

**City of Petaluma**

**DRAFT CLIMATE EMERGENCY ACTION FRAMEWORK**

July 2020



**City of Petaluma**

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**Purpose of the Climate Emergency Action Framework**

This draft Emergency Climate Emergency Action Framework is the work of the Petaluma Climate Action Commission and many volunteers in the community. Its purpose is to outline proposed principles, strategies, and actions Petaluma can take to successfully realize a shared vision of a healthy, stable, and equitable community.

Four committees drafted this Framework as four separate chapters:

* **Equity and Climate Justice** explains how we cannot solve the climate crisis without simultaneously addressing the crisis of inequality in our community. It suggests ways to divest from systems that create public health, economic, and environmental harm, and invest in ones that create community stability, greater public health, and economic well being.
* **Mitigation and Sequestration** discusses the major sources of greenhouse gas (GHG) emissions in Petaluma, what we can do to reduce and eventually eliminate them, and how we can draw down carbon from the atmosphere.
* **Adaptation and Social Resilience** reviews how we can prepare our environment for climate change impacts and create greater societal preparedness and resiliency in our civic institutions and communities.
* **Community Engagement** illustrates the importance of having a robust community conversation about addressing the climate crisis and how we can work together to set and meet our climate action targets and improve our community in the process.

**This document is only a draft**—it is the foundation for engagement and further input from the community, City staff, City Council, and the Commission about top concerns and priorities for action in Petaluma. We will revise this document based on the feedback we gain from community forums, surveys, and interviews.

The Commission will also continue to review climate action plans by other communities and incorporate the latest science-based research to bring these ideas forward as part of our mission to educate and inform about climate action.

As we receive community feedback, we will evaluate the community’s highest priorities, analyze implementation processes and costs, and assess which approaches create the most rapid transformation with multiple benefits for our community. This will allow us to create actionable targets so we can track our progress over time and meet our goals. This input will not only contribute to revision of this Framework, but also help with development of a full-fledged Climate Action Plan for Petaluma.

In the next few pages, we describe the state of greenhouse gas emissions in Petaluma and the overarching principles the Commission considered to guide our action. Please participate in this process to determine Petaluma’s path to zero greenhouse gas emissions and a healthier and sustainable community for all.

To participate in the work of the Commission, sign up for notifications here: [City of Petaluma Community Updates](https://cityofpetaluma.org/subscribe/) Enter your contact information, choose the “Public Meetings” option, then the “Climate Action Commission” option, and then submit.

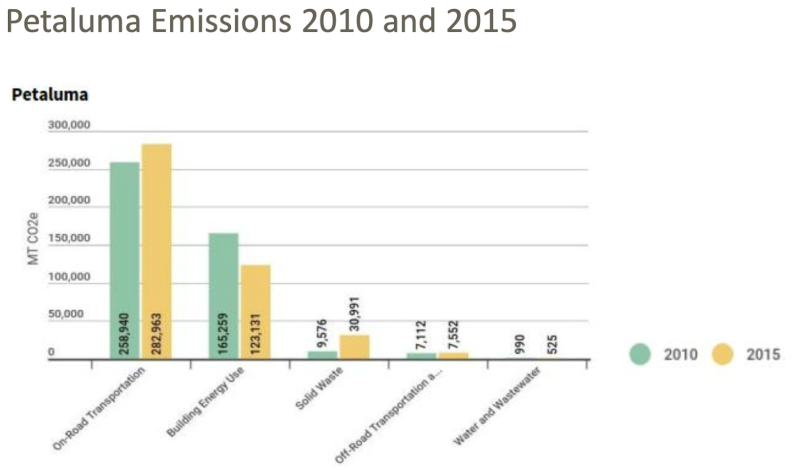
Here is a link to the Commission’s proposed Framework-development timeline on the Commission’s web page: [Item 7.A.1 Commission Adopted Timeline](https://petaluma.granicus.com/GeneratedAgendaViewer.php?view_id=31&event_id=44746).

**Climate Action Mandate and GHG Emissions**

In September 2018, the State of California adopted the goal of achieving **a carbon-neutral economy** ***as soon as possible and* *by 2045* *at the latest***.[[1]](#footnote-2) In September 2019, the City of Petaluma passed a [Climate Emergency Resolution](file:///C:\Users\lois\Desktop\Resolution%202019-055%20N.C.S.%2005062019.pdf). To meet both the State’s and the City’s climate goals, as a community we will need to:

* Eliminate GHG emissions from all sectors of our local economy (“direct” emissions, also referred to as sector-, activity-, or territory-based emissions).
* Reduce GHG emissions resulting from the goods and services consumed within Petaluma or purchased by Petalumans but produced beyond its borders (“consumption-based emissions” or “indirect emissions”).
* Draw down (sequester) GHG emissions from the atmosphere through regenerative land-management practices to begin to reverse climate-damaging effects already in motion.

Below is a chart from the *Sonoma County Greenhouse Gas Inventory Report*, July 2018 Update. It reflects only sector-based emissions generated by Petaluma in 2010 and 2015.



The chart below shows both types of emissions, revealing a high proportion of consumption-based emissions (in green) generated by the average Bay Area household. We can assume Petaluma has a similar proportion of direct and consumption-based emissions.[[2]](#footnote-3)

