.



Natural Systems in Pleasanton

Natural systems store significant amounts of carbon in leaves, trees, and soil. There is no estimate currently available of the carbon storage capacity of Pleasanton's natural systems.

- 700 acres of undeveloped open space

Performance since 2012

Since 2012, Pleasanton has taken the following steps to reduce GHG emissions via the Natural Systems sector.

- Distributed rebates for sustainable land management.
- Supported sustainability retrofits of irrigation and landscaping systems.
- Replaced or installed xeriscaping.

Natural Systems Goal(s)

Offset GHG emissions by fostering resilient natural landscapes that improve habitats, ecosystems, and public health.

Key Performance Indicators (vs. 2017)

Success will be monitored in the Natural Systems sector by tracking progress against the following key performance indicators:

- Increase carbon sequestration ~1,000 net MTCO_{2e} in 2030
- Increase tree canopy
- Increase trees planted

By 2030, 1% of local emissions reductions will come from this sector.



Strategy NS-1. Increase and optimize carbon sequestration, improve ecosystem resilience

5,100 MTCO₂e reduced

The GHG emissions reductions needed to achieve per capita carbon neutrality by 2045 are significant. Even with significant emissions reductions, carbon sequestration (i.e., storing carbon in soil, trees, and vegetation) is a critical piece of meeting the City’s targets. Carbon sequestration can offset emissions that may persist and be challenging to remove (e.g., natural gas from industries that do not currently have alternative fuel options). The City maintains a significant amount of open and green spaces, including parks, medians, the golf course, and hillsides so this strategy represents a significant opportunity for Pleasanton to offset emissions. Successful sequestration and ongoing sustainable land management will also restore and improve ecosystem resilience, alleviating the pressure and stress on Pleasanton’s natural systems from global climate change and localized extreme heat, water shortages, pesticide use, and land development.

Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO ₂ e)
E11. Pesticide Posting Program	
E12. Municipal landscape management practice	
E13. Sustainable land management education	
P13. Urban Forest Master Plan	1,200 ¹
P14. Soil management carbon sequestration projects	3,900 ¹
S7. Carbon sequestration research and tracking	

¹ Represents carbon sequestration

Strategy NS-1. Increase and optimize carbon sequestration and improve ecosystem resilience

Existing Ongoing Actions

E11. Pesticide Posting Program

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to implement the Pesticide Posting Program and follow their Integrated Pest Management Program, using notices and signage to inform the public of ongoing pest management operations.

E12. Municipal landscape management practice

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to manage the amount, source, placement, and timing of plant nutrients and soil amendments in City parks, green spaces, and natural areas through actions such as applying recycled wood mulch from tree trimmings into planters, medians, and tree wells and leaving green waste on-site to the extent feasible.

E13. Sustainable land management education

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will build upon existing land management education such as continuing the City's Environmental Services Water Conservation efforts. For example, encouraging lawn conversion and improving

landscape design through sheet mulching will reduce water use, support native habitats, and preserve the aesthetic benefits of well-designed outdoor spaces.

Primary Actions

P13. Urban Forest Master Plan

Emissions reduction	1,200 ¹	City Cost	\$486k
Co-benefits		Community Cost	\$470k

The City will develop and implement an Urban Forest Master Plan that includes best practices for tree health and maintenance and reevaluates community tree regulations. The plan should aim to protect and increase tree canopy and native habitat, and to ensure trees are replanted with a "right-sized tree" sufficient minimum soil volume to thrive. As part of this effort, the following should be considered:

- Consider a community planting program that incentivizes the community to increase the quantity of trees planted throughout the city on private property.
- Create a community guide with information on the benefits of canopy cover, appropriate species (e.g., climate-adapted, drought-tolerant, and carbon sequestering species), and proper planting practices. For example, trees adjacent to channels should be properly sized and sited as to not impair the function or maintenance of channels.
- Modify the municipal code as needed to require climate adapted plantings for projects of a certain size, facilitate tree planting throughout the city, and discourage tree removal.

¹ Represents carbon sequestration.

- Partner with the school districts to increase tree canopy on school campuses.
- Continue to partner with local organizations (e.g., Go Green Initiative and Living Arroyos) to encourage increased tree canopy and native habitat throughout the city.
- Consider a tree well renovation program to increase soil volume for existing city trees and a plan to relieve rooting area compaction.
- Update the City tree well standard as needed to provide sufficient rooting space for trees.

P14. Soil management carbon sequestration projects

Emissions reduction	3,900 ¹	City Cost	\$35k
Co-benefits		Community Cost	\$2.8M

The City will increase its carbon sequestration potential throughout the city to offset emissions, increase drought- and flood-resistance of soil, and further SB 1383 compliance. As part of this effort, the following should be considered:

Public Lands

- Implement carbon sequestration projects on City property where feasible (e.g., soil at City parks, golf courses, and open spaces).
- Reduce the use of synthetic fertilizer by amending soil with compost and protecting soil with mulch on new landscape installations.
- Partner with Zone 7 Water Agency, East Bay Regional Park District, StopWaste, and other public agencies to expand sequestration potential on public lands within the city’s boundaries.

¹ Represents carbon sequestration.

Private Lands

- Subsidize the cost of compost to encourage use of compost throughout the city on private property.
- Partner with Alameda County Resource Conservation District to implement carbon sequestration projects on working lands.
- Increase awareness of the benefits of land carbon sequestration through education campaigns, consistent with P16.

Secondary Actions

S7. Carbon sequestration research and tracking

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	\$0

The City of Pleasanton will work with regional partners such as StopWaste and neighboring jurisdictions to develop methods to track carbon sequestration in the urban landscape. The City will stay apprised of leading research and technological advancements available that mechanically and naturally capture and/or remove carbon (e.g., direct air capture and carbon sequestration).



Water Resources

Improve stormwater resilience, water supply, and conservation.



Water Resources in Pleasanton

Water-related emissions come primarily from providing drinking water and treating wastewater. Water uncertainty and increased flooding are among Pleasanton's major climate vulnerabilities.

- Pleasanton's smallest source of inventoried emissions
- Less than 1% of community emissions in 2017

Performance since 2012

Since 2012, Pleasanton has taken the following steps to reduce GHG emissions from the Water Resources sector.

- Installed over 20,000 new AMI smart water meters and retrofitted 500 existing meters.
- Installed "smart" irrigation systems throughout 80 acres of City-owned land.

Water Resources Goal(s)

Reduce GHG emissions from water usage (including conveyance) and prepare community water resources for a changing climate which will result in cost savings, enhance water quality and availability, improve infrastructure, and increase resiliency.

