
# CITY OF ALBANY

# CLIMATE ACTION AND ADAPTATION PLAN

SEPTEMBER 2019 | DRAFT

# Table of Contents

# Acknowledgments


### City Council
Rochelle Nason, Mayor
Peggy McQuaid, Vice Mayor
Michael Barnes, Council Member
Peter Maass, Council Member
Nick Pilch, Council Member

### Climate Action Committee
Thomas Cooper, Committee Member
Eric Larson, Committee Member
Allison Marten, Committee Member
Nick Peterson, Committee Member
Stephanie Siehr, Vice Chair
Samantha Smithies, Chair
Max Wei, Committee Member
Kate Breeding, Committee Member

### Committees & Commissions
City of Albany Traffic & Safety Commission
City of Albany Planning & Zoning Commission
City of Albany Social & Economic Justice Commission
City of Albany Economic Development Committee
City of Albany Parks, Recreation, & Open Space Commission

### City Manager
Nicole Almaguer, City Manager
Isabelle Leduc, Assistant City Manager

### City of Albany Staff
Jeff Bond, Community Development Director
Mark Hurley, Public Works Director
Justin Fried, Transportation Planner
Claire Griffing, Sustainability & Resilience Manager
Elizabeth Carrade, Sustainability Coordinator
Chelsea Polevy, CivicSpark Climate Fellow
Bianca Hutner, CivicSpark Climate Fellow

### Prepared By
Cascadia Consulting Group
Rincon Consultants

### Photography
Doug Donaldson
Stephanie Warner, SJW Photography

# A Message from the City of Albany

## We Have a Climate Emergency

Global climate change poses an existential threat and a global humanitarian climate emergency, and we share the responsibility to mitigate emissions to reduce the impact of our changing climate, including the threat of rising sea levels and hotter summers. Albany and other cities around the globe, are challenged with the momentous responsibility of reducing greenhouse gas emissions to stabilize the global climate while preparing for the effects of climate change.

## Our Progress

Through the Albany City Council's Strategic Vision, we are committed to fostering a healthy and sustainable urban village by advancing action against climate change and implementing programs to further environmental conservation in Albany. Part of the effort to protect Albany's environment includes ensuring long term sustainability and resilience from climate change and its effects Through energy and water use improvements, waste reduction efforts, and clean technology innovations, we have already decreased local emissions by 33%—exceeding the City's 2020 emissions reduction goal. Albany's default electricity supply is now carbon-free based on action taken by the Albany City Council.

## Looking Forward

Albany is a small city with big sustainability goals. The City aims for 60% reductions in greenhouse gas emissions by 2035 and net zero emissions by 2050. This Plan aims to focus on innovative policies and programs to meet these new goals.

## Climate and Community

This Plan was developed with the goal of prioritizing climate mitigation and adaptation strategies that offer additional community benefits, such as public health improvements, environmental conservation, and urban beautification. It is also important to acknowledge that climate action is an investment in our community and our local economy. We cannot ignore the financial, social, and environmental costs of inaction. It is also important to us that our actions to address climate change do not negatively affect our vulnerable populations. This is why we took equity and affordability into our consideration of each action.

## If not now, when? If not Albany, who?

While our community is small, we see our size as a strength rather than a weakness. We have the ability, and responsibility, to act quickly to reduce carbon pollution. In fact, we believe we can be a leader in the fight against climate change, and this plan is the first step toward positive change. We want other cities, large and small, to look to us as an example and scale up the innovative actions we choose to pilot.

## It Takes a (Urban) Village

Every person in Albany has a role in helping the City meet its climate action goals. As a member of our community, we hope you will participate actively to reduce your carbon footprint, taking advantage of the resources provided by the City and other agencies. Together, we can work to achieve Albany's ultimate goal of getting to zero carbon emissions by 2050. We thank you for choosing to live, work, or play in Albany, and for your partnership in working to ensure a vibrant and sustainable urban village now and into the future.

# OUR VISION: ALBANY IN 2050

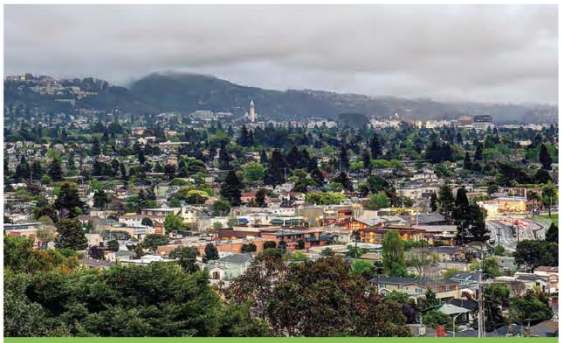
**Albany is a leader in climate action and works together as a community to ensure a vibrant, healthy, and sustainable urban village that is livable, equitable, and resilient for all.**

## LIVABLE

- **Albany is safe, healthy, and sustainable.** Both people and natural systems thrive.
- **Clean, locally sourced renewable energy** powers our buildings, buses, and cars, improving local air quality.
- **Our economy thrives on low-carbon, low-waste goods and services.** Community members actively share resources.

## EQUITABLE

- **Every resident has easy access** to a walkable, bikeable, and affordable neighborhood with ample green space, active and affordable transportation, and a robust sharing economy.
- **Plentiful local green jobs** employ and serve many. The economic benefits of sustainability are shared across the community.
- **Equity drives our sustainability.** Initiatives are developed in collaboration with communities of color and those most at-risk to climate change's impacts.



## RESILIENT

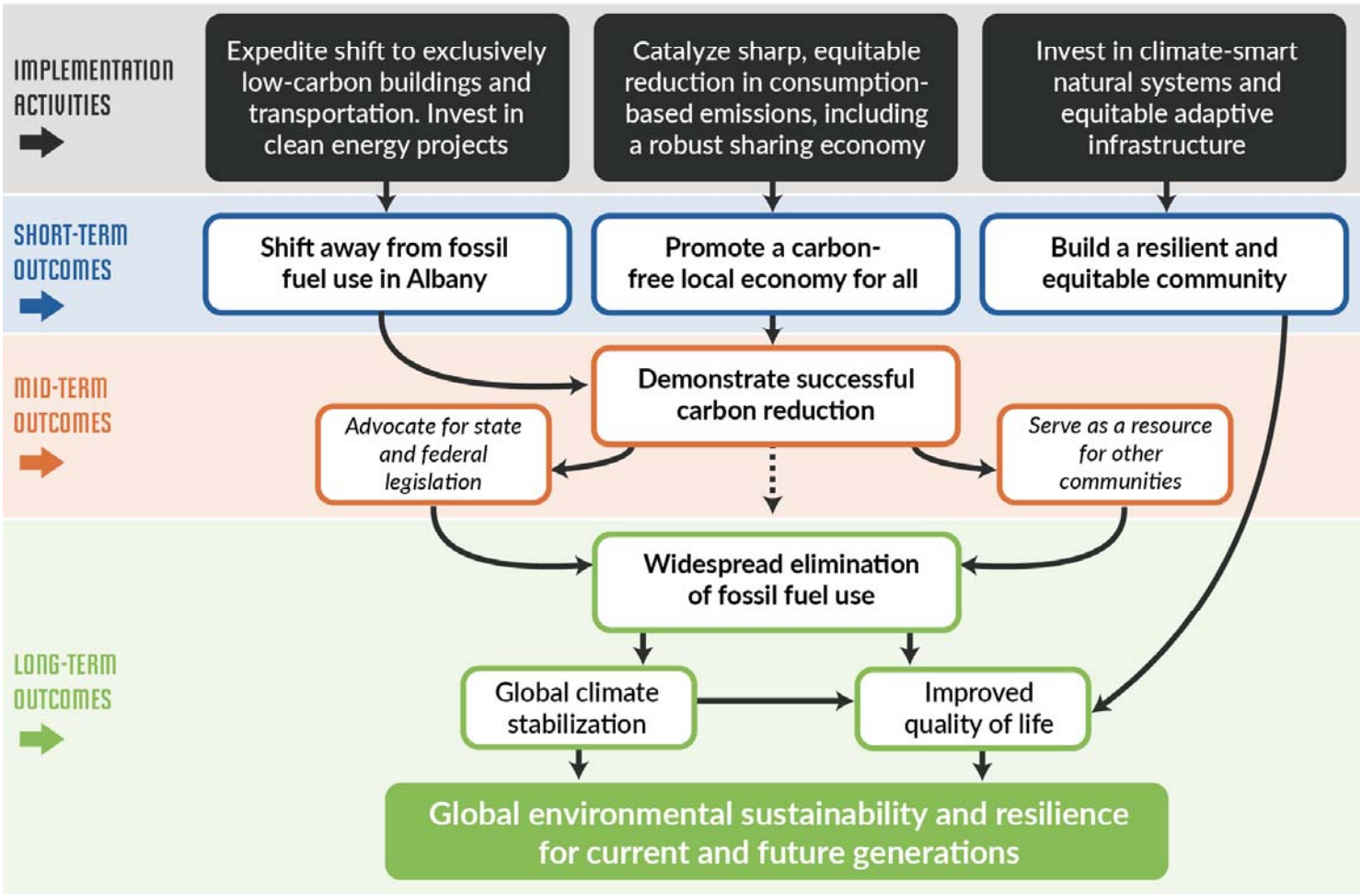
- **People and living systems are resilient to the local effects of climate change.** They have the resources and support to withstand extreme heat, wildfire, smoke, sea level rise, and flooding.
- **Our locally sourced renewable energy supply can provide reliable excess power** in the event of a power failure.

## ENGAGED

- **Community members are highly involved** in sustainability activities.
- **The community embraces public transportation systems that are connected** within Albany and enable sustainable travel to neighboring cities.
- **Albany connects with other pioneering cities**, both regionally and globally, to stabilize our climate.

# ALBANY IN 2050: HOW WE'LL GET THERE

**As we boldly work toward our vision, we hope Albany's pioneering climate action will inspire others to act and have a ripple effect with global impact.**



# Introduction

## Why Plan for Climate Change?

Climate change is happening. Throughout the remainder of the 21st century, the climate is projected to grow substantially hotter, and precipitation patterns are expected to be less consistent with more intense rainfall. Inland flooding from a 100-year storm could compromise assets along Codornices Creek and the railway, including portions of the I-580 and I-80 freeways near the border with Richmond and south of Buchanan Street. Without taking significant action to address the rise of global temperatures, Albany could face considerable economic, public health, and public safety consequences from these climate-related risks.

Climate scientists overwhelmingly agree that an increase in greenhouse gases in the atmosphere—carbon dioxide ($CO_2$) in particular—is causing the steady increase in global temperature, and that the activities of burning carbon-based fossil fuels—coal, oil, and natural gas—is the primary cause of this warming trend. Climate change is already leading to large-scale problems including ocean acidification and rising sea levels; more frequent, extreme, and damaging weather events such as heat waves, storms, heavy rainfall and flooding, and droughts; more frequent and intense wildfires; disrupted ecosystems affecting biodiversity and food production; and an increase in heat related deaths. Rising sea levels, reduced snow pack in the Sierras, and extreme weather are issues that are beginning to affect the San Francisco Bay Area. By mid-century, the local area could see three to four times as many extreme heat days as we do today with the potential for related increases in hospitalizations and deaths, especially for vulnerable populations such as seniors, young children, low-income households.

These impacts carry real economic costs. According to a recent study, every ton of carbon that enters the atmosphere costs the economy $400. This cost can add up quickly—according to this figure, total global emissions in 2017 cost the world economy $15 trillion.[1] These expenses can be avoided, however, by reducing greenhouse gas emissions and preparing for climate change impacts. Many of the top solutions for reducing climate pollution have a payback period of less than 10 years, and researchers have estimated that, if the U.S. implemented the full range of solutions needed to avoid the worst climate change impacts, it would save the U.S. economy over $74 trillion.[2]

To avoid these climate impacts, it is imperative to drastically reduce greenhouse gas emissions. This will require major and immediate transformation of the way we live our lives. Behavior and technologies will need to shift, including serious action in the energy, transportation, and consumer sectors. While this transformation will be challenging, it is important to note that ambitious climate action can bring a variety of community benefits, such as more jobs and improved health.

---

[1] *The costs of climate inaction* (2018). Editorial article in the journal Nature. https://www.nature.com/articles/d41586-018-06827-x (accessed August 30, 2019).

[2] Hawken, Paul. (2017). *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming*. New York, New York: Penguin Books.

The City of Albany has been a leader in the fight against climate change, having adopted a Climate Action Plan in 2010. The continued increase in global atmospheric $CO_2$ concentration requires broader, more powerful policies to supplement local and regional efforts to reduce emissions. As a small community with engaged community members, prosperous businesses, and strong leadership, Albany has both the ability and the responsibility to address climate change.

This City of Albany Climate Action and Adaptation Plan provides an ambitious and strategic pathway for reducing the community's greenhouse gas emissions and preparing for future climate change impacts - because if Albany doesn't do it, then who will?

### What's in a Name: Greenhouse Gases, Carbon Emissions, or Carbon Pollution?

There are many names for the term—greenhouse gas emissions, greenhouse gas pollution, carbon pollution, or climate pollution. We use the terms interchangeably in this document to all refer to the gases that are emitted into the atmosphere that cause global warming. They include carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O), and are largely created by human activities such as burning fuel and disposing of solid waste.

## The Plan at a Glance

The City of Albany is committed to reducing local greenhouse gas emissions to stabilize the global climate. The City is at risk from increased flooding, never-before-seen extreme heat, wildfire and smoke, and landslides caused by more heavy rainfall. This Climate Action and Adaptation Plan (CAAP) builds on the success of the City's first Climate Action Plan (CAP) and sets new targets—**a 60% reduction in greenhouse gas emissions by 2035, carbon neutrality by 2050, and smart, equitable resilience investments to help us weather the unavoidable**—to make sure Albany is livable, equitable, resilient, and engaged for generations to come.

### Plan Development

Hundreds of Albany community members informed development of this Plan through community surveys, , public workshops, stakeholder focus groups, and ongoing engagement with community groups and City committees and commissions. The citizen-led Climate Action Committee and subcommittees identified, assessed, and formalized the Plan's goals and strategies.

### A Comprehensive Plan

The City of Albany has already made great progress: The City has taken action that has reduced community greenhouse gas emissions 33% from 2005 to 2018. But more can be done. This Plan focuses on the most impactful and meaningful opportunities to address climate impacts and resilience. It prioritizes actions that not only significantly reduce greenhouse gas emissions, but are highly feasible, and demonstrate Albany's innovation and leadership in climate action.

**Vision**

Albany works together to ensure a vibrant and sustainable urban village that is livable, equitable, resilient, and engaged.