A screenshot of a cell phone

Description automatically generated

**Guiding Principles of the Framework**

1. **Acknowledge Native peoples**. We acknowledge the thousands of years Coast Miwok people lived here in harmony and the effect colonization had on them and their land. We will cultivate respectful and collaborative relationships with indigenous communities with the intention to understand, highlight, and integrate their community needs, climate-action priorities, and ecological insight and values into our climate actions.
2. **Advance equity.** Petaluma will prioritize climate-related actions and policies that promote social, racial, environmental, economic, disability, and public health justice in communities disparately impacted by climate change. We will actively seek the participation of frontline and underserved communities to play an integral role in developing and implementing Petaluma’s Climate Action Plan, programs and policies.
3. **Act with urgency and integrity.** Starting now we must move swiftly to ensure that all our City actions and policies contribute to improved climate justice, mitigation, sequestration, adaptation, public health, and social resilience outcomes and meet our mandates and targets.
4. **Create social resilience and ecosystem resilience together.** Preference actions and policies with multiple benefits that align sustainable economies with thriving ecologies, including; sustainable economic benefits, reduction of pollutants and toxins, restoration of ecosystems, and improvements in public health, community cohesion, and wellbeing.
5. **Catalyze inclusion, access, diversity and collaboration**. Our actions and policies will increase awareness, education, collaboration, and engagement across our community.
6. **Fund accessible and effective action.** Develop sustainable funding sources, provide funding for measures needed by frontline and disadvantaged communities, and balance the cost of implementation with potential cost savings and the avoided costs of inaction.
7. **Be accountable and transparent.** Provide consistent and coherent public communication throughout the plan and policy development process and ensure accountability through setting measurable, transparent targets.
8. **Be responsible**. We will strive to be responsible to our neighbors, the global community, and all species by eliminating reliance on resources and products that pollute both within and outside our City.

**EQUITY AND CLIMATE JUSTICE**

*Frontline communities are those that experience first and worst the consequences of climate change.* — Ecotrust, Portland OR

*Climate equity ensures the just distribution of the benefits of climate protection efforts and alleviates unequal burdens created by climate change. This requires intentional policies and projects that simultaneously address the effects of and the systems that perpetuate climate change and inequity.*

*—* Portland, OR, *Climate Action Plan*

*In a sustainable society...there are no structural obstacles to people’s health, influence, competence, impartiality and meaning.*

*—* [*The Natural Step*](https://thenaturalstep.org/approach/)

This chapter outlines how the City should prioritize climate-related programs, policies, and actions to achieve equitable outcomes for frontline and underserved communities. We see the work of climate equity and environmental justice as one of healing systemic social injustices and ecological decline. Prioritizing the needs of frontline and underserved communities creates the conditions and environment for *all* Petaluma residents to be healthy and to thrive.

In Petaluma, our frontline and underserved communities include, but are not limited to, low-income residents, indigenous peoples, communities of color, immigrants, residents with disabilities, and seniors, as well as residents experiencing food insecurity and lack of shelter.

Why is equity so Important? The COVID-19 pandemic has glaringly illustrated exactly why. The pandemic has harmed Black and Latinx communities much more so than European Americans. According to the CDC, Latinx people between the ages of 40 and 59 have been infected at five times the rate of white people in the same age group.”[[3]](#footnote-4) This harm then gets compounded: New data on food insecurity as a result of the COVID-related economic downturn shows that “nearly four in 10 Black and Hispanic households with children are struggling to feed their families during the coronavirus pandemic.”[[4]](#footnote-5)

Climate change is expected to create a series of shocks and burdens. Therefore, we must intentionally devote public resources to create greater economic stability and improved public health outcomes for frontline communities. Everyone in Petaluma deserves the right to experience a healthy, sustainable future. To ensure that outcome, we need to invest wisely where the help is needed most.

**Near-Term Goals**

1. Gain widespread community participation in public meetings for the:
   1. Climate Emergency Framework
   2. General Plan Update
   3. Climate Action Plan

In particular, ensure that frontline and underserved communities have the opportunity for self-determination in climate resilience programs, policies, and actions and that climate doesn’t impact these communities more than other Petalumans.

1. Create an equitable and community-led Climate Action Plan with clear direction for City actions that implement mitigation, sequestration, and adaptation outcomes equitably citywide.
2. Secure funding for mitigation and adaptation measures that prioritize ensuring the safety, economic stability, and resilience of frontline and underserved communities.
3. Make energy efficiency upgrades financially accessible to all residents, with a priority for frontline and underserved communities.
4. Create targets for local green jobs and workforce training and development programs to help alleviate unemployment caused by the COVID-19 pandemic and provide a just transition for workers into a sustainable local economy.
5. Create mechanisms to ensure accountability of City staff in responding equitably to climate-related emergencies, promptly and effectively addressing the needs of frontline and underserved communities.
6. Provide access to local, affordable, healthy, and organic food for all residents.
7. Increase access to and use of safe, active, low-carbon, climate-friendly transportation by all residents and visitors.
8. Make energy efficiency upgrades financially accessible to all residents, with a priority on improving health conditions in frontline and underserved communities.

**Long-Term Goals**

1. Develop permanent and sufficient funding for Climate Action Plan policies, programs, and procedures that prioritize actions with an equity focus.
2. Develop measurable targets and fund the data collection and analysis to assess Petaluma’s progress toward its equitable climate targets annually.
3. Ensure that all residents live in clean and healthy environments that protect against the impacts of climate change and are socially equitable and environmentally sound.
4. Ensure that our communities are resilient in the face of climate change by providing more low- and moderate-income housing with clean energy and no toxins and that is located near jobs, reducing the need for long commutes.
5. Create healthy and enjoyable environments for residents to walk and bike, free from air pollution and safety hazards with ample tree canopy for shade.

**Actions to Help Us Achieve Our Goals**

The actions below will help us achieve these near-term goals. An essential part of this process is creating ongoing partnerships characterized by active and continuous engagement among community-based organizations, the City, and the Environmental Equity and Engagement Standing Committee of the Climate Action Commission. Our implementation efforts all should be guided by community-supported targets, metrics, and strong accountability structures.