Key Performance Indicators (vs. 2017)

Success will be monitored in the Natural Systems sector by tracking progress against the following key performance indicators:

- Maintain per-capita water consumption electricity usage to 23 kWh per service person.
- Decrease water used by community
- Decrease municipal water used
- Increase community use of water conservation programs

By 2030, this sector will improve the efficiency of water systems and build resilience to water insecurity.





Strategy WR-1. Improve water supply & increase conservation	Supports emissions reduction
<p>Water is the foundation of life, and Pleasanton has already experienced mandated water cuts due to drought conditions. The City will continue to prioritize a sustainable, healthy water supply and storage, building on the success of existing programs such as the Controller Assistant Program and Water Conservation Program. Continued success in water efficiency and conservation also ensures enough water for natural systems, increasing both ecosystem and community resilience.</p>	
Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO ₂ e)
E14. Controller assistant program	
E15. Smart water meter installation	
E16. Water Conservation Program	
P15. Water efficiency and retrofits	

Strategy WR-2. Improve stormwater resilience	Supports emissions reduction
<p>To maximize water reuse and efficiency, the City will increase stormwater infrastructure resilience to prepare for changes to flow and quality. By capturing stormwater, the City can both help to reduce flooding impacts of heavy rainfall periods and improve local water supplies. These benefits support community health, reduce water bills, may increase water availability for ecosystems, and may bring more green jobs to Pleasanton.</p>	
Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO ₂ e)
E17. On-site stormwater management	
S8. Green Stormwater Infrastructure Plan	

Strategy WR-1. Improve water supply & increase conservation

Existing Ongoing Actions

E14. Controller assistant program

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to provide the controller assistance program to Pleasanton residents. Through this program, City staff visit residents' homes and help them adjust their water controller to ensure they are watering their landscapes an appropriate amount and at optimal times of the day.

E15. Smart water meter installation

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

To protect against current and future water waste that could put both ecosystems and public health at risk, the City will continue to monitor and provide outreach to the community regarding their water leaks based on their smart water meter data.

E16. Water Conservation Program

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to promote its Water Conservation Program which provides water use related rebates, workshops, and outreach to the community.

Primary Actions

P15. Water efficiency and retrofits

Emissions reduction		City Cost	\$1.6M
Co-benefits		Community Cost	(\$4.6M)

The City will expand incentives to reduce water use. Incentives may include, but are not limited to:

- Partner regionally with Zone 7 Water Agency to expand incentives and direct install programs to retrofit inefficient water fixtures in existing properties.
- Enhance existing incentives and rebates for native and drought-tolerant residential and commercial landscaping.
- Introduce a grass lawn/turf replacement program incentivizing the use of compost and mulch to smother turf in place through sheet mulching. This eliminates the need to send turf to landfill, avoids herbicide use, and increases carbon sequestration which supports Action E7 and P14.

Strategy WR-2. Improve stormwater resilience

Existing Ongoing Actions

E17. On-site stormwater management

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to require new developments of a certain size to have on-site stormwater management and minimal hardscape as regulated by the Alameda Countywide National Pollutant Discharge Elimination System (NPDES).

Secondary Actions

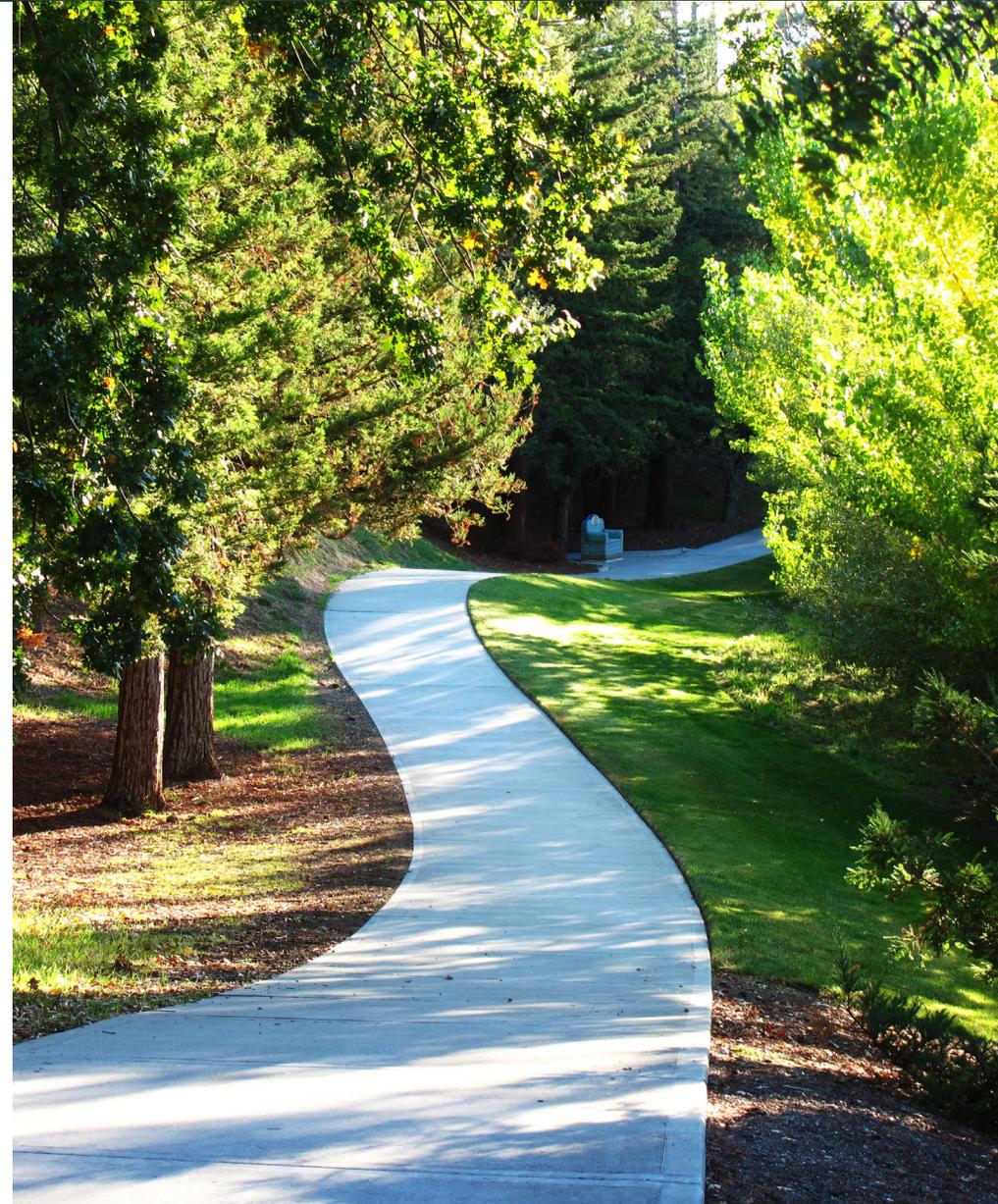
S8. Green Stormwater Infrastructure Plan

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	\$0

To further support on-site stormwater management (Action E17) and sustainable infrastructure (Actions P3 and P11), the City will participate and support regional Green Stormwater Infrastructure Planning efforts that build off and support the City's NPDES permit to ensure a sustainable approach for managing stormwater runoff. The City can use the Green Stormwater Infrastructure Planning Level Analysis for Livermore-Amador Valley as a tool to inform efforts and choose the most cost effective and beneficial strategies.