**Goals**

- 60% reduction in greenhouse gas emissions by 2035
- Carbon-neutral by 2050
- Smart, equitable resilience investments

**Challenge**

- Current estimated emissions: 53,000 MT $CO_2e$, largely from transportation and natural gas consumption.
- Climate risks include flooding, extreme heat, and wildfire.

**Strategies**

#### Activate, share, and electrify transportation

The City aims to eliminate fossil fuel use in the transportation sector by making it easy and affordable to choose to walk, bike, or take the bus, and to choose zero emission cars and trucks to move people and goods.

#### Electrify new and existing buildings

To reduce emissions from buildings, the City aims to eliminate natural gas appliances and infrastructure, and convert the energy supply to renewable electricity while maximizing local generation opportunities.

#### Facilitate a carbon-free economy

The City will catalyze a sharing community and economy, buy low-carbon products, and offer many ways to reduce waste and carbon emissions at home, work, and school.

#### Accelerate resilience

The City will store carbon in trees, soil, land, and buildings, and ensure that the built environment is equipped with battery energy storage and other resilience measures to make sure all are prepared and can overcome climate change's unavoidable impacts.

## Implementation

An Implementation Plan will be developed. Each action includes deliverables, detailed approach, a responsible entity and key partners to lead them, a timeframe for implementation, and potential funding sources. Success will be measured by implementation status of these actions and through key performance indicators. The City must lead by example and will be responsible for oversight of this Plan and its implementation. Successful implementation will require engagement by the whole community and recognition of the needs and risks faced by the most vulnerable community members.

## What Does Success Look Like?

The City of Albany aims to demonstrate that sharp and swift carbon reduction is possible, allowing the City to serve as a resource for other communities and advocate effectively for state and federal climate legislation. Ultimately, success will be seen through the widespread elimination of fossil fuel use, improved quality of life, and global climate stabilization that ensures a sustainable, resilient City for current and future generations.

# Understanding Albany's Emissions

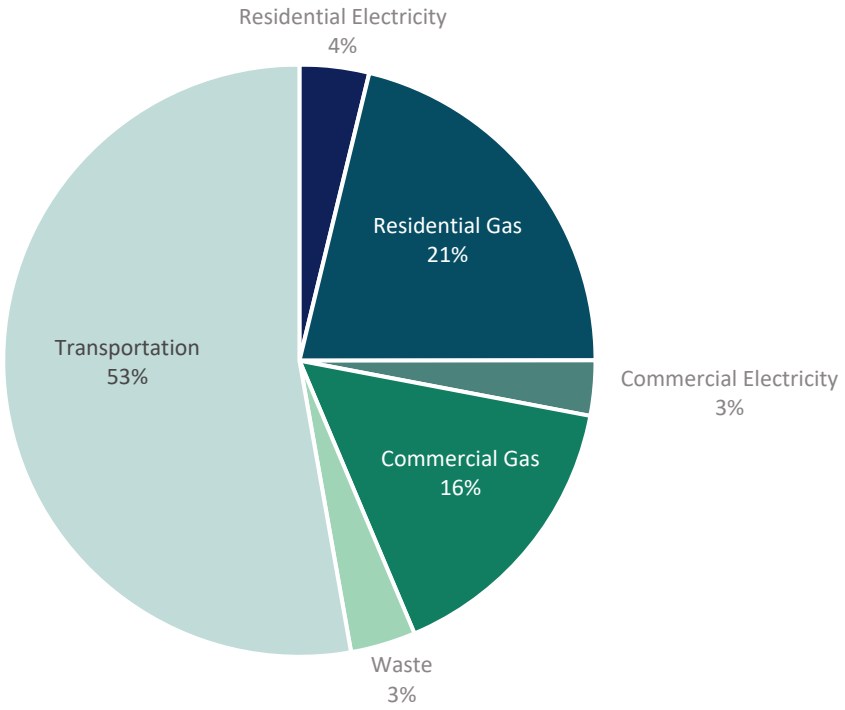
## Climate Change in Albany

This section describes Albany's primary sources of greenhouse gases and the projected impacts climate change will have on the Albany community. While the best available science and information is presented here, the collective understanding of climate risks is evolving. Information will change over time, and with those changes, will bring new understanding of how impacts are interacting and may interact in the future. To stay ahead of this curve, this document takes a systems approach that recognizes the inherent connections and interdependence of climate, ecology, and people.

## Albany's Greenhouse Gas Emissions

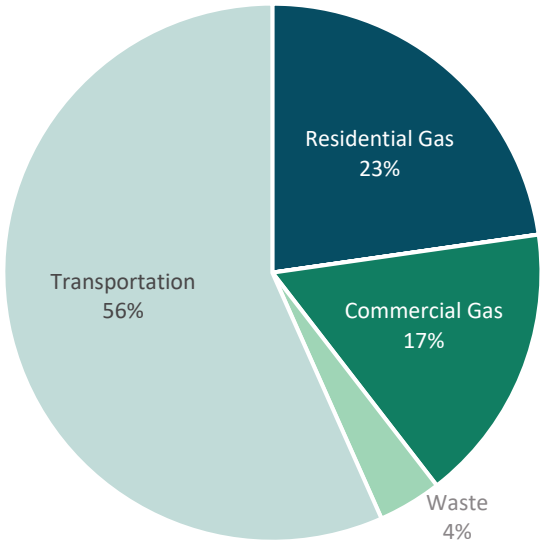
In 2017, Albany's greenhouse gas emissions stemmed mainly from building energy use and transportation (see Figure 2 below). Transportation emissions stem largely from passenger vehicles but also include commercial trips and buses. Building energy emissions result from electricity and natural gas consumption. Emissions from solid waste was the smallest source but represent only a small fraction of the global emissions related to the materials consumed by Albany community members.

Figure 1. Relative contributions to Albany's greenhouse gas emissions (2017).



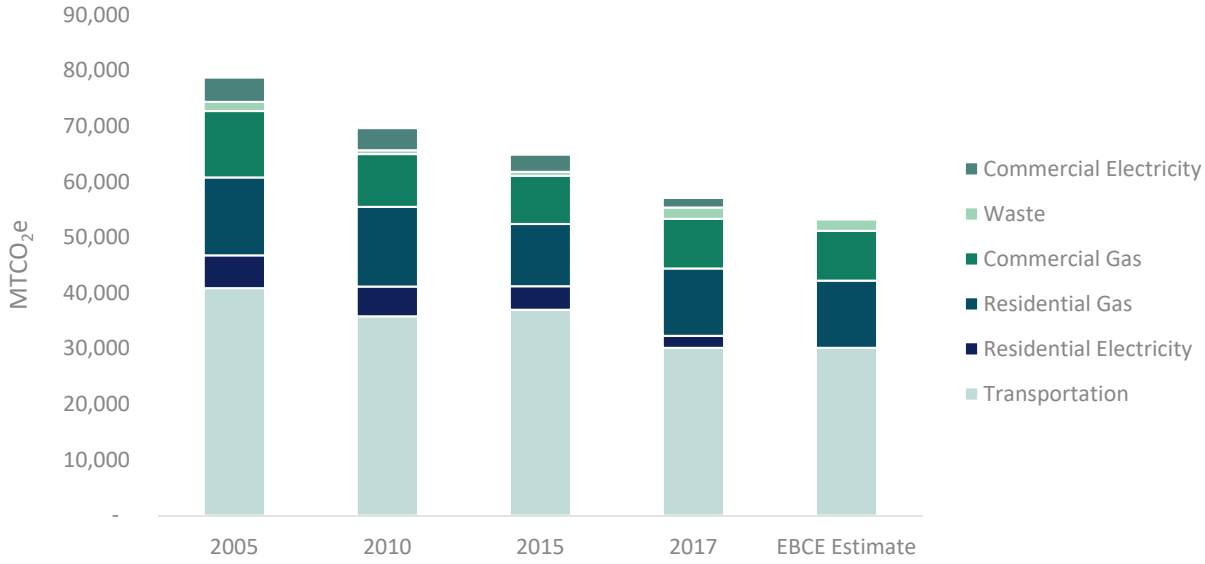

In 2018, the City of Albany City Council took action to enroll the Albany community in Brilliant 100, a 100% carbon-free electricity source offered by East Bay Community Energy (EBCE). This change reduced Albany's greenhouse gas emissions by an estimated 3,884 MTCO2e—or 7% of 2017 emissions—per year. The remaining emissions in the building sector come from commercial, residential, and industrial natural gas use. Figure 3 below shows an estimate of the City's emissions now that electricity is 100% carbon free.

Figure 2. Estimated 2018 GHG emissions with 100% carbon-neutral electricity from EBCE.



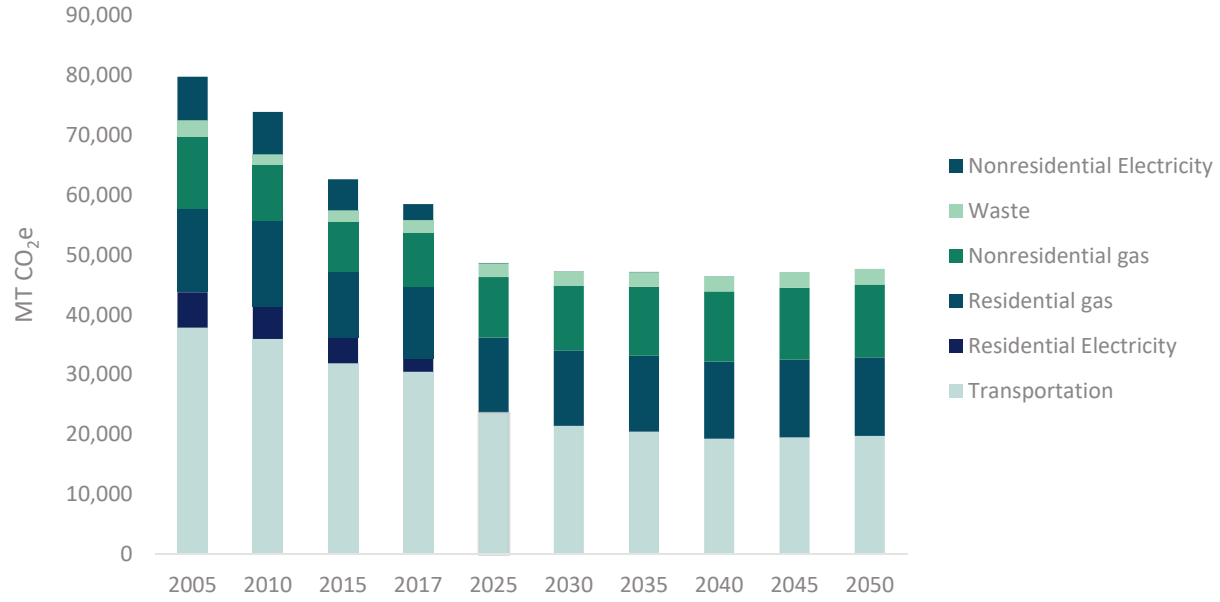

Despite growth in Albany's economy and population, the community greenhouse gas emissions have been declining over time. Overall, emissions have decreased by 27% from 2005 to 2017 (see Figure 4 below). When taking into consideration the emissions reduced from opting electricity accounts into EBCE's carbon-free electricity service, it is estimated that the City has reduced overall emissions by 33%. Albany's 2017 per-capita GHG emissions were 3.1 $MTCO_2e$ per person, compared to a U.S. average of 15.8 $MTCO_2e$.

Figure 3. Albany community greenhouse gas emissions over time.




A forecast of Albany's community GHG emissions provides insight into how emissions in Albany may change over time (see Figure 5). The forecast includes projections for population growth, as well as reductions from state measures such as Title 24 building code standards, vehicle efficiency standards, and electric vehicle adoption.

Figure 4. Albany community greenhouse gas emissions forecast from 2025 to 2050.




The results of the forecast show that due to state measures and the adoption of EBCE Brilliant 100, Albany's emissions will continue to decrease through 2040 before growth begins to increase emissions again through 2050. The forecast projects an estimated 41% reduction in community emissions by 2035, which falls short of the GHG reduction targets adopted by the City. This result suggests that Albany will need to take action to achieve its climate action goals, and cannot rely solely on state policy. As shown above, by 2025, the two major sources of emissions are projected to be residential and non-residential natural gas (46%) and transportation (49%). These three sectors alone make up 95% of Albany's expected greenhouse gas emissions. Therefore, greenhouse gas mitigation measures targeting these sectors and leveraging Albany's 100% carbon neutral electricity will be critical to reaching carbon neutrality by 2050.

## Consumption-Based Emissions

While the above community inventory data represents emissions directly tied to actions taken within Albany, there are also upstream emissions tied to the products consumed by the Albany community. Emissions from direct burning of fossil fuels make up a relatively minor fraction of the household's overall impact. The remaining significant portion of emissions are generated by food consumption, the purchase of goods and services, and the manufacturing of vehicles and building of homes (see Figure 5 below). Because the modern economy is highly integrated and global in scale, a significant portion of the goods and services consumed by the Albany community are produced in other states or nations. While these emissions are not included in the City's reduction targets of greenhouse gas inventory, this Plan does include strategies to address emissions from consumption with the understanding that their impact goes beyond Albany's borders.

The Bay Area Air Quality Management District (BAAQMD) collaborated with the Cool Climate Network at UC Berkeley to develop a consumption-based inventory of greenhouse gas emissions for the San Francisco Bay Area, based on the six greenhouse gases identified in the Kyoto Protocol: $CO_2$, methane, $N_2O$, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The consumption-based inventory estimates the amount of greenhouse gases emitted in the production of goods and services from all over the world that are consumed by the Bay Area community. The inventory is based on a full life-cycle analysis of the emissions generated by the production, shipping, use, and disposal of each product consumed in the Bay Area, regardless of where the GHG emissions were released to the atmosphere. The inventory estimates emissions for several hundred categories of products within the five basic areas of transportation, housing, food, goods, and services:

- Transportation: Emissions embedded in motor vehicle production and maintenance, refining of gasoline and diesel, fuel combustion in motor vehicles, air travel, and public transportation. Emissions related to shipping or freight movement for a given product are included as a component of the emissions attributed to that product (either the housing, food, goods, or services sector, as appropriate).