**Outreach, education, and employment**

The City and community will implement community-led climate justice education and training through peer-led recommendations from frontline community members. In particular, we will:

* Conduct outreach to the Coast Miwok community, acknowledging that Petaluma sits on its traditional lands and that this indigenous community brings unique perspectives, knowledge, and concerns.
* Introduce indigenous literacy and perspectives in land stewardship.
* Perform outreach to community groups, including attending events to hear concerns, elicit input, and directly engage on climate issues.
* Encourage equity-focused organizations to identify and train peers to increase outreach.
* Encourage community-based organizations that work with frontline and underserved communities to collaborate with the City and facilitate climate equity, mitigation, sequestration, adaptation, and resilience conversations in the community.
* Develop training and metrics that guide City staff to lead with an equity focus.
* Identify and create new employment opportunities through a “Local and Sustainable Workforce Initiative” to implement the Climate Action Plan across all skill levels, with priority given to low-income residents for job- and career-training opportunities.
* Offer green job training through local organizations and regional programs.
* Promote and provide worker training and programs for local farm workers and food workers on sustainable agriculture methods and safe working environments.
* Ensure fair wages and employment practices for agricultural and food service workers.
* Create outreach campaigns and events to increase knowledge of energy efficiency and building electrification benefits and ensure that local energy providers or businesses that sell home energy equipment provide up-to-date and climate-smart options.
* Create targets for new jobs that will advance various mitigation, sequestration, and adaptation measures; partner with Santa Rosa Junior College (SRJC) and Sonoma State University to identify needed job training; and implement workforce development programs.

**Accessibility**

* Provide and partner with groups to lead, support and/or assist in outreach to frontline communities and provide non-English language interpretation.
* Ensure that all Climate Action Commission-related events and meetings are ADA accessible.
* Provide free or low-cost childcare for regular and special meetings of the Climate Action Commission.

**Funding**

* Establish a just and equitable “Petaluma Climate Action Fund” to provide funding for projects such as:
  + Clean energy
  + Clean water
  + Affordable housing
  + Low-carbon building systems
  + Public transportation
  + Food and working landscapes
* Apply for state and federal grants aligned with Climate Action Plan objectives.
* Develop community-based criteria that prioritize allocation of mitigation and adaptation funds to frontline and underserved communities; establish oversight to ensure that equity criteria are met.
* Provide funding to support community partners in developing green job training and conducting home energy retrofits.

**Resilience, self-reliance, and preparedness**

* Establish an emergency resilience center, focused on generating equitable responses for underserved communities experiencing disruptive climate events.
* Develop housing to protect people without shelters from climate change impacts, including extreme heat conditions.
* Increase tree canopy to improve air quality, promote walkability, and reduce urban heat island effects in low-income neighborhoods.
* Provide accessible urban green spaces and community gardens for healthy outdoor activity and recreation.
* Increase the number of viable community gardens throughout the City, especially near existing and future low- and moderate-income residences.
* Find ways to make local, healthy food more affordable to improve food access and security.
* Create more permanent or pop-up neighborhood outdoor dining areas as hubs for locally grown food.
* Work with schools, businesses, and institutions to adopt food procurement policies that support local farmers and distributors.
* Improve local food sovereignty/access and decrease dependency on unsustainable food creation and long-distance distribution.
* Promote agriculture, food production, and distribution practices that are climate and worker friendly, with fair wages and safe working environments.

**Urban planning and transportation**

* Collaborate with regional transportation agencies to provide more transit options that are equitable, accessible, frequent, affordable, active, and low-carbon.
* In particular, reduce vehicle miles traveled (VMT) by providing more transportation options for commuters.
* Reduce traffic density and air pollution in underserved communities.
* Enact policies and actions to create a City that’s safe and enjoyable for pedestrians and bicyclists; create safe and efficient bike and pedestrian routes throughout and across the City and expand the “Slow Street” network; prioritize improvements near frontline and underserved communities.
* Ensure appropriately trained public safety staff on dedicated bike and pedestrian paths to ensure safety and promote public use.
* Engage with commuter groups and stakeholders to survey community perceptions of existing transportation infrastructure and needed improvements.
* Promote the use of smaller, lighter, electric and low-carbon vehicles in and by the City; promote electric vehicle (EV) purchase/lease programs; provide widespread, affordable, EV charging.
* Assess existing neighborhoods to map and identify adverse public health impacts.

Work with the community to remedy impacts and/or provide new housing in safe areas.

* Ensure equitable new development by revising the General Plan, building and development codes, and other relevant City policies to apply climate-action equity priorities fairly across the board.
* Prioritize new transit-oriented development (TOD) housing near public transit and jobs.
* Ensure that new housing is disaster resilient and remains permanently affordable.
* Increase the affordable housing percentages required in new developments and distribute affordable housing throughout the community.
* Focus on environmentally sound infill projects and housing within walking distance of essential services, public transit, and work.
* Implement tenant protections to combat displacement of existing residents in the revitalization of certain areas.
* Align efforts with the City of Petaluma Age Friendly initiative.

**Buildings and energy**

* Create programs to increase awareness of the benefits and increase the pace of implementation of affordable energy retrofits.
* Support and/or develop programs to assess, incentivize, fund, and/or finance home energy and indoor air quality retrofits for all residents, prioritizing frontline and underserved communities. Conduct fair housing evaluations of existing housing units.
* Explore landlord training and collaborate with affordable housing developers to review funding and code requirements.
* Meet the City’s allotted affordable housing goals without creating detrimental climate effects.

**MITIGATION AND SEQUESTRATION**

Our vision is to make Petaluma a leader in climate mitigation and sequestration to help ensure a stable climate for ourselves and future generations.

The strategies and actions described in this chapter are organized into the following categories:

* Urban planning and transportation
* Buildings and energy
* Land management
* Waste
* Consumption

We have established the following overarching goals:

1. Reduce **transportation** emissions to zero.
2. Make our **buildings** efficient and emissions free.
3. Enhance the urban forest and adopt regenerative **land-management** practices communitywide to create soils with exemplary carbon capture.
4. Generate zero **waste**.
5. Reduce **consumption** emissions to a sustainable level.

This chapter describes strategies to achieve the above goals. But to prioritize the proposed actions and set the best, most equitable, specific targets – dates and quantities, by sector and activity – we will need extensive dialogue across the community and robust science-based research.

**Urban Planning and Transportation**

**Background**

**Emissions**. In 2010, 59% of the City’s sector-based emissions originated with urban planning and transportation. By 2015, this had increased to 64%.