The efforts may include the following:

- Replace traditional grey infrastructure with bioretention areas, green roofs, permeable pavement, and rainwater catchment.
- Explore retrofit opportunities and integration of green infrastructure into existing and new City facilities.
- Incorporate green infrastructure and stormwater management into infrastructure projects (e.g., rainwater harvesting, permeable pavements, and green roofs).
- Ensure future infrastructure and retrofits are adequately sized to be able to handle future flows and storms exacerbated by climate change.





Community Resilience & Wellbeing

Strengthen community resilience and reduce vulnerability to climate change.



Community Resilience in Pleasanton

Pleasanton is expected to face more extreme weather such as flooding and heat waves, increased water uncertainty, and increased risk from wildfire, especially smoke. These vulnerabilities will stress public infrastructure, water provision, natural systems, and public health. ¹

Performance since 2012

Since 2012, Pleasanton has taken the following actions to strengthen community resilience.

- 14 businesses participating in the Alameda County Green Business Program.
- Hosted dozens of free community events, sustainability lectures, and workshops.
- Participated in Sustainability Circles, a comprehensive 6-month peer-learning program that embeds sustainable practices in organizations.

¹ For more information, please see the Pleasanton Climate Vulnerability Assessment, available on the CAP 2.0 webpage (accessed August 16, 2021).

- Provided emergency preparedness training for the community through the Livermore-Pleasanton Fire Department (LPFD).
- Began using evacuation software ZoneHaven to coordinate efficient evacuation if needed and AC Alert to improve emergency notifications to the community.

Community Resilience Goal(s)

Prepare for climate and non-climate emergencies and integrate climate considerations across City and community decision-making.

Key Performance Indicators (vs. 2017)

- Population has access to a cooling center
- Increase community preparedness training participation

2030, 3% of emissions reductions will come from this sector.





Strategy CRW-1. Improve community resilience & reduce vulnerability to climate change		26,200 MTCO ₂ e reduced
<p>Climate change is global, but it is felt at the local level. In Pleasanton, we have experienced poor air quality due to wildfires, mandatory water usage cuts due to droughts, and increased temperatures. Access to programming that supports, educates, and improves the quality of life for the most vulnerable communities is essential to improve resilience and prepare communities for climate impacts. Existing programs encourage active lifestyles and green space, which enhance public health. To continue to support healthy communities, the City of Pleasanton will maintain current community resilience programs and dedicate resources to comprehensive climate awareness, education, and outreach, both of which are critical to understanding how to prepare for climate change and the consequences of inaction.</p>		
Supporting Actions	Cumulative Emissions Reduced through 2030 (MTCO ₂ e)	
E18. School climate action planning		
E19. Access to green spaces		
E20. Community cooling centers		N/A
E21. Community gardens		
P16. Comprehensive climate awareness, education, and outreach	26,200	
S9. Wildfire preparation, prevention, and education		

Strategy CRW-1. Improve community resilience and reduce vulnerability to climate change

Existing Ongoing Actions

E18. School climate action planning

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to partner with schools (e.g., provide funding and staff capacity) and support the activities of the climate action groups at schools, including connecting them to resources from GoGreen Initiative, StopWaste, and California Youth Energy Services.

E19. Access to green spaces

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to partner with local organizations to increase awareness of and access to green spaces and outdoor recreation for all residents.

E20. Community cooling centers

Emissions reduction	N/A	City Cost	N/A
Co-benefits		Community Cost	N/A

To address one of Pleasanton’s major climate vulnerabilities—extreme heat—the City will continue to maintain adequate and accessible cooling centers and work with Alameda County to ensure sufficient notification systems are in place to notify residents of extreme heat events and

available transportation routes to cooling centers. Potential locations include schools, City buildings, other public buildings, and multi-purpose rooms. These buildings should be considered high priority to address electrification, solar, and battery storage back-up in Action P2.

E21. Community gardens

Emissions reduction		City Cost	N/A
Co-benefits		Community Cost	N/A

The City will continue to partner with nonprofits, school districts, low-income communities, and underrepresented communities to expand urban agriculture opportunities (e.g., Bernal Community Farm) in community gardens, schools, parks, and on rooftops. The City will prioritize and promote programs that teach residents how to garden.

Primary Actions

P16. Comprehensive climate awareness, education, and outreach

Emissions reduction	26,200	City Cost	\$119k
Co-benefits		Community Cost	\$0

The City will implement comprehensive climate awareness, education, and outreach. The City should engage the community through several methods including in-person, mail (e.g., utility bills), on television, and online. In doing so, the City will consider all potential climate campaigns associated with CAP 2.0 implementation and phase campaigns over time accounting for staffing, resources, and balancing other community messaging to ensure feasibility. The City should leverage partnerships (e.g., Living Arroyos and Go Green Initiative) to achieve outreach goals. Outreach materials should be translated to Spanish, Chinese, and other commonly spoken languages in the community as identified by the Public Information Officer.

The City’s expanded efforts may include:

- Develop and implement an empowerment program that helps residents, businesses, neighborhood leaders, and visitors reduce their personal carbon footprint and improve climate literacy. The program should consider including a carbon footprint calculator that generates a list of actions to reduce emissions at the household level and creating competitions to encourage adoption of programs.
- Develop a Library and Recreation Department program dedicated to conservation and stewardship projects for varying age groups, expanding upon existing programs (e.g., Ridge Runner, Arbor Day, and future bee and butterfly gardens programs).
- Create “sustainability awards” presented by the City Council during Earth Week to recognize community efforts and increase climate awareness. The community could also play a role in nominating “green” efforts throughout the city for business operations, development projects, and individual efforts throughout the city.
- Consider preparation of a checklist comparing LEED with CALGreen to simplify the process for development applications.
- Bolster education around community preparedness including using ZoneHaven, signing up for AC Alert, and participating in Family Disaster Preparedness training and Community Emergency Response Team (CERT) through LPPD.