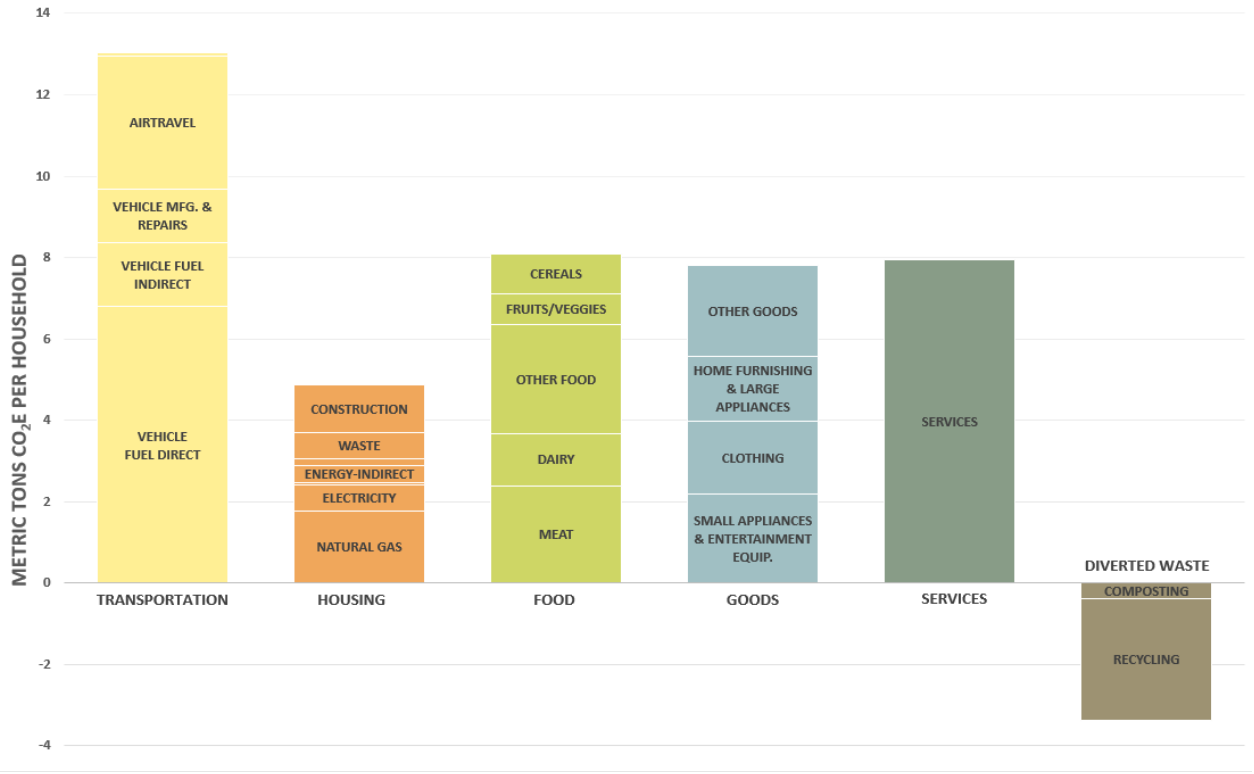
- Housing: Emissions embedded in construction and maintenance of homes, residential energy use, water use and treatment, and waste disposal.

- Food: Emissions embedded in the production, processing, and distribution of food consumed both inside and outside the home.

- Goods: Emissions embedded in the production of the full range of consumer products, including home furnishings, clothing, personal care products, electronics, toys, books, etc.

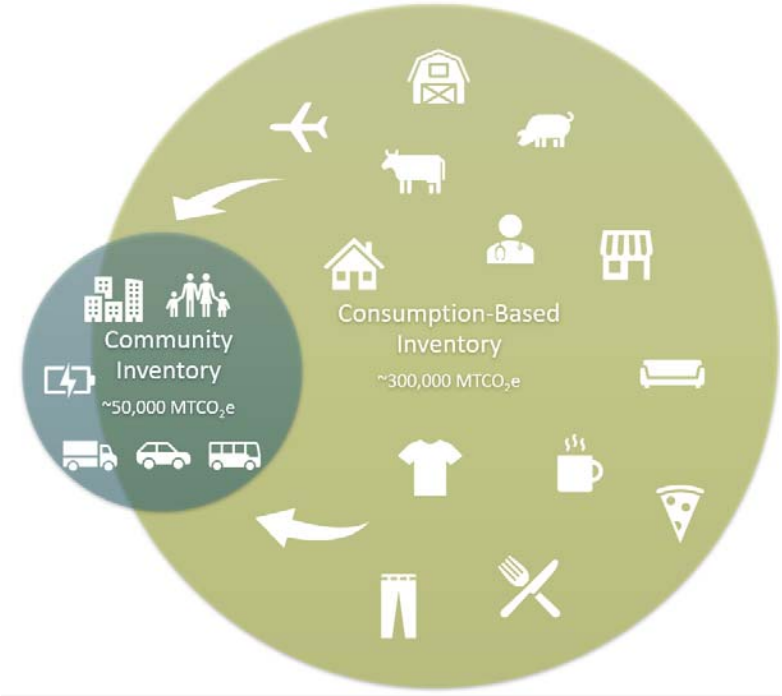
- Services: Emissions embedded in the full range of services consumed by Bay Area households, including information and communication, financial services, health care, and education.

**FIGURE 5. AVERAGE ALBANY HOUSHOLD CONSUMPTION-BASED GHG EMISSIONS BY CATEGORY (TOTAL = 41.4 MTCO2E/YEAR/HOUSEHOLD) (SOURCE: BAY AREA AIR QUALITY MANAGEMENT DISTRICT).**




This consumption-based inventory estimates emissions associated with the consumption of goods and services by a community. The consumption-based inventory includes the upstream and downstream impact of household activities, while the community inventory focuses on direct emissions associated with activities in the city (see Figure 6).

**FIGURE 6. HOW THE ALBANY COMMUNITY INVENTORY RELATES TO THE CONSUMPTION-BASED INVENTORY.**



## Risk and Vulnerability

Albany faces several risks posed by current and anticipated future climate change, outlined below.

### Flooding

Climate change is expected to exacerbate flooding through storms and more intense periods of rainfall. Albany is already moderately exposed in the event of a 100-year or 500-year flood: inland flooding from a 100-year flood could compromise assets along Codornices Creek and the railway, including portions of the I-580 and I-80 freeways near the border with Richmond and south of Buchanan Street.[4] These events may become more likely to occur during this century.

Sea level rise can also increase coastal flooding. The projected higher tides and larger storms could lead to significant increases in both coastal and urban flooding and flood damage because higher water levels in tidal creeks and flood control channels will mean less capacity for rainfall runoff. While some creeks already flood when rainstorms coincide with high tides, rising sea levels are likely to cause flooding during smaller, more frequent rainfall events. Sea level rise could also disrupt regional transportation routes by inundating routes out of and around the city and public health services located outside the city such as wastewater treatment. By 2100, there is a 2% chance of annual flooding equivalent to 72 inches of sea level rise, compared to today's levels.

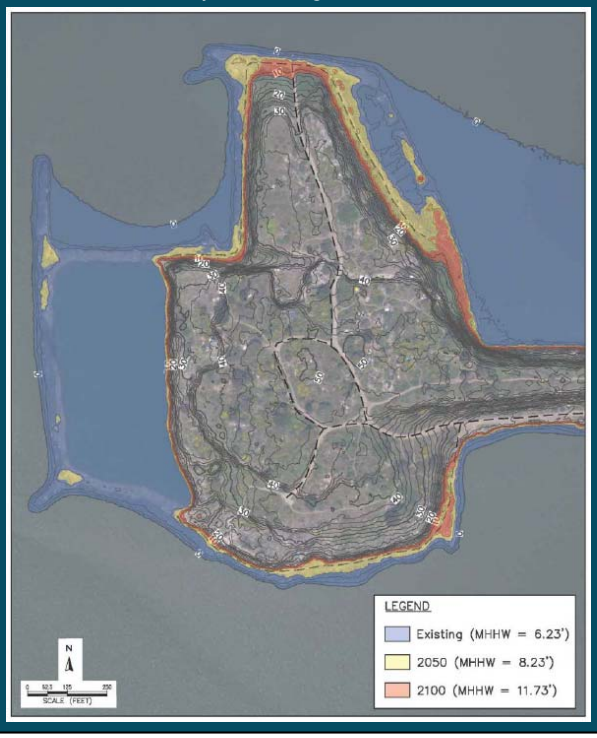
### Extreme Heat

As greenhouse gas emissions increase, temperatures are expected to increase globally, placing growing stress on human health, water resources, energy systems, and other assets. Albany's climate is no

#### Spotlight: Neck & Bulb Flooding & Sea Level Rise

Sea level rise and more intense coastal storms could increase flooding and wind- and wave-driven erosion. These impacts could lead to temporary or permanent inundation of the waterfront park/Albany "Bulb", coastal habitat (rocky shorelines, lagoons, mudflats, sand beaches), and existing trail, bird watching, and other public recreation areas.

*Inundated areas of the Albany Bulb today (blue); additional inundation expected by 2050 and by 2100 also shown. MHHW: mean higher high water. Source: Albany Neck & Bulb Transition Study. (2015). Figure 2.5.*




[4] Four Twenty Seven Climate Solutions. (2017). Albany Climate Change Chapter: Draft Adaptation Plan. 85 pp.

exception. Temperatures are projected to increase 2-4°F throughout the City by mid-century, with daily maximum temperatures increasing by up to 9°F and up to 35 additional days of extreme heat (over 90°F) expected by the end of the century under the high emissions scenario (see Figure 1).[5] Currently, Albany rarely experiences days over 90°F. Under these conditions, Albany could experience hotter and significantly drier.[6]

### Landslides

Given Albany's topography and geology, rain-induced landslides are relatively unlikely even with a projected increase in risk factors for landslide. While most emergency assets and other key resources are located outside of landslide-prone areas, some assets east of Albany Hill and San Pablo Avenue are in areas that could be affected by future landslides that result from more intense rainfall.[7]

### Wildfires

Increasing drought and temperature are projected to increase the area burned by wildfire by 77% throughout California under a high emissions scenario.[8] However, it is unclear how Albany may be affected. While there are no emergency assets in wildfire risk zones and the overall area burned in and near Albany may decline, Sutter East Bay Medical Care and the Children's Center may be at risk due to their proximity to Albany Hill (moderate fire hazard severity) and the park entrance at the east end of Albany Bulb (moderate to high fire hazard severity).[9,10] Additionally, both Golden Gate Fields and the freeway north of Buchanan Street are close to the park entrance.[11]

Additionally, smoke from nearby wildfires makes its way into the city, posing public health risks from smoke exposure. With more wildfires projected in this century, populations vulnerable to smoke, such as those with heart and lung conditions, the very young and very old, those who work outside, and those who are pregnant are at increased risk of exposure to smoke-related health effects. Some of the tactics being considered to reduce wildfire risk, such as turning off electricity during periods of high risk, would also cut power to cooling centers. Air conditioning is more likely to be needed during periods of high fire risk because it is likely to be hot, so solutions to this risk need to be considered holistically.

---

[5] Four Twenty Seven Climate Solutions. (2017). Albany Climate Change Chapter: Draft Adaptation Plan. 85 pp.

[6] University of Maryland, Center for Environmental Science. Map of "What will climate feel like in 60 years?". Data presented are for the high emissions scenario, with a direct line drawn between San Francisco and the location with similar future climate in Palos Verdes Estates. https://fitzlab.shinyapps.io/cityapp/ (accessed May 29, 2019).

[7] Four Twenty Seven Climate Solutions. (2017). Albany Climate Change Chapter: Draft Adaptation Plan. 85 pp.

[8] Westerling, Anthony Leroy. (University of California, Merced). 2018. Wildfire simulations for California's fourth climate change assessment: Projecting changes in extreme wildfire events with a warming climate. California's Fourth Climate Change Assessment, California Energy Commission. Publication Number: CCCA4-CEC-2018-014. http://www.climateassessment.ca.gov/techreports/docs/20180827-Projections_CCCA4-CEC-2018-014.pdf (accessed June 3, 2019).

[9] CalAdapt's wildfire projection tool indicates the annual average of area burned may decline for Albany in the 21st century, compared to 1961-1990, under all available combinations of emissions scenarios (medium and high), four climate models (warmer/drier, cooler/wetter, average, complement), and population growth (low, central, high). https://cal-adapt.org/tools/wildfire/#climatevar=fire&scenario=rcp85&population=bau_mu&lat=37.90625&lng=-122.28125&boundary=locagrid&units=ha (accessed June 3, 2019).

[10] Information on assets at potential risk from wildfire comes from the draft adaptation plan. Four Twenty Seven Climate Solutions. (2017). Albany Climate Change Chapter: Draft Adaptation Plan. 85 pp.

[11] Four Twenty Seven Climate Solutions. (2017). Albany Climate Change Chapter: Draft Adaptation Plan. 85 pp.