**Development patterns**. Over the last half century, Petaluma has transformed into a car-dependent population that generates 25% of all trips leaving Sonoma County each morning.[[5]](#footnote-6) The sprawling pattern of suburban growth, particularly in East Petaluma, has resulted in unsafe conditions for pedestrians and bicyclists, inadequate density to support robust public transit, significant traffic congestion, and several pedestrian-unfriendly shopping centers that are struggling due to the rapid expansion of online shopping.

For many years, Petaluma was among the best performers in the region at meeting its Regional Housing Needs Allocation (RHNA) goals. However, since the 2007-2009 recession, Petaluma has not been able to meet its RHNA quota for affordable housing, providing only 5% of its RHNA targets for low-income housing while providing 200% of its market rate goal. Petaluma’s affordable housing targets are expected to triple in the next allocation.

**Housing vs. emissions**: Over the next five years, the City will be faced with a paradoxical challenge: meeting housing demand while slashing emissions. Achieving both outcomes will be difficult and require new, integrated land use and transportation approaches; historically, they have been at odds with each other. To meet housing demand while slashing emissions, the City must embrace a new land-use and transportation paradigm: instead of mitigating negative impacts, the new paradigm must maximize climate benefits.

Driven largely by vehicle miles traveled (VMT) and congestion, transportation is Petaluma’s largest and fastest growing source of GHGs. Thus, achieving carbon neutrality will require Petaluma to make significant reductions to transportation emissions in ways that will fundamentally change the way people move and live in Petaluma. Over time, the changes will be normalized and appreciated, but especially at first, the paradigm shift will seem counterintuitive and drastic. Thus, the City will need to invest heavily in marketing, education, and outreach to build public support.

**Transit and auto dependency**. Petaluma’s public transit system provides a solid foundation from which to build, providing 400,000 low-emission rides annually without any General Fund support. Also, the regional SMART train currently has a stop in downtown Petaluma and is expected to add a second stop on the east side, at the intersection of Corona Road and North McDowell Boulevard. Although Petaluma’s public transit systems present an opportunity to reduce single-occupant vehicles, Petaluma’s citywide Walk Score of 47[[6]](#footnote-7) classifies it as a “car-dependent city.” The City’s current land-use patterns do not foster use of public transit, nor do they make walking and biking viable options for many residents. In general, West Petaluma is more walkable than the east side, and the historic downtown is the most walkable area of the City.

**Equity and Multiple Benefits**

Development that is located near services and not car dependent improves livelihoods for residents. In addition, reductions in private automobile dependency correspond to increases in walking, bicycling, and use of public transportation. These in turn lead to:

* Improved air quality and overall health
* A greater sense of connection within the community
* Reductions in traffic congestion, frustration, and stress
* An increase in green jobs and sustainable economic development

**Potential Strategies**

* Eliminate transportation emissions.
* Build a majority of new development within close proximity to a SMART station.
* Limit development outside the 2020 Urban Growth Boundary.
* Reduce VMT through active transportation and public transit.
* Increase trips that are by active transportation, public transit, and shared mobility.
* Increase zero-emission vehicles to a majority of new vehicle registrations.
* Fully electrify all public, private, and shared fleets.

**Buildings and Energy**

**Background**

**Emissions**. In 2010, 37% of the City’s sector-based emissions originated with buildings and energy. By 2015, this had *decreased* to 28%, largely due to the advent of Sonoma Clean Power, the county’s community choice program, which allowed the purchase of more clean and renewable energy.

Five approaches can help us achieve our buildings and energy emission-reduction goals:

* **Energy efficiency** – to reduce demand for energy
* **Electrification** – to eliminate fossil-fuel use in buildings (i.e., switch end uses from natural gas or propane to electricity)
* **Renewable electricity** – to ensure that 100% of the electricity needed is obtained from clean and renewable sources such as solar, wind, geothermal, tidal, and (some) hydro
* **Embodied carbon reduction** – to dramatically reduce adverse climate impacts of new construction and retrofitting of buildings in the near term with sustainable design and careful selection of materials with low climate impact
* **Resiliency** – to enable the City to maintain basic functions and its residents’ safety, health, and well-being during power disruptions and other critical or emergency events

**Equity and Multiple Benefits**

Building energy efficiency and decarbonization carry numerous benefits above and beyond climate protection. These include improvements in health, safety, comfort, resiliency, community self-reliance, and insulation against future utility rate hikes.

Many low-income households live in older residences built under less stringent building codes. As a result, they suffer from energy poverty – they sacrifice thermal comfort and sometimes even health to avoid unaffordable utility bills. Excess summer heat and winter cold represent elevated health risks for many vulnerable individuals, including the very young, the old, and those with health challenges.

When not creating financial burdens on renters, retrofitting existing residences with energy efficiency measures will not only create local, well-paid jobs and reduce the cost of maintaining comfort. It will also improve health outcomes by improving “passive survivability.” This is the ability of homes to maintain a stable interior temperature with reduced reliance on mechanical heating and/or cooling.

**Potential Strategies**

* Mandate all-electric new construction to eliminate fossil-fuel use in new buildings.
* Phase out fossil fuel-powered equipment and appliances.
* Use emissions-free, locally sourced energy in all of Petaluma’s buildings.
* Require all new construction, additions, and major rehab projects use low-embodied carbon materials, starting with concrete.
* Eliminate the use of fossil fuels within City limits.

**Land Management**

**Background**

**Carbon storage**. Long-term carbon storage in soil, trees, and other biomass (carbon sequestration) is an essential but often overlooked method for addressing climate change and adapting to its effects. Nationwide, forest lands and urban forests offset 11% of US GHG emissions annually.[[7]](#footnote-8) Improving local management of trees, soil, and green space can increase sequestration rates and can be done at the city scale.

The State of California recognizes the roles of undeveloped and working lands, along with urban areas, in reducing GHG emissions, storing carbon, and improving climate resilience across many metrics, reflected in statewide climate objectives for maintaining and growing urban tree canopies and improving soil health.

The amount of carbon stored in Petaluma’s urban forest and soils is currently unknown. We will use existing tools to estimate carbon storage in trees and soils to establish baseline levels in the near term.