Secondary Actions

S9. Wildfire preparation, prevention, and education

Emissions reduction		City Cost	\$0
Co-benefits		Community Cost	\$0

The City will increase wildfire resilience through a range of prevention and preparation initiatives. Together, these initiatives will address one of Pleasanton’s greatest sources of climate vulnerability—wildfire and wildfire smoke—to increase resilience, support ecosystem health, and reduce exposure to wildfire smoke.

As part of these efforts, the City will:

- Leverage existing outreach and education campaigns and work with local organizations, (e.g., California Department of Forestry and Fire Protection [CalFire], Firewise, and Tri-Valley Air Quality Community Alliance) to increase awareness of homeowner actions to reduce and mitigate wildfire risk (e.g., create defensible space, reduce fuel loads, clean out leaves in rain gutters).
- Expand and improve targeted community messaging on how to respond to heat risks and poor air quality due to smoke.
- Work with regional partners to modify development regulations and codes and implement retrofit programs to increase resilience to wildfires.
- Work with CalFire and other partners to identify and implement controlled burns and other means to reduce combustible biomass and improve early wildfire detection for the city.
- Explore grant opportunities to assist with wildfire preparation, prevention, and education across the community.
- Provide clean air shelters in the event of poor air quality due to wildfires.

Section 4. Implementation

The Bigger Picture

Successful implementation requires not just a plan and resources, but an awareness and attention to how the city is and will continue to change, the City's unique role, and the vision and values that guide all decision making. As the City implements CAP 2.0, it will keep in mind:



Pleasanton's growing population:

Pleasanton has changed over the years, adding nearly 10,000 new residents since 2012 and becoming increasingly diverse. These changing demographics are mirrored across much of the Bay Area and may make Pleasanton an increasingly attractive city for businesses and new residents as the overall population of the Bay Area continues to grow.



The City's unique role in climate action:

The City has significant decision-making control over land use, development, and management of natural resources and wastewater. Through regional partnerships, and aligning with neighboring cities, the City also influences transportation, energy provision, water resources planning, and waste management. The City will continue to use these roles to build upon past progress and implement the meaningful, long-term climate programs and policies that are needed to prepare Pleasanton for an uncertain future.



Pleasanton's vision and values:

CAP 2.0 is designed to actualize the City and community's vision—reduced GHG emissions, improved quality of life and public health, and a resilient community with thriving ecosystems and economy—in a way that is evidence-based, inclusive, equitable, and accountable to generate high quality of life for current and future generations.

4.1 Overview

Since the 2012 CAP, the City of Pleasanton has made progress in reducing emissions, developing innovative sustainability initiatives, and building community support for climate action. CAP 2.0 was developed to build on key climate action successes and provide a pathway to reach state decarbonization targets by 2045—and exceed state targets for 2030. Importantly, the City prioritized a short list of highly impactful actions to improve implementation potential over the next 10 years.

To take the CAP 2.0 from vision to action will require City leadership and commitment, collaboration with the community and implementation partners, a realistic plan for funding and implementation, and strong monitoring and evaluation of progress. The following pages identify how the City will work toward CAP 2.0 goals:

- The **implementation Plan** outlines the cost, staff allocation, timeframe, responsible City department, and other considerations for implementation.
- **City Leadership and Accountability** identifies the role of City Council and City staff to lead implementation and report on progress.
- Key **Partnerships** emphasize the importance of collaboration.
- **Equity & Other Considerations** describes key areas of focus to support equitable implementation, specific actions that impact the most vulnerable communities, and the importance of keeping people at the center of the City’s climate mitigation and adaptation work.



- **Funding and Financing** highlights the many resources available to support CAP 2.0 actions, specifically those that are the most expensive.
- To ensure that climate action and adaptation strategies meet the needs of the community and use resources efficiently, **Monitoring, Evaluation, and Reporting** lays out a series of key performance indicators (KPIs) and a reporting structure so that City staff can report progress to Council, gather feedback from and update the community, and measure successes.

Following CAP 2.0 adoption, a consolidated list of actions and the implementation plan will be available in CAPDash, a cloud-based reporting dashboard.



4.2 Implementation Plan

Implementation of CAP 2.0 will focus on reducing the city’s largest sources of GHG emissions—transportation, natural gas use, and electricity use—and storing carbon in trees, plants, and soil in order to achieve the 2030 per-capita emissions reduction target. A later update of the plan will be needed to demonstrate and quantify a full pathway for reaching carbon neutrality by 2045.

The two tables below summarize the primary and secondary actions the City of Pleasanton will implement by 2030. Primary actions are prioritized actions that focus on GHG emissions reduction in the near- (2022-2024), mid- (2025-2028), and long-term (2029-2031) with identified responsible parties for implementation. Secondary actions are generally focused on adaptation and will be implemented when possible. A third table in the Equity & Other Considerations section (Section 4.5) summarizes other implementation considerations, such as feasibility, community support, and equity (Table 10). Existing actions are omitted from Section 4 as their implementation is already contemplated in other existing plans and policies.

Key for Understanding Implementation Actions

Priority	
Type of action	P = Primary S = Secondary
Logistics	
Phase	I = 2022-2024 II = 2025-2028 III = 2029-2031
Average Staff time (over action timeframe)	👤 = Less than 0.5 FTE 👤👤 = Between 0.5 and 1 FTE 👤👤👤 = More than 1 FTE

Table 7. Implementation plan for primary actions

Action	City Costs or (Savings)	Community Costs or (Savings)	Phase	Staff Time	Responsible Department			
Buildings & Energy								
P1. All-electric reach code for new construction	\$49k	(\$2.7M)	I	1 person icon	Community Development			
P2. Existing Building Electrification Plan	\$138k	\$137k	II	1 person icon	Community Development			
P3. Modify Municipal Code definition of "covered projects"	(\$0)	\$287k	I	1 person icon	Community Development			
P4. Solar and storage on "covered projects"	(\$0)	(\$0)	I	1 person icon	Community Development			
Transportation & Land Use								
P5. ZEV Infrastructure Plan	\$218k	(\$31k)	II	2 person icons	Community Development, Operations Services, City Manager's Office			
P6. Electrify municipal small engine equipment and reduce emissions of off-road equipment upon replacement	(\$0)	(\$0)	II	1 person icon	Operations Services			
P7. Expand community small-engine electrification	(\$0)	(\$2.4M)	I	1 person icon	Community Development & City Manager's Office			
P8. Bicycle amenities	(\$0)	\$2.4M	I	1 person icon	Community Development			
P9. Bicycle rack incentive program	\$8k	(\$777k)	II	1 person icon	Community Development & Economic Development			
P10. Increase transit ridership	\$75k	(\$585k)	III	2 person icons	Community Development			
P11. Promote LEED Neighborhood Development	\$1k	(\$850k)	I	1 person icon	Community Development			
Materials & Consumption								
P12. Single use plastic reduction	(\$0)	(\$0)	II	1 person icon	City Manager's Office			
Natural Systems								
P13. Urban Forest Master Plan	\$486k	\$470k	I	1 person icon	Operations Services and Engineering			
P14. Soil management carbon sequestration projects	\$35k	\$2.8M	I	1 person icon	Operations Services			
Water Resources								
P15. Water efficiency and retrofits	\$1.6M	(\$4.6M)	II	1 person icon	Operations Services			
Community Resilience & Wellbeing								
P16. Comprehensive climate awareness, education, outreach	\$119k	(\$0)	I	1 person icon	All departments			
KEY	P = Primary action	S = Secondary action	I = 2022-24	II = 2025-28	III = 2029-31	1 person icon = Less than 0.5 FTE	2 person icons = 0.5 to 1.0 FTE	3 person icons = More than 1 FTE