**FIGURE 7. PROJECTED EXTREME HEAT DAYS IN ALBANY.**

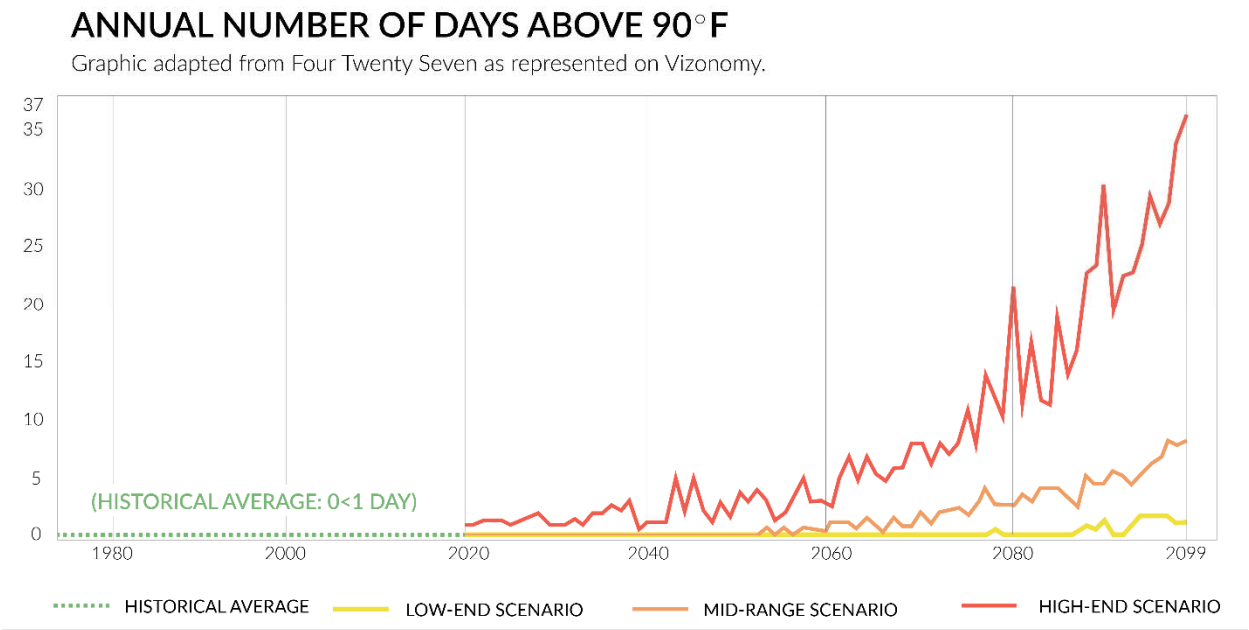



**TABLE 1. CLIMATE HAZARD RISK SUMMARY FOR ALBANY IN 2100 (SOURCE: FOUR TWENTY SEVEN CLIMATE SOLUTIONS).**

| Climate Hazard | Exposure[1] | Summary |
|---|---|---|
| Inland Flooding | Medium | Significant[2] exposure during 100-year (1 percent annual chance of occurrence) and 500-year (0.2 percent annual chance of occurrence) floods |
| Sea Level Rise | Medium | Significant exposure of regional resources likely by end of century with a 50-year or 2 percent annual chance storm surge (a combination of permanent and temporary flooding equivalent to 72 inches of sea level rise) |
| Temperature Change | Medium | Average temperatures projected to increase by 2 to 4 °F and extreme heat by 8 days per year by 2100 (90 °F +) |
| Precipitation Change | Low | Likely increase in intensity of events, limited change in overall rainfall |
| Rainfall-Induced Landslides | Low | Some emergency assets located in areas with "few landslides" |
| Wildfires | Low | No emergency assets located in high fire severity zones |

# Progress to Date

## Building on a Foundation

This City of Albany Climate Action and Adaptation Plan builds on the significant progress already made by the City government and the Albany community. Albany joined the Alameda County Climate Protection Project and ICLEI in 2006. In 2007, the City Council formed a Sustainability Committee (now the Climate Action Committee) of Council appointees to advise Council on greenhouse gas reduction strategies and other sustainability initiatives. In 2008, the City received funding jointly with City of Piedmont from the Bay Area Air Quality Management District (BAAQMD) to fund the preparation of a Climate Action Plan (CAP). The Climate Action Committee met multiple times with the consultants to guide the development process, hosted community engagement events, and conducted surveys at community centers. The CAP was adopted by the City Council in April 2010. The CAP outlined a course of action for the City and the Albany community to reduce greenhouse gas emissions 25% by 2020. Successful implementation of the CAP has resulted in a 33% reduction in greenhouse gas emissions from 2005 to 2018.

Key actions in the City's 2010 CAP are either accomplished or in progress. Successful CAP programs have included commercial and residential energy efficiency partnerships, municipal building upgrades and LED streetlights, implementation of the City's Active Transportation Plan and Safe Routes to School Program, and execution of land use and waste reduction policies. The City continues to work toward greenhouse gas emissions reduction goals by implementing CAP measures that are in progress or ongoing, focusing specifically on energy efficiency upgrades, renewable energy, and clean and active transportation projects.

The City has also pursued several efforts to increase resilience. The Albany Neck & Bulb Transition Study considered anticipated sea level rise scenarios when selecting a suite of measures to improve public access, safety, recreation and art; enhance habitat; and protect shorelines. The Local Hazard Mitigation Plan provides detailed information about the City's exposure to climate and non-climate risks, information that is crucial to develop climate actions that respond to both climate and non-climate risks. The draft adaptation plan provides detailed information about climate hazards specifically, highlights where a regional approach to adaptation is needed, and identifies resilience actions that address climate change, existing hazards, and risks to some of Albany's most vulnerable populations.

### Albany as a Leader in Climate Action

Cities like Albany have a critical role in mitigating and adapting to climate change. City-level action can be nimble, decisive, proactive, and grounded in the experiences of local communities.

Albany is a climate leader. The City has demonstrated this by supporting the Paris Climate Agreement, joining the Climate Mayors organization, and making significant progress on 2010 CAP measures, among other initiatives.

The City is well-positioned to take on even more, with its engaged community, walkable business district, and committed leadership. The City's strong regional partnerships, diverse transit options, and position within an innovative and well-resourced region will also support effective action. Additionally, Albany's large youth population is a particularly powerful voice. Two Albany High School students were members of the City's Climate Action Committee during the development of the Plan and provided meaningful input and insight throughout the planning process.

Individual community members, businesses, and the City of Albany together can continue to lead in climate action.

## Collaboration and Partnerships

The City works with partners in the regional community, across the state, and around the globe. The City cannot achieve its climate goals alone. The City must promote innovative collaboration between public, private, and nonprofit organizations. Community groups and individuals also play a key role in climate mitigation and adaptation efforts.[12]


[12] See Appendix C for more information on the City of Albany's partners and their roles.

## Partnership Spotlight: East Bay Community Energy

Albany's first Climate Action Plan identified joining a Community Choice Aggregation (CCA) Program as a priority for reducing greenhouse gas emissions. The Sustainability Committee (now Climate Action Committee) began evaluating the process and benefits of joining a CCA program in 2012. On November 21, 2016, the City Council approved a Joint Powers Authority Agreement to join EBCE.

In addition to joining EBCE, the Sustainability Committee and Council saw an opportunity to drastically decrease emissions from electricity in Albany: make EBCE's *Brilliant 100* service (100% carbon-free) the default electricity service for all municipal, commercial, industrial, and residential accounts in Albany. As a result, Albany saves an estimated 3,844 $MTCO_2e$ each year, and eliminates nearly all greenhouse gas emissions associated with electricity within the City.

Albany's success in joining a CCA and opting up all residential, commercial, industrial, and municipal accounts laid the foundation for many measures that are included within this updated Climate Action and Adaptation Plan. For example, by focusing on switching natural gas appliances to all-electric appliances that can run on EBCE's 100% carbon-free electricity, Albany can further reduce its energy emissions and bring the City closer to carbon neutrality.


### What is EBCE's *Brilliant 100* service?

EBCE's *Brilliant 100* electricity service is at least 40% renewable from solar and wind power, and 60% carbon-free electricity from large hydroelectric.

### How does EBCE do it?

# CARBON-FREE ALBANY

In January 2019, the City launched Carbon-Free Albany, an interactive platform on which residents can calculate their own carbon footprint, discover resources that can help them reduce their footprint, and connect with neighbors and community groups to see what others in Albany are doing to go carbon-free. With Carbon-Free Albany, residents can take meaningful action to bring the City of Albany closer to its carbon emission reduction targets, and help staff achieve the measures outlined in the Climate Action and Adaptation Plan.

Carbon-Free Albany hosts information on the City's carbon reduction targets, the updated Climate Action and Adaptation Plan, and national, state, and local resources for individual carbon emissions reduction strategies. City staff can send emails and updates to site users, providing new resources as they become available.

The platform encourages actions that range in cost, complexity, and impact. Actions labeled "easy" include committing to carpooling, switching to LED lightbulbs, and reducing waste output. More challenging actions, but with greater emissions reduction potential, include switching to all-electric space and water heating, and purchasing or leasing an electric vehicle. Now that residential and commercial electricity customers in Albany receive carbon-free electricity from East Bay Community Energy, individual actions that reduce fossil fuel consumption within the city are important steps toward citywide carbon neutrality. The platform not only suggests these actions, but also hosts links to rebates, incentive programs, and technical assistance.

Carbon-Free Albany will serve as a platform for continued community engagement with the Climate Action and Adaptation Plan. Every person in Albany has a role in helping the City meet its climate action goals. We hope you will actively engage with the Carbon-Free Albany platform to reduce your carbon footprint. Together, we can work to achieve Albany's goal of reaching carbon neutrality by 2050. We thank you for choosing to live in Albany, and for your partnership in working to ensure a vibrant and sustainable urban village.

**www.carbonfreealbany.org**

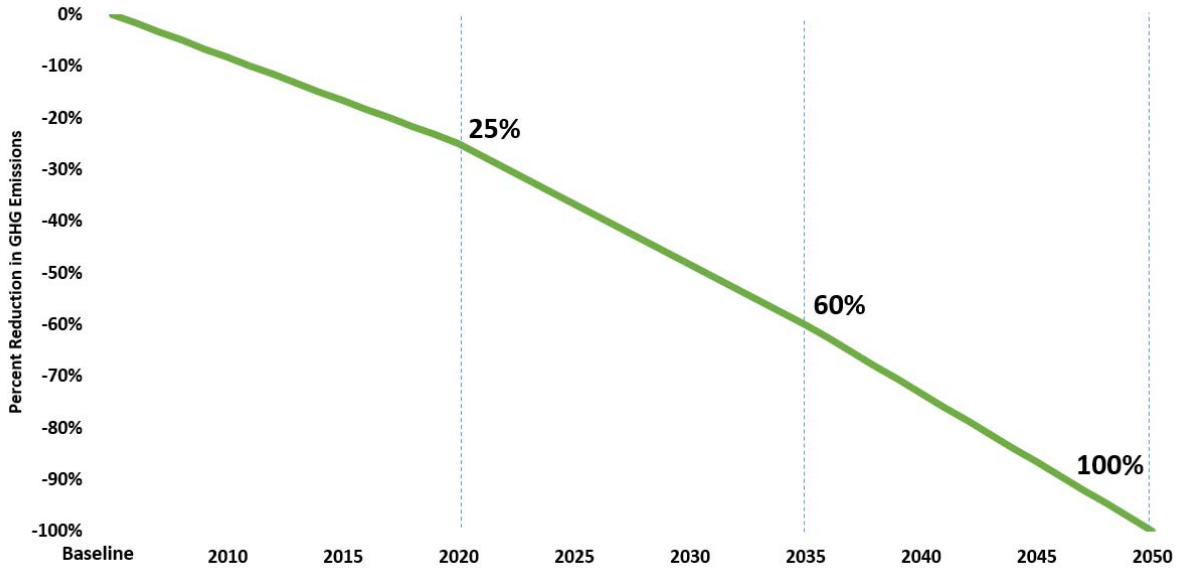
# Plan Goals

## Greenhouse Gas Reduction Targets

As part of the 2016 General Plan process, Albany adopted the following short- and long-term greenhouse gas reduction targets, compared to 2004 baseline emission levels:

- 60% reduction by 2035.
- Carbon neutrality by 2050.

**FIGURE 11. GREENHOUSE GAS EMISSIONS REDUCTION GOALS FOR THE ALBANY COMMUNITY.**




These goals build upon the goals of the Paris Agreement and the State of California, and position Albany to work on par with their peer communities:

- While part of the Paris Agreement, the United States had committed a goal to reduce emissions by 80% below 2005 levels by 2050.
- California has established targets to reduce emissions to 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. Executive Order B-55-18 issued by Governor Jerry Brown calls for a new statewide goal to achieve carbon neutrality by 2045.
- The City of Berkeley's (CA) goal is both net-zero carbon emissions and an 80% emissions reduction by 2050 (vs. 2000 levels).
- The City of Piedmont (CA) also aims for an 80% greenhouse gas emissions reduction by 2050 (vs. 2005 levels).
- The City of El Cerrito (CA) plans to reach a 30% reduction in greenhouse gas emissions by 2035 (vs. 2005 levels).
- The City of Emeryville (CA) has greenhouse gas emissions reduction targets of 40% by 2030 and 80% by 2050.

## What is Carbon Neutrality?

Albany defines carbon neutrality as achieving net zero greenhouse gas emissions caused by fossil fuel use within the City.

Albany has set a goal to achieve carbon neutrality by 2050. While this goal is challenging, it is not impossible. Ambitious reductions in greenhouse gas emissions will be required to reach carbon neutrality, but technological constraints may prevent reducing emissions to absolute zero by 2050. Therefore, in order to achieve carbon neutrality, every ton of $CO_{2e}$ still emitted will be balanced with an equivalent amount of $CO_{2e}$ removed, until the original emissions source is eliminated. $CO_{2e}$ removal may come from a combination of carbon-sequestering natural systems and land management practices, as well as from carbon capture technology as it becomes available. Additionally, Albany has the opportunity to further reduce more global carbon emissions beyond the adopted definition of carbon neutrality through its consumption choices.

Achieving carbon neutrality will require the transformation of energy and transportation systems, a shift in consumer behavior, and investment in carbon removal technologies as they become available. It will involve individual and City actions, as well as advocacy on the regional and state level. Together, we can achieve carbon neutrality in the City of Albany.

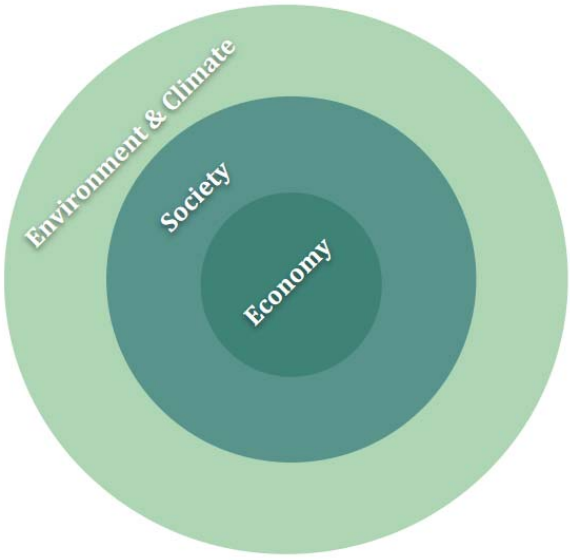
## Communitywide Goals

Implementation of this plan will result in significant emissions reductions, while enhancing community co-benefits and addressing pubic health, disaster resilience, affordability, and social equity.

### What Sustainability Means

Sustainability is the intersection of social equity, economic stability, and environmental quality. Because of this, our sustainability programs aim to protect and enhance the three "E's" – the environment, the economy, and equity – to improve the well-being of current community members and future generations.


While sustainability can only be achieved by enhancing social equity, environmental quality, and the economy, these concepts also live within each other. A thriving local economy requires a stable and equitable social structure, which requires a healthy environment and stable climate.



## Climate and Equity

Equity is central to addressing climate change. Many of the countries most responsible for contributing to global emissions, such as the United States, will not endure the worst impacts of climate change. Climate change disproportionately affects the most vulnerable in Albany and globally, including low-income populations, communities of color, those with disabilities, and those experiencing homelessness, many of whom do not have the resources or capabilities to protect, restore, or adapt to these changing conditions.