**Regenerative land management** incorporates ecological principles and practices that not only enrich soils and increase carbon storage, but also increase biodiversity, improve watersheds, and enhance ecosystem services.

By rebuilding rather than degrading soil organic matter of various land systems (wetland, forest, cropland etc.), we can increase soil permeability, aiding water-holding capacity while reducing runoff and the expense of dredging the Petaluma River.

**Assessing City-owned property**. The City of Petaluma Parks and Recreation Department maintains hundreds of acres – open space, playing fields, landscape assessment districts, and facilities. The City has established a committee to update the Integrated Pest Management Plan to eliminate the use of synthetic pesticides on City-owned property. The entire parks portfolio will benefit from being assessed through a climate-resilient lens to develop regenerative management practice guidelines.

**Equity and Multiple Benefits**

Regenerative land-management practices play a role in both sequestration and mitigation. For example, enriching soils and growing locally means less food must be trucked in from outside the County. Likewise, less pesticide use also lowers fossil fuel use and it reduces the toxin load in local ecosystems.

In addition, trees and other elements of green space not only sequester carbon, but also can help reduce GHG emissions in the transportation sector and the built environment. For example, urban trees shade sidewalks and active transit corridors, reducing the urban heat island effect and making them more inviting by reducing ground surface temperatures and improving aesthetics. Strategically placed trees and other vegetation also reduce building cooling needs, thereby improving energy efficiency and reducing peak energy loads.

In addition to benefits mentioned above, land-management practices increase or improve:

* Resilience of landscapes to drought and flood
* Local food production and self-reliance
* Resistance to disease due to abundance and diversity of soil microbes
* Wildlife habitat and biodiversity
* Air quality and temperature moderation
* Creation of local green jobs

**Potential Strategies**

* Increase soil carbon sequestration by adopting and implementing a comprehensive regenerative land-management policy to direct its own practices and creating public engagement initiatives to encourage private participation across all land types.
* Establish baselines for soil organic matter and increase to a specified percentage across all City-managed lands.
* Immediately, create supportive conditions to grow and maintain Petaluma’s urban forest across all neighborhoods to achieve a baseline canopy of 25%.

**Waste**

**Background**

**Emissions**. In 2010, 2% of the City’s sector-based emissions originated with solid waste. By 2015, this had increased to 7%.

**Landfill rates**. In 2003, Petaluma landfilled 14.2 lb/per person per day. By 2019, this number was 3.3 lb/per person per day. In July 2019, the City passed a Zero Waste Resolution, adopting zero waste principles and setting a solid waste generation goal of 1.4 lb/per person per day by 2030 – a 90% reduction relative to 2003.

The City’s Zero Waste Resolution suggests the following strategies:

* Institute and/or expand cost-effective high diversion and zero waste goals and programs for all government facilities, events, and projects.
* Educate the public about the environmental and community benefits of reducing wasteful consumption and increase diversion through reuse, repair, composting, and recycling.
* Strongly encourage all residents, businesses, and agencies to participate in composting and recycling programs, and to reduce production and increase reuse of materials.
* Update the City’s Green Purchasing, Environmentally Preferable Procurement (EPP), and Extended Producer Responsibility (EPR) policies.
* Support adoption and implementation of the countywide Construction and Demolition Reuse and Recycling Ordinance.

**Equity and Multiple Benefits**

In addition to reducing GHG emissions, waste diversion provides a unique climate mitigation opportunity: Compost production can enhance carbon sequestration through soil application, substantially increasing the value of our waste-reduction efforts.

To both meet City solid waste goals and aid underserved communities, top priority must be given to recovering food for the hungry. In the wake of the COVID-19 pandemic, food recovery and security take on added urgency. SB1383, which will impose fines on big generators of food waste, should help facilitate food recovery.

Reducing overproduction of waste and maximizing waste diversion also provides the following additional benefits:

* Reduces associated labor and demand for landfill capacity
* Preserves the environment and protects other species
* Provides food for people that otherwise would be wasted
* Conserves water, energy, and other natural resources
* Improves soil health through increased production and beneficial use of compost
* Produces energy through anaerobic digestion of organic material
* Strengthens the local economy

**Potential Strategies**

* Achieve “zero waste” (commonly understood to be 90% diversion) by 2030, moving as quickly and closely as possible to 100% diversion.
* Reduce landfill waste to less than 1 lb/per person per day.

**Consumption**

**Background**

**Emissions**. Consumption-based emissions for Bay Area households were estimated at 160% of sector-based emissions in 2015.[[8]](#footnote-9) Although estimates of consumption-based emissions vary widely from city to city and from one analysis to the next, these emissions typically far exceed activity-based emissions for cities such as Petaluma that lack a strong manufacturing base.

In the past, sector-based emissions have served as the basis for most cities’ climate action planning – including Petaluma’s. But to truly mitigate our fair share of global emissions – and set a model for other communities – **Petaluma must immediately take responsibility for our consumption-based emissions.**

We consume many goods and services that originate outside the City, including food, clothing, vehicles, furniture, pharmaceuticals, cosmetics, packaging, electronics, entertainment, software, hardware, transportation services, building materials, tools, and short-lived and single-use plastic and paper commodities by the ton – many of which are ever more difficult to recycle and/or compost.

The extraction, processing, transport, distribution, sales, marketing, and disposal of these products represent our largest source of greenhouse gas emissions. The more things we buy and the greater their relative amount of embodied emissions (i.e., the emissions resulting from their manufacture, transport, use, and disposal), the greater the adverse effects of those expenditures.