Table 8. Implementation plan for secondary actions

These actions will be implemented as staff time and resources allow.

Action	City Costs or (Savings)	Community Costs or (Savings)	Phase	Staff Time	Responsible Department			
Buildings & Energy								
S1. Refrigerant management in new construction	\$43k	(\$262k)	III		Community Development			
S2. Community energy efficiency upgrades	\$958k	(\$1.9M)	II		City Manager's Office			
S3. Energy benchmarking and City facility retrofits	(\$3.1M)	(\$0)	I		City Manager's Office			
Transportation & Land Use								
S4. VMT reduction for K-12 activities	\$571k	(\$6.3M)	I		Community Development and City Manager's Office			
Materials & Consumption								
S5. Environmentally preferable purchasing policy	(\$0)	(\$0)	I		City Manager's Office			
S6. Embodied Carbon Reduction Plan	(\$0)	(\$89k)	III		Community Development			
Natural Systems								
S7. Carbon sequestration research and tracking	(\$0)	(\$0)	II		City Manager's Office			
Water Resources								
S8. Green Stormwater Infrastructure Plan	(\$0)	(\$0)	III		Operations Services			
Community Resilience & Wellbeing								
S9. Wildfire preparation, prevention, and education	(\$0)	(\$0)	I		Fire			
KEY	P = Primary action	S = Secondary action	I = 2022-24	II = 2025-28	III = 2029-31	 = Less than 0.5 FTE	 = 0.5 to 1.0 FTE	 = More than 1 FTE

4.3 City Leadership and Accountability

For Pleasanton to take meaningful action on climate change, **it is important that city government leads implementation in partnership with the community and stakeholders** and that City Council continue to demonstrate leadership on climate change. **City Council** will have oversight responsibility for CAP 2.0. They will receive annual updates on the CAP 2.0 progress and make policy decisions, and budgetary appropriations that will facilitate implementation.

Staff with dedicated time and resources to climate action are required to ensure the CAP 2.0's success and to more fully mainstream climate change in existing City operations, policy development, and community partnerships. The **City Manager** will have an important role to play in allocating and balancing staff time devoted to CAP 2.0 implementation, including consideration of new roles such as a central coordinator for CAP 2.0 implementation and new responsibilities within existing roles such as implementation leads for each sector. Continuation of existing ongoing actions is already accounted for with existing staffing, and an additional 1.6 FTE per year on average will be needed implement primary actions. Adequate staffing will be crucial for success.

City staff will use an interactive tracking and reporting dashboard (CAPDash) to manage CAP 2.0 progress, oversee implementation, provide annual updates to City Council, and communicate progress to the public (see Section 4.7 Monitoring for details).



4.4 Partnerships

As the City of Pleasanton is part of the larger Bay Area, and one of many municipalities working to meet climate neutrality targets, the City has an opportunity to work collaboratively and collectively through local and regional networks to meet the goals outlined in CAP 2.0. The City will continue to work with key partners in the community, across the Bay Area, and at the state level, as it cannot achieve its goals alone.

Leveraging partnerships will be key to the City's success in seeking funding opportunities, dividing workload, and improving the quality of life for individuals living in the region. Partnerships enable City staff to identify projects that align with both CAP 2.0 and community investment goals, and work to maximize cost-effectiveness, impact, and co-benefits like improved public health and job creation. Existing and new relationships with community groups are essential to effectively implement strategies, be equitable, and spread awareness. Many CAP 2.0 actions focus on or include significant community education and outreach, some of which is expected to maintain or increase support for climate action.

Key Stakeholders and Partnerships

Key stakeholders and partnerships, and their roles and responsibilities, include but are not limited to:



Neighboring jurisdictions

Connections with neighboring cities (e.g., Dublin, Livermore, and San Ramon) are essential to align policies and programs to bring regional cohesion to climate efforts and leverage Alameda County directives that support collective climate goals.

Regional transit partners

The City will provide localized context and knowledge to regional transit partners (e.g., Alameda County Transportation Commission, BART, Tri-Valley Air Quality Community Alliance, Bike East Bay, Altamont Corridor Express, LAVTA, MTC, San Joaquin Regional Rail Commission, Wheels, ACE, and BAAQMD) to accomplish both local and regional transit goals, reduce emissions, support alternative transportation, and improve air quality.

Utility and service providers

Continued relationships with utilities and energy-, water-, and waste-focused organizations (e.g., EBCE, PG&E, CPUC, BayREN, DSRSD, Zone 7 Water Agency, and Zone 7 Water Board, StopWaste and PGS) are crucial to stay abreast of cutting edge technologies and leverage funding opportunities.

Community groups

The City will listen to and engage with the diverse Pleasanton community (e.g., Chinese American Cooperative Council, Council on American Islamic Relations, HSS, Muslim Community Center, Tri-Valley Citizens Climate Education), which is essential to keeping equity at the center of CAP 2.0 implementation and ensure people are prioritized as climate goals are pursued.

Businesses and climate advocates

The City will build connections among local businesses (e.g., Visit Tri-Valley, Bay Area Realtors, Hacienda Business Park, Hines, Pleasanton Chamber of Commerce, Pleasanton Downtown Association, Lawrence-Livermore Lab, and Workday) and community climate leaders (e.g., East Bay Regional Park District, GoGreen Initiative, and Tri-Valley Citizens Climate Education, and Alameda County Resource Conservation District) to design interconnectivity between industry and the circular economy.