Enhancing equity includes promoting inclusion in the political process, expanding opportunity and equal access to public services, providing equal service quality, and striving for equitable outcomes in areas such as housing, education, health, and employment. The potential limitations or exclusions of a recommended action to a certain group of people must be minimized, including but not limited to all abilities, ages, races, ethnicities, sexual orientations, gender identifications, socio-economic backgrounds, or religious and cultural beliefs. That is why equity implications of every strategy in this CAAP were considered in the planning process. The City will continue to consider equity and affordability as the programs and policies that result from this CAAP are implemented.

### How Equity is Considered in this CAAP

Equity is integrated throughout Albany's CAAP. For example, the following plan elements emphasize and address equitable climate action:

- An ambitious greenhouse gas emissions reduction target that acknowledges the responsibility of developed societies to minimize harmful impacts to those who did not contribute to the problem.
- Actions that focus on supporting vulnerable populations, who will disproportionately experience many climate change impacts.
- Including equity in prioritization criteria for evaluating potential actions.
- Progress indicators that track equitable implementation of the plan.
- An implementation plan that calls for equity to be considered in the execution phase of every action.

## Who is Most Vulnerable to the Impacts of Climate Change?

Inequity in our society means that some individuals are better able to respond to change—or stressors—than others. For example, those with lower incomes may have to make difficult choices between paying for heating or meeting other basic needs, and may not have access to quality healthcare. The elderly, undocumented migrants, or people from families with mixed immigrant status are less likely to leave their homes to seek aid.

While all populations are at risk of being impacted by climate change, certain groups are more vulnerable. The very young and very old, outdoor workers, those with pre-existing illnesses or weak social ties, those living on the street, and low-income communities may be especially sensitive to climate change related health impacts. This CAAP considers all these communities when discussing vulnerable communities and equity.

How Albany chooses to address climate change has ripple effects that extend far beyond the City borders. This CAAP seeks to identify and support disadvantaged communities that may have more trouble adapting to change within Albany and within the region more broadly.

# Plan Development

## Building it Together

This Plan represents the culmination of over a year-long, communitywide development process. In designing the planning process, the City sought to solicit local expertise, bring in diverse perspectives, and tie engagement into existing activities and processes. The goal was to craft a plan that reflects and leverages the shared vision and momentum of the community.

**FIGURE 8. PLAN DEVELOPMENT TIMELINE (JULY 2018-OCTOBER 2019)**


Key elements of the community engagement process included:

- Climate Action Committee and subcommittees: The City's Climate Action Committee (formerly Sustainability Committee) is a Council-appointed advisory body, consisting of seven members of the Albany community, which serves as a technical advisory committee regarding matters related to climate action. The Climate Action Committee met on an ongoing basis throughout the planning process to identify, assess, and formalize the goals and strategies of the plan. Topic area-focused subcommittees also conducted more detailed review and analysis of topics including transportation, resilience, consumption, and electrification. All committee meetings were open to the public, with opportunities for public comment.
- Community surveys: The City administered two online communitywide surveys: 1) an initial survey to gauge community priorities, concerns, and ideas and 2) a second survey that was distributed to solicit feedback on the draft plan.
- Public workshop: The City facilitated a public workshop in January 2019 to generate Albany-specific strategies and actions for the plan. The workshop included interactive stations covering a variety of climate-related topics that allowed participants to voice their preferences and present their ideas for mitigation and adaptation measures for the Plan.
- Stakeholder focus groups: City staff organized focus group meetings with four key stakeholder groups to determine priorities and feasibility of potential strategies: 1) landlords and property owners, 2) transportation stakeholders, 3) business associations, and 4) green infrastructure stakeholders.
- Community group engagement: City staff presented on the Climate Action and Adaptation Plan and the Carbon-Free Albany platform at several community group meetings.
- Engagement with City groups: The draft Climate Action and Adaptation Plan was presented to the Parks, Recreation, and Open Space Commission; Social and Economic Justice Commission; Traffic and Safety Commission; Planning and Zoning Commission; Economic Development Committee; the Climate Action Committee; and City Council. Feedback from these Committee and Commission meetings was incorporated into the final Plan.
- Channels of communication: The City communicated with community members throughout the planning process via the following channels: City website, enews, and enotifications; social media (Nextdoor & Facebook); CAP 2.0 email list; informational flyers at City Hall, Senior Center, Community Center; meetings and events

## Community Engagement

This Climate Action and Adaptation Plan incorporates the Albany community's ideas and priorities, and the recurring themes that resulted from extensive community engagement during the planning process.

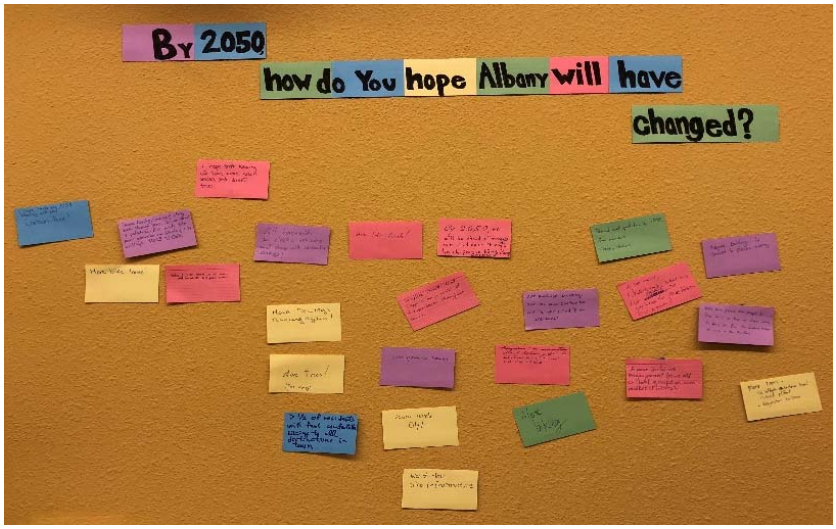



**FIGURE 9. VISIONING EXERCISE FROM COMMUNITY WORKSHOP.**

At the Climate Action and Adaptation Plan Community Workshop in January 2019, community members were prompted to envision Albany in 2050. The responses the City received painted a picture of a more walkable, bikeable, forested, and resilient Albany (see Figure 9). The comments received from this activity, as well as the comments received from surveys, stakeholder meetings, and at the Climate Action Committee meetings were instrumental in the development of the Climate Action and Adaptation Plan.

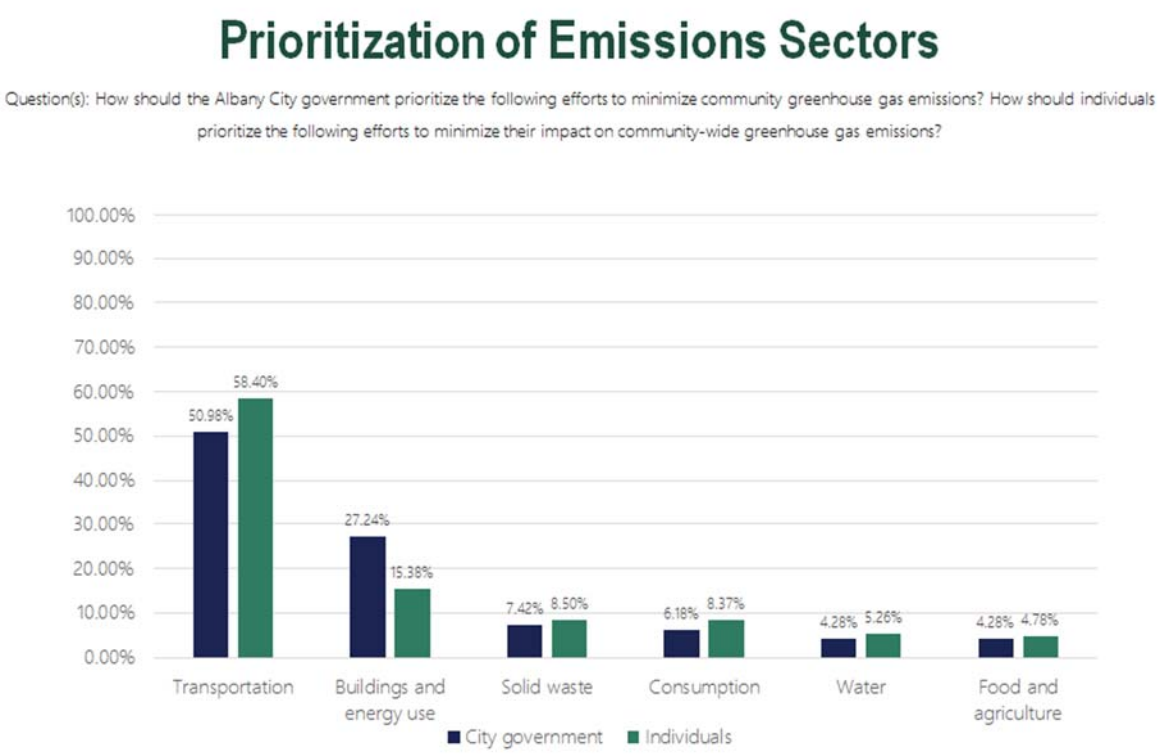
### Community Priorities

The City collected over 300 responses to a community survey in the fall of 2018. The survey responses indicated that respondents agree that it is important for local governments, and the City of Albany specifically, to do their part to mitigate and prepare for the effects of climate change (see Figure 10).

**FIGURE 10. SURVEY RESPONDENTS INDICATED SUPPORT FOR CITY AND INDIVIDUAL CLIMATE ACTION.**

Survey responses also indicated that the respondents believe that the City of Albany's role in addressing climate change is to engage the Albany community in both public and private greenhouse gas emissions reduction, as well as consider public health, environmental impact, and minimization of resource use when developing the Climate Action and Adaptation Plan actions. The respondents also indicated that the City and its community members should prioritize decreasing emissions from energy use in buildings and the transportation sector (see Figure 11).

**FIGURE 11. PRIORITIES FOR REDUCING GREENHOUSE GAS EMISSIONS FROM SURVEY RESPONDENTS.**




## Recurring Themes

From both individual comments and general feedback, it became clear that the Albany community wants to address the following themes in the Climate Action and Adaptation Plan: active transportation, electrification, trees and green space, and smarter consumption. The themes that emerged at each stage of the planning process guided development of the objectives and strategies that make up the Plan, ensuring the Plan reflects the Albany community's vision for reducing emissions and achieving carbon neutrality by 2050.

### Active Transportation

Members from the Albany community hope to transition to a walkable, bikeable City for all to reduce demand for gasoline-powered vehicles.

- *"World class bike infrastructure"*
- *"Use public transit of all types (BART, buses, bike share) and active transportation of all types (walking, biking, scooters) to keep your emissions low!"*

### Electrification

The Albany community recognizes the importance of reducing reliance on vehicles and appliances that run on carbon-emitting fuels such as gasoline and natural gas, both in the public and private spheres.

- *"Support transition to e-vehicles"*
- *"Prohibiting natural gas in new buildings!"*

### Trees and Green Space

Community members emphasized that plants and trees are desirable because they not only sequester carbon from the atmosphere, but also provide many co-benefits such as shade, urban beautification, and wildlife habitat.

- *"Albany needs more trees, both for climate change and beautification"*
- *"Plant & preserve the urban forest (trees)"*

### Smarter Consumption

The community highlighted the importance of understanding the lifecycle emissions of goods and services and communicating that to the wider community.

- *"Consider where businesses/industry source materials to reduce GHG/waste pre-consumption"*
- *"Participate in regional approach to reducing single-use plastics."*

## Alignment with Other City Plans

Climate change is a complex, cross-cutting issue that spans traditional sectors and siloes. Furthermore, the Climate Action and Adaptation Plan will not be implemented in a vacuum, but rather within an engaged and active community that is already working to improve quality of life through planning efforts, initiatives, and projects. This plan recognizes, connects to, and in some cases builds on these existing activities, including:

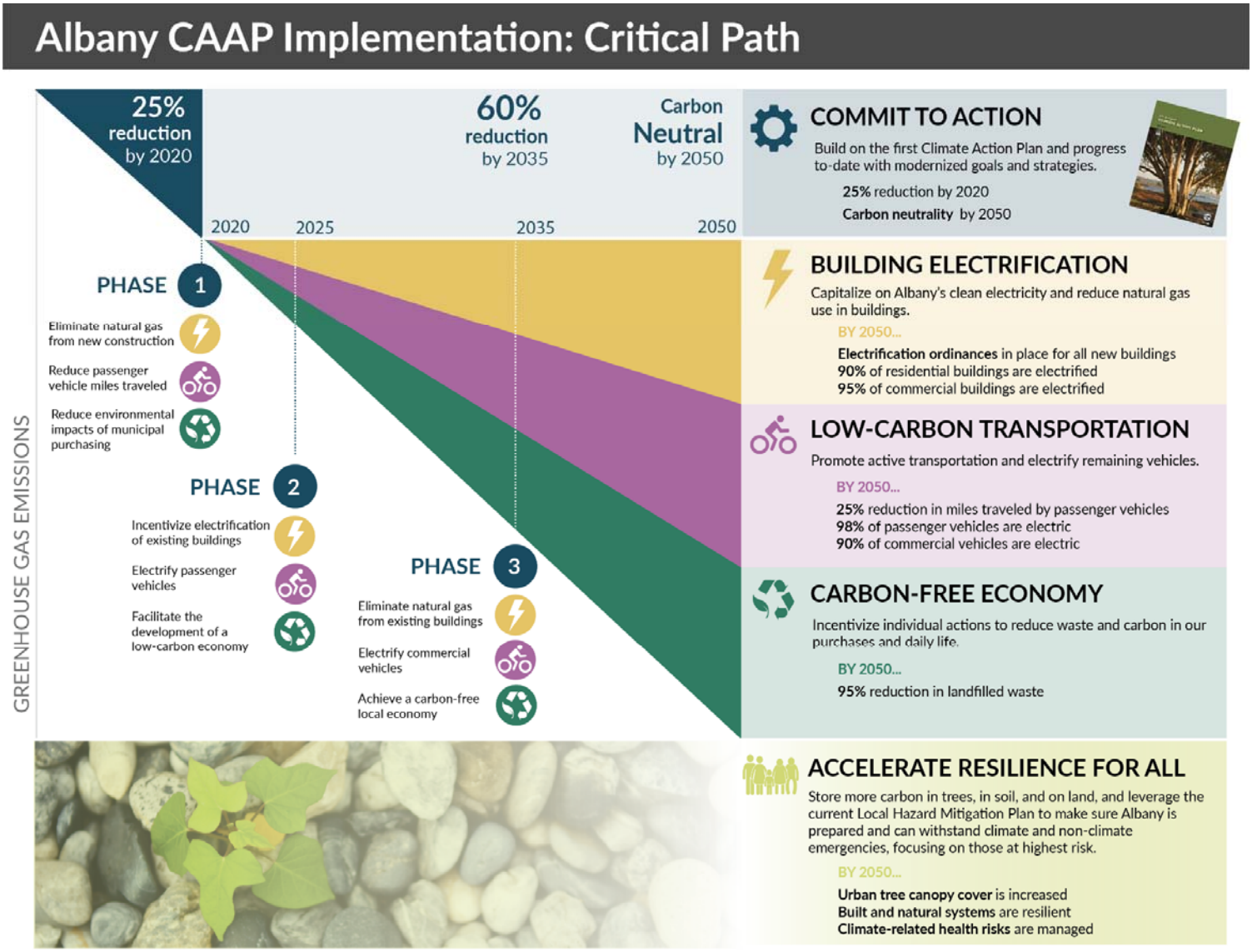
- City of Albany General Plan: The Albany General Plan presents a comprehensive long-term plan for the City in order to guide consistent decisions around development, growth, and conservation in Albany. The General Plan details Albany's future goals, along with the policies and actions such as transit-oriented development, green building, low-carbon energy sources, and waste reduction needed to achieve those goals. Also included in the General Plan is a new, more aggressive emissions reduction target than in the 2010 CAP: 60% reduction below 2005 levels by 2035, and net zero emissions by 2050.
- Active Transportation Plan: The Active Transportation Plan recognizes the importance of walking and biking for reducing traffic and air pollution. This plan presents opportunities to make walking and cycling in Albany more safe, comfortable, convenient, and enjoyable through the implementation of new policies, programs, and development standards.
- Local Hazard Mitigation Plan: The Local Hazard Mitigation Plan identifies opportunities to reduce the natural and human-caused risks of greatest concern for Albany's community, such as earthquakes, infrastructure failure, and wildfire, among others. Within the plan, hazards are ranked by probability and magnitude of risk, and strategies for mitigating each hazard are outlined.
- Economic Development Strategic Plan: The Economic Development Strategic Plan outlines targeted policies and programs to enhance the business climate in Albany for the next five years.
- Green Stormwater Infrastructure Plan: The Green Stormwater Infrastructure Plan uses certain trees, plants, and other vegetation to slow stormwater and remove pollutants before the water enters the drain. Slowing stormwater can reduce the likelihood or intensity of flooding, while trees and other vegetation sequester carbon and provide shade.
- Other Plans: The Albany Neck & Bulb Transition Study incorporates anticipated sea level rise in its recommendations to enhance habitat, protect shorelines, and transform the Neck and Bulb into an active public green space with walking paths, biking trails, and dedicated areas for dogs, bird watching, and public art. The Albany Hill Creekside Master Plan uses vegetation management and trail maintenance to reduce fire hazard, control for erosion, and support diverse habitat and wildlife.