Consuming less across the board is the first-order strategy for reducing consumption-based emissions. We can also reduce consumption-based emissions through a combination of public and private strategies such as these:

* Build well-crafted, smaller infill housing, featuring low-embodied carbon materials.
* Improve availability of local, organically produced food and choosing to eat lower on the food chain.
* Select durable products with a long service life, made with minimal processing and renewable energy, and with the ability to be repurposed or “upcycled,” rather than “downcycled.”
* Provide education, especially for youth, to prepare them for lives as global citizens. If equipped with appropriate software, some could immediately help households track consumption emissions.
* Encourage labeling of goods and services at the appropriate governmental level to identify local goods and disclose lifecycle climate impacts that can inform purchase decisions.
* Re-estimate Petaluma’s consumption emissions at five-year intervals.
* Increase carbon sequestration as needed to compensate for consumption emissions that cannot otherwise be mitigated (e.g., via carbon tax or related global initiatives).

**Equity and Multiple Benefits**

Locally based clean production is a cornerstone of reducing consumption-based emissions. Therefore, moving in this direction will help engender healthier opportunities for workers everywhere and may boost the local economy by creating many new jobs. Localism also improves quality of life and resiliency by prioritizing local services, products, and community connections.

**Potential Strategy**

Dramatically reduce emissions from local consumption of food, goods, and services produced outside the city.

**Community Engagement**

With the recent fires, power shutdowns, and the COVID-19 pandemic, we are in a time of elevated environmental, economic, and social distress. As with most crises, this danger also brings the opportunity for positive change. It’s a good time for Petaluma – for the City Council, the Climate Action Commission, and our people and institutions – to focus on what we can do to inform and support our entire community as we respond to the climate crisis.

**What is Working and Needed Improvements**

The following are working well:

* **The** **Climate Emergency Resolution** has elevated community engagement on climate change to a top policy and planning priority.
* **Online communications** now include the City’s redesigned website (including the Climate Commission page), newsletter, Instagram platforms, Twitter, Nextdoor, and Facebook.
* **The daily newsletter,** created for the pandemic, has showcased the City’s ability to communicate directly with residents during a disaster, with open rates averaging 35 to 40 percent.
* **City workshops and listening sessions**, such as the December 2019 community goal-setting workshop, have allowed more widespread input on policy and project design.

The City could improve community dialogue on the climate crisis, ramping up outreach to residents. Specific desirable outcomes include:

* A baseline understanding about residents’ knowledge of climate change (the near- and long-term impacts on their lives and their community).
* A public channel dedicated to engaging the community on climate change and ongoing community-wide efforts to address the crisis.
* A page on the City’s website dedicated to environmental and climate-change work that the City sponsors and supports.

**Big Picture Needs**

**Community buy-in**

We will need continuing public support to make climate a top priority and to be efficient, effective, and equitable with our climate action. This support must come from every economic, geographic, political, and demographic sector in Petaluma, especially those who have been unable to participate in City governance or who will suffer first and worst from climate-driven problems.

**Community climate literacy**

We need the community to understand the science-based assessment of local climate and related environmental impacts, both regionally and globally, from sea level rise to extreme weather to loss of biodiversity and food-growing capacity. Residents should understand how these impacts are linked to broader racial injustice and disparate impacts on disadvantaged communities. Residents should also begin to develop a perspective that places Petaluma in a wider climate movement.

**Climate solutions literacy and social resilience**

Residents should be informed and brought into conversations that address questions such as:

* What are the methods, tools, programs, and technologies available for tackling climate change mitigation, sequestration, and adaptation, at all levels?
* What are their costs and benefits?
* How will those choices affect different groups of residents, when factors such as racial justice, social justice, public health, and economic resilience are considered?
* How can we integrate disaster readiness and resilience into everyday life?
* How will we learn from and share our practices with other communities?

**Community participation**

We must find and use the most effective ways to ensure fair and meaningful representation and outcomes for all our residents.

* Where can we look for and cultivate new leadership?
* How can we enroll support from neighborhoods, schools, churches, cultural and service groups, businesses, and nonprofits?
* How do we inspire creative and fun ways to channel the dangers we face into economic, social, and spiritual development?

**A shift in culture and consciousness**

Although science and data are critical to translating information about climate change, we will need a large community cultural shift in Petaluma to make climate change and climate equity a top priority. Outreach and education efforts also need to support residents in bringing these large conversations into their own daily lives and homes, as well as creating a nuanced understanding about larger systemic issues that cause climate change and associated impacts.

This shift also requires that we:

* Build knowledge about climate justice vs. just climate action.
* Learn how the fight for indigenous land stewardship and sovereignty is part of climate action.
* Analyze how climate change affects women, individuals with lower incomes, seniors, and people of color more significantly.
* Redefine who we look to for climate leadership.

**City Engagement & Outreach: Current Status**

Over the last nine years, the City of Petaluma has broadly expanded its communication efforts, mainly focused on economic development. However, the new City Manager has prioritized community input on City decision-making with expanded communications to encompass citywide issues, seeking to create proactive, rather than reactive, engagement. Petaluma currently uses platforms including workshops, surveys, and social media.

Two economic development staff members conduct most of the City’s communications, also coordinating social media contributions by one or two individuals from each department. An outside firm, The Design Guild, helps with the newsletter, web development, translations, social media, graphic design, and copywriting. 

Before the pandemic, Petaluma only sent out quarterly newsletters to businesses but did not have a citywide newsletter. Since the pandemic’s onset, the City has broadcast a daily citywide communication that has been well-received, with open rates averaging 35 to 40 percent. Once the initial emergency of the pandemic has passed, Petaluma hopes to continue the weekly newsletter.

In addition to broadcasts by the Police Department, Fire Department, and Parks and Rec, Petaluma communicates via Facebook – where they put the majority of their efforts – Twitter, Instagram, and Nextdoor.

The City has a web page for the Climate Action Commission and a page to sign up for its agenda, but does not have any other specific communication channel focused on climate change. There are 532 people currently signed up for Climate Action Commission agendas and meeting postings.

**Potential Strategies**

* By June 2021, adopt a Climate Emergency Engagement Plan that outlines in detail actions and specific commitments for bringing organizations and individuals into the City’s climate work. Focus on historically underrepresented individuals and groups.
* Provide a secure funding source to implement this plan as a community-led process.
* Conduct a survey in 2020 to set a baseline for understanding and a goal for increasing Petalumans’ knowledge of climate change and the role they can play in addressing and adapting to it. Significantly increase this knowledge by January of 2022.
* Increase engagement in City climate actions consistently year over year, through 2025.
* Partner with local school districts to develop a comprehensive climate education curriculum for adoption throughout our community’s schools.
* Increase the percentage of Petaluma residents who include “addressing climate change” as a “somewhat important” or “very important” part of Petaluma’s identity consistently year over year, through 2023.