While the City emphasized actions within their sphere of control in developing CAP 2.0, some of the most impactful and costly actions rely on partnerships for implementation. These include the Existing Building Electrification Plan (P2) and ZEV Infrastructure Plan (P5). Partnerships will also be crucial to advancing secondary actions because they offer the additional capacity, mechanisms for identifying funding sources, and opportunities for collaborative funding and implementation the City will need to be able to implement them. Partnerships will also be crucial to advancing secondary actions because they offer the additional capacity, mechanisms for identifying funding sources, and opportunities for collaborative funding and implementation the City will need to be able to implement them.

4.5 Equity & Other Considerations

To truly consider equity during CAP 2.0 implementation, the City will need to go beyond merely distributing resources equally. Equitable participation in implementation and access to the benefits of climate action require meeting community needs in the context of existing vulnerabilities and inequalities, and **integrating equity in policy, outreach, and infrastructure development**. The most effective climate action initiatives protect and conserve the environment, build resilience, avoid unintended consequences, improve public health, and support livable communities with healthy local economies.

While equity must be considered in implementation of all actions, **certain actions will require particular attention to ensure implementation is equitable** (see Table 10). The City will focus on:

- **Fair distribution of benefits over time:** The City will consider not only where actions are implemented, but when, to ensure that vulnerable and historically marginalized communities are not the last to receive the benefits of climate action.

- **Financial burden:** The City will provide, either directly or through partners, financial rebates, incentives, and other measures to ensure that the household-level costs of CAP 2.0 implementation do not increase existing income burdens. This is especially relevant for actions that affect renters (e.g., landlord building electrification or energy efficiency) and actions with broadly distributed costs (e.g., EBCE Renewable 100).
- **Community engagement:** City staff will work to involve diverse community voices from the start of any new initiative and will track progress towards advancing equity (see Monitoring, Evaluation, and Reporting). They will also rely on and contribute to partnerships with the community groups and service providers who know Pleasanton’s diverse communities best, and will consider when additional effort is needed to truly engage a community (e.g., significant changes like EV adoption and household-based energy and water efficiency).

Table 9. CAP 2.0 focus areas for equitable implementation and applicable actions

	Fair distribution of benefits over time	Financial burden	Community engagement
P2. Existing Building Electrification Plan	•	•	•
P5. Create and implement a Zero Emissions Vehicle (ZEV) Infrastructure Plan	•	•	•
P10. Increase transit ridership	•		
S2. Community energy efficiency upgrades		•	•
P15. Water efficiency and retrofits		•	•
S9. Wildfire preparation, prevention, and education	•		•

Table 10. Equity & other implementation considerations

Action	Considerations
P1. All-electric reach code for new construction	<ul style="list-style-type: none"> ➤ Public engagement indicated that some businesses and residents oppose the introduction of a new building requirement and express concern about rising building costs. Education and outreach will be crucial for implementation success. ➤ Consider the nuance of how these regulations are written and where exceptions should be included (e.g., biotechnology industry). ➤ An all-electric reach code is highly feasible, and many Bay Area cities are introducing these code requirements.
P2. Existing Building Electrification Plan	<ul style="list-style-type: none"> ➤ Equitable implementation will represent property owners and tenants with lower incomes in all implementation phases, have protections in place to avoid increased costs and other negative impacts, and support local installers.
P4. Solar and storage on new construction	<ul style="list-style-type: none"> ➤ Not all properties and projects lend themselves to solar and battery storage due to shading and building orientation. Careful consideration of when to implement this action should be considered so as not to unduly impact projects where solar/storage benefits will not be realized. ➤ Adding rooftop solar to older buildings may be challenging due to roof loads and should be considered with the ordinance update.
S1. Refrigerant management in new construction	<ul style="list-style-type: none"> ➤ The Biden administration recently announced it will reduce the use of HFCs used in air conditioning and refrigeration by 85% in the next 15 years and is investing \$8 million over the next five years to find alternatives. ➤ Support to the business community should be considered to address challenges or costs of switching to a new refrigerant.
S2. Community energy efficiency upgrades	<ul style="list-style-type: none"> ➤ Focused outreach and resources on low-income households will support the cost savings benefit of this action. ➤ Resources may include financial support such as a revolving loan fund for home performance audits and system upgrades.
P5. ZEV Infrastructure Plan	<ul style="list-style-type: none"> ➤ Rising community interest in ZEVs, combined with recent and anticipated changes in national and state policy, make widespread ZEV expansion highly feasible. The key hurdles will be funding and ensuring ZEV is financially affordable and accessible for all Pleasanton residents. ➤ Concerted attention to reducing financial and infrastructure barriers to ZEV ownership for those with low incomes is essential to ensure implementation is equitable.
P7. Expand community small-engine electrification	<ul style="list-style-type: none"> ➤ Community electrification of small-engine equipment will require special attention to landscape companies and people that come to Pleasanton to work but may also work in other jurisdictions with varying regulations. Consider partnering with neighboring jurisdictions for successful implementation.
P8. Bicycle amenities	<ul style="list-style-type: none"> ➤ There may be some opposition from developers due to the new code requirement. Outreach to the development community should be highlighted. Early in the entitlement process, work with applicants to find the best solution for on-site facilities.
P10. Increase transit ridership	<ul style="list-style-type: none"> ➤ The biggest hurdle will be to make public transit convenient and available enough to be a preferred mode of transportation across communities compared to single-occupancy vehicles.
S4. VMT reduction for K-12 activities	<ul style="list-style-type: none"> ➤ The biggest hurdle will be to make public transit convenient and available enough to be a preferred mode of transportation compared to single-occupancy vehicles. This action will require concerted action with the school district and community organizations that sponsor youth activities.

Action	Considerations
S5. Environmentally preferable purchasing policy	<ul style="list-style-type: none"> ➤ Alameda County is currently preparing a policy; consider partnering with the County and/or neighboring jurisdictions that may already have these policies in place.
S6. Embodied Carbon Reduction Plan	<ul style="list-style-type: none"> ➤ This regional plan will benefit ecosystem health and support a local, circular economy, including the potential for new, green jobs. ➤ The plan is generally well-supported by the community, but the possibility of new requirements and citywide changes to construction approaches could concern some businesses and would benefit from additional engagement with those entities.
P13. Urban Forest Master Plan	<ul style="list-style-type: none"> ➤ The benefits to public health, ecosystem health, and local air quality will build support for this plan by the community and among businesses. The possibility of more regulations may encounter some opposition and require additional engagement.
P14. Soil management and carbon sequestration projects	<ul style="list-style-type: none"> ➤ While businesses and community members generally support the carbon storage, ecosystem health, and aesthetic benefits of these projects, their scale and location, as well as the relatively higher cost to the community, may face some pushback. Engagement with these community members is recommended.
S7. Carbon sequestration research and tracking	<ul style="list-style-type: none"> ➤ Many carbon sequestration research and tracking methods are still under development and experimental research will require research and funding partners.
S8. Green Stormwater Infrastructure Plan	<ul style="list-style-type: none"> ➤ Throughout its development and implementation, the plan should prioritize stormwater projects—paired with the anti-displacement efforts in the Housing Element (Action E6)—in underserved communities to prevent green gentrification and inequitable distribution of water resiliency.
P16. Comprehensive climate awareness, education, and outreach	<ul style="list-style-type: none"> ➤ Ensure outreach is accessible across communities, such as by providing services and materials in multiple languages.
S9. Wildfire preparation, prevention, and education	<ul style="list-style-type: none"> ➤ Wildfires and their associated impacts hit vulnerable populations especially hard; these populations should be a focus for this action.