# A Critical Pathway

The City cannot feasibly implement all strategies and actions at once. This Plan lays out a prioritized, strategic, and phased approach to meeting the City's climate goals.

This pathway, depicted below, focuses on addressing the most impactful and timely actions first. For example, early electrification of new building construction will ensure that future buildings will not require costly retrofits.

The pathway also prioritizes actions within the City's sphere of control. It focuses on leveraging the City's available resources and influence in the near-term to reach interim emission reduction targets, and then relying on technological advancements and broader state and federal policy will help to fill the gaps later on.



# Strategies and Actions

## Summary of Strategies and Actions

This City of Albany Climate Action and Adaptation Plan is centered on four overarching strategies:

### Strategy 1: Activate, share, and electrify transportation.

This strategy addresses one of the top emissions sources by focusing on active transportation and electrifying vehicles.

### Strategy 2: Electrify new and existing buildings.

This first strategy leverages and sets the foundation for long-term savings from clean electricity through electrification of new and existing construction (e.g. installing heat pump hot water heaters and utilizing sustainable building materials) with the goal of eliminating natural gas use in buildings.

### Strategy 3: Facilitate a carbon-free economy.

This strategy commits the City to choosing low- or no-carbon options for typically high-emissions purchases (e.g., concrete, fuel, fleet), while incentivizing individuals' actions to reduce waste and carbon in their daily lives.

### Strategy 4. Accelerate resilience for all.

This strategy stores more carbon in trees, in soil, and on land, and leverages the current Local Hazard Mitigation Plan to make sure Albany is prepared and can bounce back from climate and non-climate emergencies, focusing on those at highest risk.

## How to Read the Strategies and Actions

Each strategy section (Transportation, Electrification, Economy, Resilience) begins with an Overview describing the strategy, including its importance and relevance to other sectors. The Climate Connection indicates the contribution the strategy will make to reducing Albany's greenhouse gas emissions. Goals are briefly stated, followed by a detailed Actions table (explained below).

Goal 1: Decrease passenger vehicle miles traveled (VMT) through use of alternative modes.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Encourage active transportation through infrastructure and parking management. | | | | |
| 1.1.1 | **Develop a new Active Transportation Plan (ATP). Analyze gaps in active transportation network and develop a new ATP** that serves as the basis for prioritizing active transportation projects for all abilities in the City. The Plan should emphasize multimodal transportation, access to transit, pedestrian safety, bike racks and lockers, beautification, green infrastructure, and a seamless regional bike network that favors low stress bike lanes where feasible. Consider greenhouse gas implications of improved street lighting. |  |  | Near-term |

**Action:** The policies, programs, ordinances, or other general steps that will be taken to meet the goal.

**Investment:** Investments by the City and/or other public agencies, as well as investments by households and/or local businesses.

**Household or Business Investment:** Household or business investment icons indicate that the action may require investments to be made by community members and/or local businesses.

**High Investment:** >$15,000

**Moderate Investment:** $1,000-$15,000

**Low Investment:** <$1,000

**Public Investment:** Public investment icons indicate that the action may require investments to be made by the City of Albany and/or other state and regional agencies.

**High Investment:** >$250,000

**Moderate Investment:** $25,000-$250,000

**Low Investment:** <$25,000

 **Greenhouse Gas (GHG) Emissions Reduction Potential:** The greenhouse gas emissions reduction potential icon indicate that the action has the potential to directly reduce greenhouse gas emissions.

 **Public Health:** The public health icon indicates that the action could enhance public health.

 **Resilience:** The resilience icon indicates that the action builds community resilience to climate change impacts.

 **Feasibility:** The feasibility icon indicates that the action is highly feasible technically, politically, and socially under current conditions.

 **Equity:** The equity icon indicates that the action could enhance equity within the community, or that equity considerations will be taken into consideration during implementation of the action.

 **Leadership**: The leadership icon indicates that the action has high potential for Albany to be innovative and demonstrate its leadership in climate action

| Timeframe | |
|---|---|
| Near-term | Next 0-3 years (2020-2023) |
| Mid-term | Next 4-9 years (2024-2030) |
| Long-term | 10 or more years (2031-2050) |

## Strategy 1: Activate, Share, and Electrify Transportation.

*Relevant sectors: Transportation*

### Overview

Transportation is the highest source of greenhouse gas emissions in Albany. The adoption of a 100% renewable energy pathway, along with increasing interest in alternative fuel vehicles, walking, biking, and transit, demonstrate that Albany is ready to transition to low-carbon transportation. Increasing active transportation is the priority, as this form of mobility emits the fewest greenhouse gas emissions. While the current dependency on single-occupancy vehicles is unlikely to change dramatically in the near-term, and purchasing decisions made now will have lasting impacts, this Plan encourages electric passenger vehicle adoption for those who are unable to fully rely on active transit and public transit. Reducing reliance on fossil fuels for transportation also brings economic, public health, and resilience benefits, as consumers are no longer subject to price fluctuations in natural gas and petroleum markets or air pollution from internal combustion engines.

Low-carbon transportation also includes actions to incentivize the use of carpooling, transit use, and bike- and walk-friendly urban street design. Together, these actions provide lower-carbon options for those who still need to drive, reduce key barriers to taking transit, and create safe, ample opportunities for active transportation. Making it easy to choose a low-carbon option means more community members will try alternative transportation modes and form new, low-carbon transportation habits that improve health and well-being, encourage drop-in business, and reduce local air pollution from fossil fuel-powered vehicles.

### Climate Connection

- Fossil fuel use from transportation is responsible for over 50% of current community greenhouse gas emissions in Albany.

### Existing Programs

- Supporting Safe Routes to School Programming.
- Promoting existing events such as Bike About Town, Bike-In Movie Night, and Bike to Work Day
- Working with SunShares to provide resources and bulk discounts for the purchase of electric vehicles and chargers.
- Implementing a municipal Clean Fleet and Motorized Equipment Procurement Policy to switch municipal vehicles and motorized equipment to cleaner fuels.

### Goals & Targets

| Goal | 2050 Target |
|---|---|
| Decrease passenger vehicle miles traveled (VMT) through use of alternative modes. | • 25% reduction in passenger vehicle miles traveled. |
| Transition passenger vehicles to zero emission alternatives. | • 98% of passenger vehicles are electric.<br>• 90% of commercial vehicles are electric. |

**What is Active Transportation?** Active transportation is a form of transporting people (and goods) that utilizes human power, such as walking and biking, as well as running, skateboarding, rollerblading, or using a scooter. Active transportation is free or greenhouse gas emissions and promotes public health through increased exercise.

**What is Shared Mobility?** Shared (or pooled) mobility options are modes of transportation that are shared with multiple passengers beyond a single family. Shared transportation includes carpool/vanpooling, transit such as AC Transit and BART, and rideshare such as UberPool and Lyft Line.

**Carshare:** Vehicles owned by a third-party operator that can be shared among many different users (e.g., Gig Car Share, Zipcar).

**Rideshare:** Carpooling or ride hailing services (e.g., Uber, Lyft).

Goal 1: Decrease passenger vehicle miles traveled (VMT) through use of alternative modes.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Encourage active transportation through infrastructure and parking management. | | | | |
| 1.1.1 | **Develop a new Active Transportation Plan (ATP). Analyze gaps in active transportation network and develop a new ATP** that serves as the basis for prioritizing active transportation projects for all abilities in the City. The Plan should emphasize multimodal transportation, access to transit, pedestrian safety, bike racks and lockers, beautification, green infrastructure, and a seamless regional bike network that favors low stress bike lanes where feasible. Consider greenhouse gas implications of improved street lighting. |  |  | Near-term |
| 1.1.2 | **Expand and enhance bicycle infrastructure throughout the City.** Prioritize low stress facilities to encourage increased ridership. |  |  | Mid-term |
| 1.1.3 | **Research feasibility and emissions reduction impact of implementing a parking management strategy.** This research would explore the costs, benefits, and considerations of introducing a parking management strategy such as paid parking or permit systems. |  |  | Mid-term |

| | | | | |
|---|---|---|---|---|
| Approach: Encourage shared mobility programs. | | | | |
| 1.1.4 | **Research and develop a curb management program that prioritizes carbon reduction.** Elements of the program would include 1) establishing designated rideshare and third-party carpooling parking and loading zones, 2) incentivizing carsharing programs, and 3) integrating scooter and bike share docks, bike parking, electric vehicle charging, and green infrastructure. |  |  | Near-term |
| 1.1.5 | **Work with third party programs to provide shared e-mobility options.** There are a variety of companies that provide shared mobility options such as electric bikes and scooters. The City will work with these companies to encourage the provision of these services to Albany community members and visitors, while considering safety implications. Work with carshare programs to expand electric vehicle options and promote use of third-party carpooling apps and services. Address any safety concerns. |  |  | Near-term |
| 1.1.6 | **Conduct a public transit gap study to increase transit use within the City.** Identify opportunities for additional routes to accommodate all users. Explore the demand for an electric shuttle to BART stations, commercial corridors, and areas of the City underserved by public transit. The City should explore both the necessity and the feasibility of this measure—including an assessment of potential operating costs—and consider introduction of an autonomous shuttle as technologies develop. Explore options for reducing public transit fares. |  |  | Mid-term |
| Approach: Encourage density through infill development. | | | | |
| 1.1.8 | **Amend the zoning ordinance to require higher density development where appropriate.** These amendments should include increasing building heights, allowing projects to build out to approved densities, and consider opportunities for mixed land use. Increased density can minimize vehicle miles travelled. |  |  | Near-term |
| 1.1.9 | **Introduce a residential unit-parking swap program for multi-family property owners in exchange for seismic retrofits.** This program would incentivize seismic retrofits for soft-story multi-family buildings and encourage density by allowing property owners to add additional units to a building beyond current restrictions in exchange for the sacrifice of a parking spot. The added revenue would help pay for a seismic retrofit. This exchange would increase density and discourage vehicle ownership and use, which in turn would lower transportation emissions. |  |  | Mid-term |

Goal 2: Transition passenger vehicles to electric alternatives.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Increase access to electric vehicle charging infrastructure. | | | | |
| 1.2.1 | **Create an Electric Vehicle (EV) Action Plan.** An EV Action Plan would: 1) increase public access to chargers, 2) identify optimal sites for chargers in commercial areas and near the freeway, including DC fast chargers accessible to through traffic, 3) consider integrating chargers into streetlight infrastructures, 4) consider Smart charging technologies that enable a more resilient grid, 5) address barriers to charging for garage-free homes and rental properties, 6) increase use of EVs in carshare programs, and 7) assess the potential to partner with third-party EV charging station providers and EBCE to lower cost and complexity. This action would also include performing outreach promote widespread adoption of EVs and working to integrate electric commercial vehicles such as buses and garbage trucks, where possible. . |  |  | Near-term |
| 1.2.2 | **Adopt an electric vehicle readiness ordinance that would increase the charging requirements for new construction and renovations.** Consider adopting an ordinance exceeding requirements of the 2020 code for installation of electric vehicle conduit and/or chargers for single-family, multi-family, and commercial projects. |  |  | Near-term |
| 1.2.3 | **Work with gas stations to create the fueling stations of the future.** The City could work with existing gas stations to identify opportunities for low-carbon fuels such as renewable diesel and ethanol, as well as electric vehicle charging as space allows. Improving accessibility to low-carbon fueling stations could persuade consumers who are worried about refueling limitations to make the switch to zero emission vehicles. |  |  | Long-term |

## Strategy 2: Electrify New and Existing Buildings.

*Relevant sectors: Residential and Commercial Buildings*

### Overview

With a 100% renewable electricity pathway identified and underway through East Bay Community Energy (EBCE)'s service and programs, the City plans to prioritize transitioning Albany residents and businesses from using fossil fuels to clean electric energy. This includes actions to incentivize or require a shift from natural gas infrastructure to all-electric infrastructure in both current and new buildings, as well as actions promoting energy conservation and efficiency. Beginning by prioritizing electrification will address the City's second-highest emissions source, institutionalize a more reliable and resilient, low-cost energy source, and hedge against the volatility of natural gas costs in the coming years.