**Near-Term Actions**

**Communications**

**Enhance the Climate Action Commission landing page.** Make this a bright, welcoming, and informative space that makes it easy for residents to quickly understand what the Commission’s purpose is, who the members are, and what we are working on.

* Highlight what the City is doing about the environment, sustainability, and climate change. Showcase easy-to-read metrics that share the City’s impacts in this area.
* Add photos, bios, and personal websites, if okayed by commissioners.
* Add links to Commission news coverage.
* Feature participating local organizations.
* Include a “How to get Involved” section, including in-person participation and submission of feedback

**Do consistent outreach.** Outreach opportunities include:

* A monthly, curated City newsletter and/or section from the Climate Action Commission
* The Argus Courier and other local papers
* Newsletters of other local organizations we work with
* Mailers to residents, including surveys or information on types of needed engagement
* Links or ways to view presentations without having to read a document

**Create a short video**. The video shouldinclude an introduction by City staff, a council member, or Commission chair to the Climate Emergency Framework process and invite people to contribute. Topics to include:

* City efforts in prioritizing the climate emergency
* Specific issues we are addressing in Sonoma County
* Social resilience
* Messages that uplift and empower residents

**Hire a climate outreach staffer.** Responsibilities to include:

* Managing an online platform tracking citywide climate-related events
* Building communitywide relationship with all stakeholders
* Prioritizing engagement in schools
* Reaching out to residents for one-on-one listening and feedback sessions

**Produce a concise, attractive booklet.** The bookletshould be accessible both online and in print, as well as at the library, and provide public information including:

* A simplified outline of Petaluma’s Climate Action Plan
* A yearly update of goals the City is working on
* Actions residents can take in their own life

**Community Organizing Efforts**

The City can collaborate with local organizations that are already doing integral sustainability, environmental, or climate change work within the community, as well as:

* Report on the City’s progress in addressing climate change on an annual basis through a report to the Council, widely publicized and posted on the City’s website.
* Provide tools and resources to help organizations and individuals reduce climate pollution, assess their own progress, and prepare for the impacts of climate change.
* Partner with local educational institutions to develop a comprehensive climate education base curriculum for our community’s schools, kindergarten through college level.
* Support creation of educational information for caregivers of young children on how to talk to children about climate change.

**Community Events**

Events the City could sponsor include:

* Consistent, ongoing community listening and report-back sessions offered remotely as well as in various locations, including sessions with children of different ages on how disasters affect their lives, as part education and part mental health service.
* Speaker series that features individuals who are addressing climate change.
* Ongoing educational events that hold the City accountable to prioritizing this climate emergency, e.g., Earth Week, an annual Climate Summit, creative climate challenges, climate-based art and youth projects, community signage and installations with climate themes (see Appendix D for a list of relevant dates).
* Climate based art, performance and science projects for Youth and Schools

**Long-Term Actions**

Over the longer term – in the next 5 to 15 years – the City should take the following additional actions:

* Support community engagement in implementing the longer-term actions identified in preceding sections of this Framework.
* Provide an ongoing climate change education program.
* Provide a hub or community center where people can learn and engage on climate change-related topics (similar to the Tourism Center at the downtown SMART station).
* Regularly update the Climate Engagement Plan.

**An Invitation to the Community**

Our most important stakeholders are our community members, particularly frontline and underserved Petaluma residents. City leaders and the Climate Commission will strategize how best to engage the community to receive input on this Framework. We invite all community members to review and respond to the principles, goals, and actions we have described here. Wide public input is a critical foundation for creating a community-supported Climate Action Plan.

Although acquiring comprehensive, representative input presents an unforeseen challenge with the pandemic-necessitated limitations on community gatherings, it is essential that our engagement process be accessible, inclusive, and effective in eliciting input from diverse stakeholder groups.

Once we receive feedback about the goals and actions the community supports, we can move forward in developing metrics to assess our progress and provide ongoing accountability.

We want to emphasize the importance of regular meetings and ongoing dialogue with grassroots community and neighborhood organizations in the drafting and execution of the Climate Action Plan and in subsequent updates. These relationships will be essential to our success in meeting the challenges ahead.

**ADAPTATION AND SOCIAL RESILIENCE**

For the past 40 years, we’ve observed the impacts of climate change in the global context, with the intensity of these impacts steadily increasing over time.

Global temperatures continue to hit record or historic highs, and there is no known upper limit to global temperature increases. The State of California has experienced drought for 19 of the past 20 years and is suffering increasing frequency and intensity of wildfires statewide. Sea level rise, a slower moving impact of climate change, is expected to cause economic and infrastructure losses in California that are orders of magnitude higher than wildfires.[[9]](#footnote-10) Global warming and its impacts are occurring even as we ramp up mitigation, and many impacts are irreversible. At the same time, the Association of Bay Area Governments is forecasting that the population of the Bay Area will increase by 2.1 million by 2040, creating more pressure on land use, infrastructure, resources, and ecosystems.

Given the inevitability of these impacts, the City of Petaluma should plan, create policy, and undertake projects to prepare for them. The City is developing a *Local Hazard Mitigation Plan*, a FEMA-mandated document that assesses risk potential and will make the City eligible for FEMA funding. Over the next year, the City also will be updating its General Plan, a key opportunity to include climate change adaptation policies.

Within the context of forecasted population growth, the City of Petaluma should prepare for the following climate change-related impacts:

* Drought
* Wildfire
* Extreme heat
* Sea level rise (flooding and permanent inundation)
* Extreme precipitation, contributing to flooding
* Sociocultural impacts

Additionally, the City should plan and prepare for these impacts in combination with one another and in combination with other types of global crises, including pandemics and economic instability. Further, this work should be undertaken in collaboration with leading regional, statewide, and international bodies, so that we learn from the successes and failures of other cities and jurisdictions in climate change adaptation.