4.6 Funding and Financing

The City of Pleasanton has several opportunities to finance CAP 2.0 strategies and actions. As climate impacts intensify and occur more frequently, **resources are becoming more readily available** from the federal government, State of California, local agencies, and utilities. The City will seek grants, matching funds, in-kind contributions, and other resources from state, federal, and philanthropic sources to help pay for actions, make wise use of the City's General Fund, and limit the cost of implementation to the City and Pleasanton community. Potential funding sources may include:

- Support for electrification of buildings and transportation through **grants and rebate opportunities** through EBCE and BayREN
- Municipal, commercial, and residential solar and energy storage rebates through BAAQMD, CPUC, and/or EBCE
- Air quality improvement **grants and rebates** from BAAQMD
- **Joint applications** with other local and regional agencies for competitive statewide and federal funding programs, especially those that support alternative transportation goals

- Existing funding sources as **matching funds** for regional, state, or federal funding such as the federal Infrastructure Investment & Jobs Act (2021)
- **General funds** from the City of Pleasanton for staff time to seek and apply for funding, fully cover project costs, or as a match to outside funding sources
- The establishment of a City **impact fee** to cover costs associated with emissions reductions for projects related to specific CAP 2.0 actions

CAP 2.0 will not be implemented all at once—it will take **time, investment, and ongoing work** within the community. The City has committed to fund and implement existing ongoing and primary actions, and will fund and implement secondary actions if resources become available.



4.7 Monitoring, Evaluation, and Reporting

A core requirement of a qualified GHG reduction plan under CEQA is to monitor implementation of adopted GHG emissions reduction strategies. Successful implementation requires a methodology, tools, and metrics to measure progress and track performance over time. The City will rely on **CAPDash**—a cloud-based tool—to continually monitor CAP progress. The City will conduct **regular GHG emissions inventories** (e.g., every 3 years), track and measure progress toward meeting CAP 2.0 targets and goals, and support transparent data and progress reporting with the community and stakeholders. City staff will use CAPDash as well as reports from implementation leads to develop an **annual City Council update** on CAP 2.0 implementation that includes progress against specific strategies and actions, as well as overall progress on reducing community climate vulnerability and GHG emissions.

While monitoring, evaluation, and reporting of emissions reductions are essential to stay on track to meet CAP 2.0 goals, they can be time-consuming and detract from other critical monitoring such as assessing community perspectives and feedback on implementation. Both

are needed to adaptively manage CAP 2.0 and ensure it meets both emissions reduction and community investment goals. Therefore, the City will establish through the work of the Committee on Energy and the Environment, an opportunity for **public feedback and recommendations** and share with City Council in the **annual update**.

Given the accelerating pace of climate change, the City will evaluate and **update the CAP 2.0 in 2030** to ensure that CAP 2.0 strategies and actions reflect the latest knowledge and best practices around climate change, Pleasanton's progress on implementation, and the changing landscape of local, state, and federal funding and environmental policies. It is expected that methodologies for measuring some KPIs may also evolve and improve over time. The City currently plans to track and report on the following KPIs, which emphasize strategies with significant GHG emissions reduction potential (see Table 11).

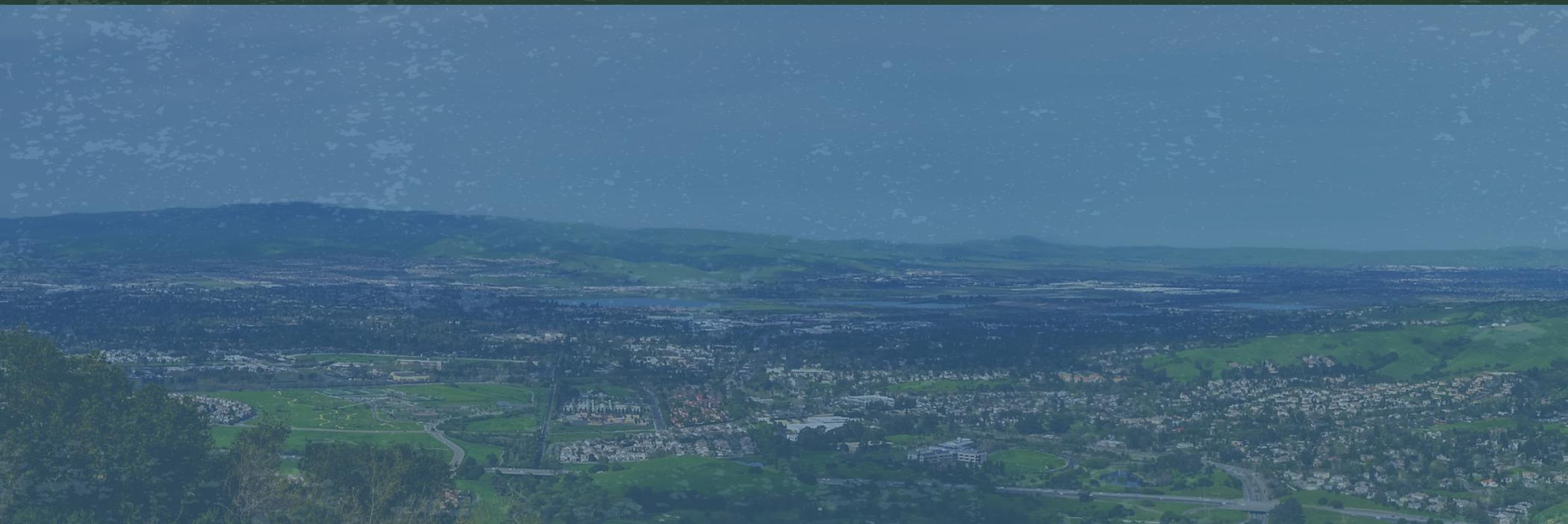
Table 11. 2030 Targets for Key Performance Indicators (KPIs)