Although electric appliances and infrastructure may be more expensive at present, State efforts to electrify and advancements in technology should bring these costs down over time. As a long-term planning document, this Plan aims to set the stage for electrification so that Albany can meet its long-term emissions reduction goals. These measures will be implemented with cost, feasibility, and timing considerations.

**Why Electrify?**

- Reduce greenhouse gas emissions
- Improve indoor air quality
- Fire safety
- Lower construction costs
- Earthquake safety
- Lower maintenance costs
- Reduced hazard potential

This section focuses on electrification rather than production of renewable energy resources. However, local renewable resources are crucial for resilience, and measures to accelerate their adoption can be found both here and in Strategy 4: Accelerate resilience for all. The resilience section also includes actions related to resilience and capacity of the electricity grid—which will be increasingly important as we transition to all-electric infrastructure.

### Climate Connection

- Natural gas consumption in buildings contributes approximately 40% of current community greenhouse gas emissions.

### Goals & Targets

| Goal | 2050 Target |
|---|---|
| Eliminate natural gas from new construction.<br><br>Eliminate natural gas in existing buildings. | • 98% electrification of existing residential buildings<br>• 95% electrification of existing commercial buildings<br>• All new commercial buildings are electric<br>• All new residential buildings are electric |

### Existing Programs

- Promoting commercial and residential energy efficiency incentive programs.
- Partnering with EBCE to provide carbon-free electricity to Albany residents, institutions, and businesses.

## Actions

### Goal 1: Eliminate natural gas from new construction.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Mandate all-electric construction. | | | | |
| 2.1.1 | **Adopt regulations to require all-electric buildings for new construction.** Options such as building code updates or ordinances should be explored as tools for transitioning new construction to all-electric Ultimately as the relative cost of conversion from gas to electric comes down, these regulations would cover both new construction and major renovations of existing buildings, including accessory dwelling units. |  |  | Near-term |

### Goal 2: Eliminate natural gas in existing buildings.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Electrify City facilities. | | | | |
| 2.2.1 | **Work with regional energy partnerships to develop and implement an Electrification Action Plan for City facilities.** Include new and existing buildings, incorporate strategies to address energy storage, focus on highlighting any hurdles or solutions that would be applicable to the broader community, and leverage existing rebates. |  |  | Near-term |
| Approach: Educate the community on fuel switching needs, benefits, and methods. | | | | |
| 2.2.2 | **Coordinate with regional efforts to conduct outreach and training with local contractors and businesses on electrification.** Working with installers and other trade services promotes green job creation. These outreach efforts would provide tools and knowledge for businesses while also reinforcing the non-energy benefits of electrification such as improved resilience, air quality, and public health and safety. |  |  | Near-term |
| 2.2.3 | **Connect landlords with contractors, information, and resources for electrification.** Working with landlords and property managers directly to provide information and tools for electrification is an important foundational component of a broader electrification incentive or mandate program. |  |  | Near-term |

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| 2.2.4 | **Work with regional energy partnerships to invest in electrification financing programs such as on-bill financing and metered energy efficiency.** Working with third-party entities allows the City to leverage incentive systems for electrification, such as options for financing projects and paying back loans through power bills. |  |  | Near-term |
| Approach: Incentivize electrification of existing buildings. | | | | |
| 2.2.5 | **Deploy an outreach and incentive program for electrification.** The City should work with EBCE or other regional partnerships to create financial incentives and perform education and outreach to electrify new and existing buildings. Rebates could be structured by income level and prioritized for rental units to be used for panel upgrades, building envelope improvements and passive home design features, electric appliances, heat pumps, and renewables coupled with storage. |  |  | Mid-term |
| 2.2.6 | **Pursue increase in Utility User Tax for natural gas.** To incentivize the transition to all-electric buildings, a Utility User Tax increase of 2-4% on natural gas would put a price on carbon and generate revenue for matching funds for incentives for electrification projects. This action would require that PG&E allow for differential billing for electricity within their billing systems. |  |  | Near-term |
| 2.2.7 | **Work with EBCE to continue incentivizing local renewable energy projects.** Through collaboration with EBCE, the City could leverage existing incentives to increase renewable energy utilization and generation throughout the entire city. These incentives would include solar installation incentives for residential, commercial, and institutional buildings. |  |  | Near-term |

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| 2.2.8 | **Support and advocate for State efforts to decarbonize buildings and vehicles.** The State of California has exhibited a commitment to decarbonization, including recent introduction of SB 1477, which calls for all-electric, zero-carbon building programs and updating the State's building and appliance energy efficiency standards. Supporting these efforts and advocating for additional decarbonization efforts would be a relatively low-effort way to realize cascading benefits for Albany. |  |  | Near-term |
| 2.2.9 | **Adopt an ordinance requiring individual meters for new multi-family construction.** Consider adopting an ordinance exceeding requirements of the 2020 code for installation of meters in multi-family construction projects. |  | | Mid-term |
| Approach: Mandate electrification of existing buildings. | | | | |
| 2.2.10 | **Partner with EBCE to research the feasibility of requiring electric panel upgrades during major renovations.** Readying electric panels for the transition to all-electric is a crucial foundational step for households, schools, and businesses. For example, when an upgrade is made for solar or electric vehicles, it is sized to consider future electric appliances or infrastructure. Research will need to be conducted to determine the best method for pursuing this goal, including research on legal feasibility and cost. |  |  | Near-term |
| 2.2.11 | **Adopt green building tiers.** Adopting CalGreen tiers can promote efficient and sustainable development. |  |  | Near-term |
| 2.2.12 | **Identify a pathway for converting existing buildings to all-electric energy.** It is likely that incentives will not be enough to meet the City's goals, and the City will need to transition to mandates to ensure widespread electrification of existing buildings. |  |  | Long-term |

## Strategy 3: Facilitate a Carbon-Free Economy

*Relevant sectors: Solid waste*

### Overview

Albany is committed to decreasing greenhouse gas emissions, creating a more sustainable community and local economy, and curbing global climate change. To meet this goal, it is important to not only look at the emissions being released within Albany, but also the emissions tied to the production, transportation, use, and disposal of goods and services consumed within Albany. The goods and services that are consumed by Albany community members and visitors—such as clothing, furniture, meat and dairy, and air travel—represent a considerable source of greenhouse gas emissions, whether or not the goods and services are originally produced in Albany. For example, an appliance purchased in Albany is produced in a factory that emits greenhouse gases during production, is then transported on a fossil-fuel burning truck to the location at which it will be sold, may use energy or produce greenhouse gas emissions during its use, and will require additional greenhouse gas-emitting technology during end of life recycling or disposal. Although the appliance did not originate in Albany, the demand for the product by consumers in Albany led to the production of, transportation of, use of, and disposal of the product. Ultimately, if demand for carbon-intensive products decreases, so do the greenhouse gas emissions tied to them.

Decreasing demand for greenhouse gas emissions-intensive goods and services is a vital step to addressing global climate change. While behavior change is challenging, many community members and businesses are already taking positive actions to reduce their individual carbon footprints. Purchasing products made of post-consumer recycled material, shopping locally, eating less meat and dairy and more locally grown fruits and vegetables, and participating in local tool-lending libraries and clothing swaps are all relatively low-effort actions that result in a significant emissions reduction impact.

The City plans to lead by example by updating the municipal Sustainable Purchasing Policy to focus on purchasing items with a smaller carbon footprint, such as low-carbon concrete and post-consumer recycled materials. Ultimately, emissions from consumption must be reduced through consumer behavior change strategies that reduce waste and spur systemic changes toward a local, circular, low-carbon, re-use economy. The City can advance these outcomes through public education, economic development, and building codes. These strategies take advantage of existing programs in the City and regionally, such as those provided by StopWaste, and recognize the crucial role of education, outreach, and community sharing in achieving collective behavior change.

### Climate Connection

- Waste collection and processing contributes to current greenhouse gas emissions.
- Although not formally in the City's greenhouse gas inventory, the purchases of goods and services by community members also represent a significant source of greenhouse gas emissions.

## Existing Programs

- Increasing community engagement with the Carbon-Free Albany platform to educate and motivate the public to reduce their individual carbon footprints.
- Promoting the circular economy through fix-it clinics, swap events, and the Albany Tool Pool.
- Amplifying "Shop Local" campaigns.
- Maintaining partnership with Stopwaste to reduce food waste through education on proper food storage techniques and sell-by dates.

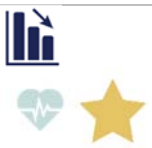
## Goals & Targets

| Goal | 2050 Target |
|---|---|
| Decrease environmental impacts of municipal purchasing.<br>Promote the development of a low-carbon economy. | • Implementation of updated Sustainable Procurement Policy<br>• 95% reduction in landfilled waste. |

## Actions

### Goal 1: Decrease environmental impacts of municipal purchasing.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Update and implement Sustainable Procurement Policy. | | | | |
| 3.1.1 | **Update, simplify, and implement the municipal Sustainable Procurement Policy.** An updated Sustainable Procurement Policy would prioritize improvements for the highest emissions reduction impact purchasing decisions within each department, including vehicle and fuel purchases and low-carbon concrete. This action would also include creating environmentally preferable purchasing procedure and educate staff responsible for purchasing. |  |  | Near-term |

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Mandate and encourage waste reduction. | | | | |
| 3.2.1 | **Partner with StopWaste to develop and then adopt an ordinance requiring reusables for dine-in restaurants and sustainable take-out foodware.** This effort would reduce a significant source of single-use plastics and other high-carbon materials used in Albany. Adoption is planned for 2020 following completion of the draft ordinance and associated Environmental Impact Report. |  |  | Near-term |
| 3.2.2 | **Work regionally to support and facilitate food donation programs.** Food donation programs reduce the amount of healthy, safe food that goes to waste and redirects it to those in need. |  |  | Near-term |
| 3.2.3 | **Promote low-carbon food choices.** Partner with StopWaste to launch an outreach campaign that educates about eating lower down on the food chain and provides information on lower impact, nutritionally equivalent foods, reducing food waste, and composting food scraps. Work with local schools and other institutions to provide low-carbon food choices. |  |  | Near-term |
| 3.2.4 | **When negotiating new franchise agreement for solid waste and recycling, include innovative strategies to incentivize waste reduction that could impact upstream consumer habits.** Franchise requirements could include in-County sorting facilities, alternative fuel trucks, increased educational programs, pay-as-you-throw or every-other-week collection, and other innovative strategies that reduce overall waste, recycling, and compost volume. |  |  | Near-term |

| | | | | |
|---|---|---|---|---|
| Approach: Reduce emissions embodied in goods and materials. | | | | |
| 3.2.5 | **Partner with regional entities to encourage carbon-smart building materials through contractor education.** Includes educating architects, designers, and contractors. This work would enable and promote carbon-sequestering building materials in new construction and renovations. Ultimately, this action could lead to requirements for the disclosure and/or limit the embodied carbon emissions of buildings through a whole-building or material-specific policies. |  |  | Near-term |
| 3.2.6 | **Establish a Farmers' Market.** Local, seasonal produce and locally crafted goods avoid additional greenhouse gas emissions associated with packaging and transport. They also support local small businesses, keeping revenue in Albany. |  |  | Near-term |
| 3.2.7 | **Promote and facilitate utilization of the sharing and repair/reuse economy through an outreach and advertisement campaign.** Increased awareness of available options such as tool-lending libraries, carshare, swap events, and service websites support the growth of a local reuse economy and discourage consumption of high-carbon materials. It is important to ensure the sharing economy is equitable and avoids exploitative business models. |  |  | Near-term |

# Strategy 4: Accelerate Resilience

## Overview

The emissions reductions from City efforts to electrify buildings, transition to a fossil fuel-free transportation system, and promote low-carbon purchasing habits might not be enough to create a truly carbon-free Albany. Carbon must be stored in soil, landscapes, buildings, and infrastructure. It is also important to ensure all are prepared for, and able to withstand, the inevitable impacts of climate change.

This section prioritizes approaches for expanding and improving natural systems throughout the city to promote resilience and carbon storage, such as through climate-adaptive landscape management, compost, and mulching. These actions will increase urban tree canopy, sequester carbon, and provide shade. Incentives, mandates, and outreach and education are necessary to ensure green infrastructure improvements for new and existing buildings. These actions will reduce the urban heat island effect, and store water and carbon. To prepare for more extreme weather and other climate impacts, the City plans to implement strategies for coastal resilience, restore streams so they can hold more water, implement vegetation and fuel management in wildfire-prone areas, increase the capacity of community cooling centers, and further strengthen emergency management capabilities. This multi-pronged approach to climate adaptation will ensure Albany is more prepared and resilient, whatever lies ahead.

## Climate Connection

- Natural lands and systems, including trees and soil, have the potential to store and sequester carbon.
- In many cases, extreme events will be made worse by climate change. The most vulnerable populations are also most susceptible to extreme events and climate change.

## Existing Program

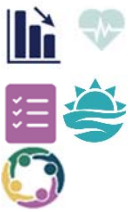
- Continuing to encourage parklet development and setting parklet policies and procedures.
- Expanding capacity to provide accessible cooling centers, especially those most vulnerable to extreme heat.