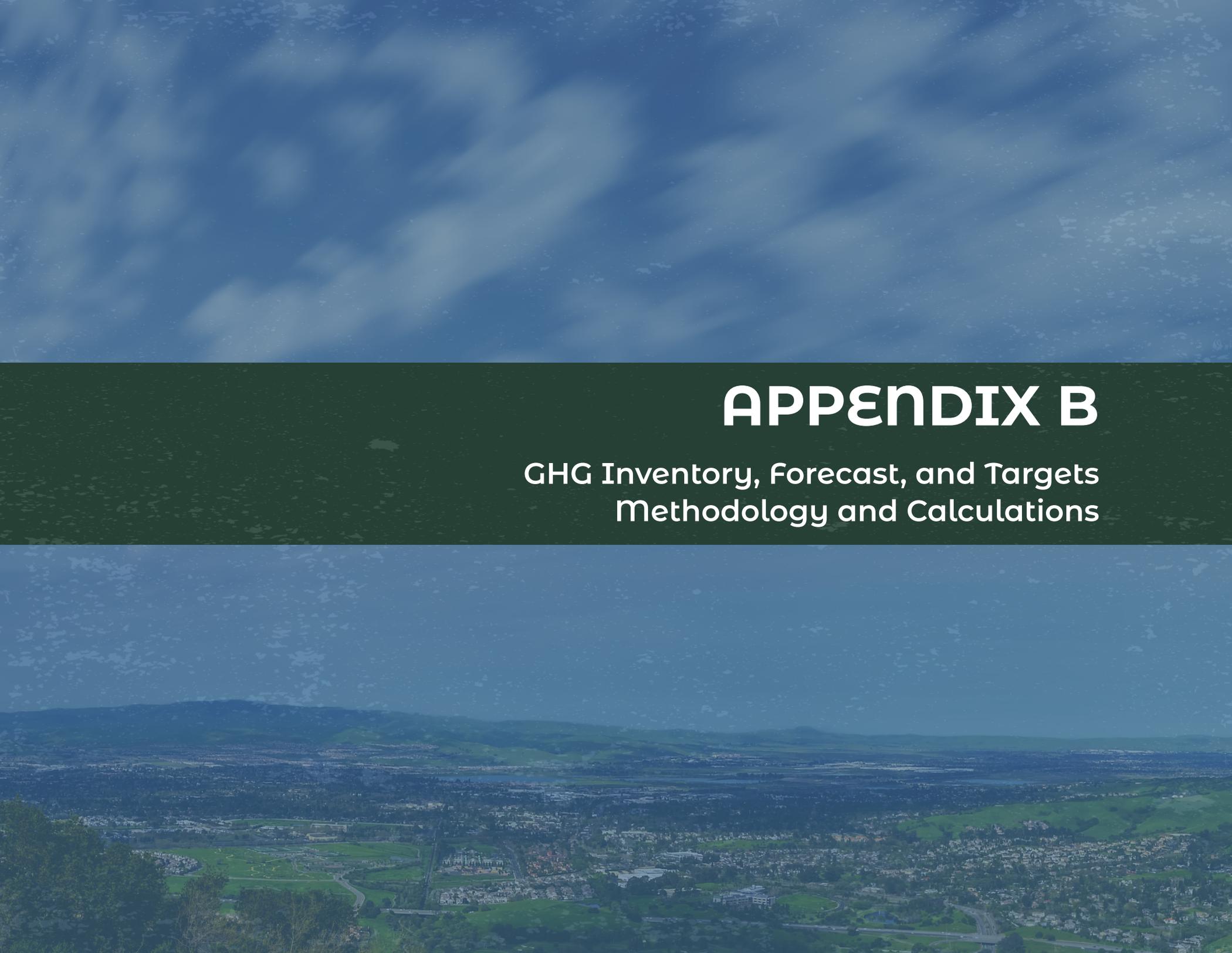
Strategies	KPI	Unit	2017 Baseline	2030 Target	Change
Buildings & Energy					
BE-1. Advance the decarbonization of buildings	Building GHG emissions	MTCO ₂ e	178k	110k	-38%
	Natural gas consumption	therms	22.4M	18.7M	-17%
BE-2. Community energy efficiency upgrades	Energy consumption	MMBTU	4.13M	4.02M	-3%
	Municipal energy consumption	MMBTU	TBD ¹	TBD	Decrease
BE-3. Expand use of renewable energy	Electricity emissions factor	MTCO ₂ e/kWh	0.000096	0	-100%
	Solar & battery permits	#	TBD	TBD	Increase
Transportation & Land Use					
TLU-1. Advance vehicle decarbonization	Average passenger vehicle carbon intensity	kgCO ₂ e/mile	0.34	0.17	-51%
	EV charger permits	#	TBD	TBD	Increase
	EVs in municipal fleet	#	TBD	TBD	Increase
TLU-2. Advance active, shared, and public transportation	VMT per capita	vehicle miles	4.9k	4.6k	-6%
	Bike lanes & trails	miles of new infrastructure	TBD	TBD	Unknown
	Public transit ridership	% of mode share	TBD	TBD	Increase
TLU-3. Advance sustainable land use	Percent of workforce that lives in Pleasanton	%	TBD	TBD	Increase
Materials & Consumption					
MC-1. Increase waste diversion and optimize collection and disposal systems	Landfilled waste	short tons	102k	93.8k	-8%
	Material generated across all three streams	tons per service person	TBD	TBD	Decrease
Natural Systems					
NS-1. Increase and optimize carbon sequestration and improve ecosystem resilience	Carbon sequestration	net MTCO ₂ e	TBD	1k	Increase
	Tree canopy	%	TBD	TBD	Increase
	Trees planted	#	TBD	TBD	Increase
Water Resources					
WR-1. Improve water supply and conservation	Water consumption electricity usage	kWh per service person	TBD	23	Constant
	Community water use	average gallons per day	TBD	TBD	Decrease
	Municipal water use	gallons	TBD	TBD	Decrease
	Water conservation programs	# participants	TBD	TBD	Increase
Community Resilience & Wellbeing					
CRW-1. Improve community resilience and reduce vulnerability to climate change	Access to cooling center	% of population	100%	100%	Constant
	Community preparedness training participation	# participants	TBD	TBD	Increase

¹ "TBD" denotes that indicator is not currently tracked. City will collect data as part of initial CAP 2.0 implementation activities.

APPENDIX A

GHG Reduction Strategies Quantification and Evidence



The background of the slide is a wide-angle aerial photograph of a city and its surrounding landscape. The city is densely packed with buildings and roads, interspersed with green spaces and parks. In the foreground, there are rolling green hills and a winding road. The sky is a clear, bright blue. The overall scene is a mix of urban development and natural beauty.

APPENDIX B

GHG Inventory, Forecast, and Targets
Methodology and Calculations