## Goals & Targets

| Goal | 2050 Target |
|---|---|
| Increase urban tree canopy cover. | • Maximize urban tree canopy cover |
| Increase resilience of built systems and infrastructure. | • Maximize installations of green infrastructure |
| Increase resilience of natural lands and systems | • Install needed coastal flooding improvements |
| Address climate-related health risks | • 100% of population with access to emergency buildings |

## Actions

### Goal 1: Increase urban tree canopy cover and landscaped area.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Increase urban tree canopy and landscaped area. | | | | |
| 4.1.1 | **Create a comprehensive Tree Master Plan.** A tree plan would focus on increasing urban canopy cover and include elements such as 1) conducting an inventory of street trees and urban canopy cover, 2) determining canopy goals, 3) developing a planting guide that prioritizes carbon sequestration, resilience, and other equitably-distributed co-benefits, and 4) create incentives and/or requirements for street tree planting, and 5) devising a plan for retiring trees and addressing unintended consequences such as sidewalk uplifts. The plan should also include potential ways to support trees on private property. |  |  | Near-term |
| 4.1.2 | **Explore creative possibilities for increasing green infrastructure in Albany.** Consider innovative opportunities for plantings such as parklets, green roofs on bus stops, and vertical wall gardens. |  |  | Near-term |

### Goal 2: Increase resilience of built systems and infrastructure.

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Increase the resilience of public projects and facilities. | | | | |
| 4.2.1 | **Prioritize adaptation and resilience in discretionary Capital Improvement Program (CIP) projects.** This action would include ensuring that the infrastructure being developed will be designed with forecasted changes in climate (precipitation, temperature, wildfire, sea level rise) in mind. |  |  | Near-term |
| 4.2.2 | **Work with EBCE to assess and improve energy resilience at critical facilities.** On-site PV and energy storage systems at appropriate scales would support the continued operation of critical services such as fire and police during a power outage. The City will work with EBCE to determine a funding strategy to prioritize and finance projects. |  |  | Mid-term |

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Address issues with the electric grid. | | | | |
| 4.2.3 | **Address time-of use-issues by increasing storage capacity and energy efficiency.** The City will support local energy storage projects to improve microgrid resilience and help ensure power is available when it is needed. The City will help property owners address hurdles to implementation of renewable energy generation systems and energy storage infrastructure, including permit streamlining if determined to be a significant constraint. This work would include regional collaboration to develop incentive programs. This measure is strengthened by implementation of energy efficiency measures identified in the Electrification Section of this Plan. |  |  | Near-term |
| 4.2.4 | **Advocate for grid 2.0 initiatives.** The current grid is not designed to support a 100% renewable energy supply, so advocacy is needed on the State level to accelerate grid 2.0 initiatives. |  |  | Near-term |
| Approach: Educate the community on green infrastructure improvements. | | | | |
| 4.2.5 | **Promote the use of climate adaptive plants and high carbon sequestering species in landscaping projects.** Options for promoting climate-friendly plant species include 1) educating the public and professional landscapers and 2) working regionally with partners such as ReScape California and StopWaste to develop and promote a planting guide. A planting guide could include information on native and climate-adaptive plants, applying compost, mulching, and reducing synthetic fertilizers to support soil health, store more water in the ground, and store carbon in soil, plants, and trees. |  |  | Near-term |
| 4.2.6 | **Address barriers to green infrastructure and resilience improvements on private property.** This includes cool roofs and green roofs, as well as cool pavement and pervious surfaces. |  |  | Near-term |
| 4.2.7 | **Work with FEMA and the City of Berkeley to update flood zone maps.** Update watershed management plans with current understanding of climate change related weather patterns to identify properties vulnerable to flooding, and help prepare property owners to implement adaptation actions. |  |  | Mid-term |

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Manage, restore, and partner to foster resilient natural landscapes. | | | | |
| 4.3.1 | **Continue to restore and maintain creeks to accommodate increased rain events.** Creek restoration can reduce the likelihood and magnitude of flooding and support healthy habitat. |  |  | Near-term |
| 4.3.2 | **Continue to manage wildfire risk by implementing vegetation management and fuel reduction programs.** These programs would focus on the highest hazard areas, including Albany Hill and areas adjacent to homes and recreation areas. These programs would defer to the Albany Hill Master Plan and recent Public Works fuel load assessment for fire mitigation efforts on the Hill and consider goals that also help maximize wildlife habitat. Ensure vegetation management incorporates habitat management principles. |  |  | Near-term |
| 4.3.3 | **Partner regionally to address coastal flooding impacts to the Albany waterfront and freeway entrance.** The City should partner with an appropriate entity such as the Bay Conservation and Development Commission to address sea level rise through living shoreline principles to address coastal flooding, where appropriate. |  |  | Mid-term |
| 4.3.4 | **Partner regionally to promote water conservation.** Work with EBMUD and ReScape California to promote and incentivize water conservation measures such as low-flow technology and graywater systems. |  |  | Near-term |

| Action | | Investment | Benefits | Timeframe |
|---|---|---|---|---|
| Approach: Provide services during extreme events. | | | | |
| 4.4.1 | **Inventory, identify, and maintain adequate cooling centers for extreme heat.** Cooling centers must be made available during extreme heat events. |  |  | Near-term |
| 4.4.2 | **Promote regional services during extreme weather events.** The City will coordinate with local public health agencies to ensure that information about how to prepare for extreme events, such as wildfire smoke or smog, is available to the community prior to and during extreme events. |  |  | Near-term |
| 4.4.3 | **Strengthen emergency management capacity to prepare for and respond to the impacts of climate change.** The City should prioritize capacity improvements such as training and equipment to address risks exacerbated by climate change. Emergency management should be equipped to address the possibility of multiple emergencies at the same time, such as the combination of wildfire smoke coupled with extreme heat and local brush fires. Community outreach on preparedness could include information on building envelope improvements for efficiency and air quality. |  |  | Near-term |

# Plan Implementation

This Plan aims to both stave off climate impacts and prepare for inevitable changes. The Plan focuses on three of the most challenging sectors to reduce greenhouse gas emissions in order to achieve carbon neutrality:  buildings, transportation, and individual purchases of goods and services. The Plan also combines climate change mitigation with crucial actions to store carbon and prepare to adapt successfully to a changing climate.

The City of Albany will lead implementation of the Climate Action and Adaptation Plan. The Implementation Plan identifies who will lead and partner on each action, a timeframe for implementation, key performance indicators to measure progress along the way, funding strategies, and other key factors necessary for successful implementation. It is also important that individuals and businesses take meaningful steps to eliminate carbon from buildings, vehicles, and lifestyles.

### Everyone Has a Role in Implementation

Implementation of the strategies and actions in this section will require the entire Albany community and its partners to engage actively in carbon reduction strategies. Here are some examples of simple steps Albany community members and businesses can take to reduce our collective climate impact:

- Minimize international flights: A round trip flight to Europe causes carbon emissions of over 5,000 pounds per person.
- Turn down your heater: In a typical Albany home, turning down the gas furnace by one degree reduces carbon emissions by over 1,000 pounds over the course of a typical winter.
- Cut down on driving: For a typical car, driving just 100 miles less cuts carbon emissions by almost 80 pounds.
- Reduce your meat and dairy consumption: Cutting meat and dairy by 20% can reduce your diet-related carbon emissions by almost 300 pounds a year.

*Sources: Shameplane.com; U.S. EPA ENERGY STAR Calculator; U.S. EPA; Scarborough, P., Appleby, P.N., Mizdrak, A. et al. Climatic Change (2014) 125: 179. https://doi.org/10.1007/s10584-014-1169-1*

# Appendix A. What You Can Do

Addressing climate change is going to take more than just action from the City of Albany itself. Individuals and community groups all have a critical role to play in the City's climate action goals. Through collective, committed, and considerate actions from all, Albany can be a healthier, more resilient, more equitable, and more sustainable city to live in and visit for both present and future generations.

You can make a big difference by reducing your impact in some of the largest contributors to Albany's greenhouse gas emissions—travel, food, and household energy use. By taking action, you can help Albany become a livable, equitable, resilient, and engaged carbon-neutral community.

### Electrify Our Buildings

- ❑ Install energy-saving appliances and fixtures, such as Energy Star Appliances and LED Lightbulbs.
- ❑ Reduce your natural gas use. Install electric heat pumps for space and water heating, electric dryers, electric stoves, etc. to transition to cleaner electricity.
- ❑ Choose EBCE's *Renewable 100* service for your electricity source, to power your home with 100% renewable electricity. Opt-up by calling 1-833-699 EBCE or visiting ebce.org/opt-up.
- ❑ Install low-flow showerheads and aerated faucets to reduce the amount of hot water you use.

### Transition to Low-Carbon Transportation

- ❑ Avoid single passenger car trips. Take transit, carpool, walk, and/or bike instead.
- ❑ Use a bike for short-distance commutes, rather than a car.
- ❑ Delay your next purchase of a new or used vehicle to maximize use. When you decide to make a purchase, invest in an all-electric vehicle.
- ❑ Consider non-stop flights, and purchase carbon credits when you fly.

### Help Make Our Economy Carbon-Free

- ❑ Reduce your meat and dairy consumption – even one less day a week makes a big difference!
- ❑ Eat more low-carbon foods like non-processed foods, seasonal fruits and vegetables, and grains.
- ❑ Avoid unnecessary food waste: plan meals, right-size your grocery and restaurant purchases, and bring reusable containers for your leftovers when eating out.
- ❑ Use Albany's tool lending library instead of buying new (www.albanyca.org/services/tool-pool).
- ❑ Fix things that are broken instead of buying new.
- ❑ Second-hand shop to replace items and join community sharing websites like NextDoor.
- ❑ Shop locally and support local business.
- ❑ Reduce and eliminate single-use plastics. Carry your own reusable utensils and straws. Request less packaging when ordering take-out and bundling online delivery packages.

### Accelerate Resiliency for All

- ❑ Utilize Carbon Free Albany (https://www.carbonfreealbany.org) to see your household's carbon footprint and get ideas to reduce your environmental impact.
- ❑ Voice support for policies that promote equitable greenhouse gas emissions reductions.
- ❑ Plant a tree in your yard, and/or request a street tree in front of your house.
- ❑ Develop a plan with your household to prepare for extreme events, including creating a disaster preparedness kit.
- ❑ Talk about climate change and the changes you're making with your friends and family. People are more often influenced by friends than by experts.

### Get Informed & Involved

- ❑ Join local community groups that are involved in mitigation and adaptation efforts.
- ❑ Sign up for Carbon-Free Albany (https://www.carbonfreealbany.org).
- ❑ Volunteer at local beach and park cleanups.

# Appendix B. Partners and Roles

The City of Albany cannot achieve the ambitious goals described within this CAAP without diverse partnerships with individuals and organizations near and far. The table below describes the various partnerships that the City participates in and the roles of partners in the CAAP planning and implementation process.

### CITY OF ALBANY PARTNERS & ROLES

**COMMUNITY**

- Engage with City programs, follow applicable policies, and take actions to reduce emissions.
  - Community Members
  - Businesses
  - Institutions (UC Village: UC Berkeley student housing; Albany Unified School District)

**UTILITIES**

- Solid Waste & Recycling: Current service provided by private hauler Waste Management of Alameda County.
- Electricity: Current transmission service and billing provided by Pacific Gas & Electric (PG&E). Electricity procured by East Bay Community Energy (EBCE).
- Natural Gas: Current service provided by Pacific Gas & Electric (PG&E).
- Water: Service provided by the East Bay Municipal Utility District (EBMUD), a public agency provided water and sewage treatment services for communities in Alameda and Contra Costa Counties.

**COUNTY**

- Alameda County Office of Sustainability: Provides resources and opportunities for idea sharing regarding sustainability initiatives to local jurisdictions.
- Alameda County Office of Emergency Services: County agency providing resources and support for emergency response and preparedness activities.
- Alameda County Transportation Commission: County agency responsible for coordinating countywide transportation planning efforts and administering local, regional, state and federal funding for transportation projects.
- East Bay Community Energy (EBCE): Local public agency tasked with supplying clean electricity at low rates to customers in Alameda County. EBCE procures electricity and provides local renewable resources, while PG&E continues to administer natural gas service as well as energy transmission, distribution, repair, customer service, and billing for EBCE customers. Their default electricity option in Albany is carbon-free. EBCE also implements a Local Development Business Plan to accelerate the development of clean energy assets in Alameda County, enable electrification of buildings and transportation, and increase resilience through increased energy storage.
- StopWaste (Alameda County Waste Management Authority and Energy Council): County agency administering policies and programs related to waste, water, and energy reduction. Provides support and coordination for the development of Countywide initiatives, including climate action planning and implementation.

**REGIONAL**

- East Bay Regional Park District: Agency managing large system of public parklands in in Alameda and Contra Costa counties, including portions of the Albany waterfront vulnerable to sea level rise.
- San Francisco Bay Conservation and Development Commission (BCDC): Regulates development along the San Francisco Bay, including Albany's waterfront.
- Association of Bay Area Governments (ABAG): Regional planning agency that provides assistance to local governments, including a focus on sustainability, climate adaptation, resilience, and equity issues.
- Metropolitan Transportation Commission (MTC): Transportation planning, financing, and coordinating agency for the nine county Bay Area.
- Bay Area Regional Energy Network (BayREN): Collaboration of the nine Bay Area counties providing regional-scale energy efficiency programs, services, and resources. Managed by ABAG and funded by utility ratepayer funds through the CPUC.
- Bay Area Aire Quality Management District: Regulates aire pollution in the nine county Bay Area and provides policies and programs to reduce emissions.
- Bay Area Climate Adaptation Network (BayCAN): Collaborative network of local government staff promoting sharing and problem solving focused on adaptation challenges in water supply, sea level rise, wastewater and stormwater management, fire risk, ecosystem and parks, and public health.

STATE OF CALIFORNIA

- **California State Legislature:** Elected body that sets State policy
- **California Public Utilities Commission (CPUC):** Regulates public utilities providing electric power, natural gas, telecommunications, and water.
- **California Energy Commission (CEC):** State energy policy and planning agency responsible for forecasting future energy needs, promoting energy efficiency through appliance and building standards, supporting renewable energy technologies, and maintaining the California Energy Code.
- **CalEPA:** State agency focused on public health, environmental quality and economic vitality.
- **CalRecycle:** CalEPA branch that oversees the state's waste management, recycling, and waste reduction programs.
- **Building Standards Commission (CBSC):** State agency responsible for managing the development, adoption, approval, publication, and implementation of California's building codes.
- **California State Parks:** Agency managing the California state parks system, and property owner of portions of the City's waterfront which are subject to sea level rise.
- **California Coastal Commission:** State agency regulating land use and public access to the coastal zone, including the Albany waterfront.
- **Cal-OES:** State agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities, and overseeing the City's Local Hazard Mitigation Plan.
- **CAL FIRE:** Agency responsible for fire protection, forestry, and fire emergency services.
- **Caltrans:** State agency responsible for managing the state highway system, including I-80, I-580, and San Pablo Avenue in Albany.

FEDERAL

- **Environmental Protection Agency (EPA):** Administration of Federal environmental policies and programs
- **Federal Emergency Management Agency (FEMA):** US Homeland Security agency responsible for coordinating the response to major disasters, including support for hazard mitigation and disaster preparedness programs.

NGOs

- **Climate Mayor's Network:** Bipartisan peer-to-peer network of U.S. mayors working together to demonstrate leadership on climate change through meaningful action in their communities and to express and build political will for effective federal and global policy action.
- **International Council for Local Environmental Initiatives (ICLEI):** Global network of cities, towns and regions committed to building a sustainable future, providing support for climate action planning and implementation.
- **Intergovernmental Panel on Climate Change (IPCC):** Organization synthesizing and communicating the work of climate scientists.