The remainder of this section describes the main strategies and actions we hope to pursue. Some can be instituted in the near-term, others are longer-term or ongoing actions.

**Address Climate Concerns Through Education and Outreach**

Ensure that citizens feel that their climate concerns are being heard and addressed through the climate adaptation and resilience planning process.

* Facilitate a robust community conversation in Petaluma regarding residents’ understanding of how the climate is changing, how the changes may affect our community – including specific neighborhoods and cultural groups—what actions should be taken, and their highest concerns and priorities.
* Develop processes to document and widely share these diverse community viewpoints, ensuring that the needs and concerns of the whole community are heard.
* Create a communitywide climate change education program that includes up-to-date climate science and a clear picture of near- and long-term anticipated impacts, and that evaluates opportunities for adaptation.

**Become a Resilient Town**

Develop Petaluma as a resilient town and hub of adaptation and preparedness in Sonoma County. Measures of community resilience include resilience hubs, microgrids, community councils, and the creation and establishment of financial and other support, including:

* Support neighborhood-based organizations.
* Enhance and expand on existing community resilience partnerships.
* Provide energy resilience via back-up energy systems, microgrids, and other measures that serve the community during emergency events, particularly supporting more vulnerable communities and groups.

**Create a Resilient Emergency Response Network**

Facilitate the creation of knowledgeable and capable community groups and organizations that are prepared to respond to climate change-related disasters and support families and neighborhoods.

* Develop citywide and neighborhood-based emergency systems and supply networks to address residents’ needs for energy, health, food, and shelter.
* Ensure that City emergency services support and collaborate with social resilience groups and neighborhoods.
* Create centers to provide needed services and supplies and continuity for families and businesses during emergency events.
* Develop an understanding of how cultural groups and neighborhoods will be affected by climate change over the near- and long-term scenarios (2025 - 2100).

**Develop a Climate Change Adaptation and Resilience Plan**

Identify community-supported, equitable, and cost-effective adaptation measures in appropriate time frames to adapt to climate change impacts.

* Develop a step-by-step process with specific guidance on prioritizing actions that promote equity and foster community resilience, including establishing baseline data and metrics for analysis of future data.
* Conduct a climate change impacts vulnerability assessment that builds on the *Local Hazard Mitigation Plan* and projects impacts through to 2100 on different sectors, populations, wildlife, neighborhoods, and infrastructure. Assess sea level rise impacts and analyze costs for a spectrum of response scenarios.
* Integrate current and future climate conditions into all City planning and investment decision-making processes. Adopt State Executive Order B-30-15.[[10]](#footnote-11)
* Integrate adaptation principles, goals, and actions into the City’s 2025 General Plan Update, Implementing Zoning Ordinance and other planning documents, building code, green infrastructure development and ecosystem services management, area specific and master plans, Transportation Plan, Local Hazard Mitigation Plan, and other relevant regulatory documents.
* Develop staff resources to implement recommended mitigation, adaptation, equity and engagement activities and actions in the key city departments: planning, public works, parks, and communications.

**Start Adaptation Immediately**

In order to well prepare Petaluma for all the impacts of climate change anticipated by 2040 – including extreme heat/urban heat islands, drought, flooding, sea level rise, wildfire, smoke, infrastructure failure – immediately implement adaptation actions and activities that have been well studied and understood, by copying or adapting tools used in other communities. [See Appendix C for potential sources of funding.]

* Mandate a displacement and equity analysis for all public and private development plans that includes a “climate smart scorecard.”
* Prohibit development in floodplains or with negative impacts on waterways.
* Increase energy-efficient, zero-carbon, and green construction and retrofits, incorporating passive strategies and low-carbon equipment.
* Protect critical built environment and infrastructure resources or move, if needed.
* Reduce urban heat island effects by increasing use of high-albedo roofs and paving, pervious paving, and urban forest canopy.

**Restore Local Ecosystem Health**

Improve adaptation to climate change by restoring and enhancing local ecosystems; identifying, maintaining, and expanding wildlife corridors and wildlife crossings; and sustaining local native biodiversity.

* Raise awareness and understanding of local ecosystems through community outreach and engaging community environmental educational institutions and organizations.
* Reduce pollutions and toxins suppressing ecosystem health and biodiversity
* Support pollinator and bird populations in urban, residential, and open space and park landscapes.
* Restore upland grasslands, wet meadows, wetlands, and floodplains to support restoration of Petaluma Valley hydrology and groundwater recharge, and to reduce flooding.
* Work with local and regional environmental partners to create a biodiversity assessment and accountability tool, for example, a “Biodiversity Scorecard” or other means, to measure progress restoring and enhancing wildlife populations and native plant habitat for the City.
* Prioritize “green” infrastructure[[11]](#footnote-12) to gradually reduce system size and maintenance and replacement cost demands of “gray” infrastructure (including streets, utility systems, storm drainage, and utilities).
* Reduce flooding risks by implementing low impact development (LID) practices in new development and retrofitting existing areas with LID measures to restore pre-development hydrology to the largest extent possible. (LID refers to systems and practices that use or mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater to protect water quality and aquatic habitat.)
* Reduce impervious road surfaces and develop green street standards, defined by the US EPA as stormwater management that incorporates vegetation, soil, and engineered systems (e.g., permeable pavements) to slow, filter, and cleanse stormwater runoff from impervious surfaces (e.g., streets, sidewalks).
* Expand the urban forest and integrate large, primarily native, trees in neighborhoods to provide shade and improve walkability, air quality, heat attenuation, stormwater capture, and carbon sequestration.
* Restore and enhance the Petaluma River, re-creating a healthy and accessible waterway and pedestrian-oriented zone along the banks. Address upper watershed impacts, improve water quality and quantity, control erosion, and stabilize banks.
* Restore floodplains and historic floodplain ecosystem services in the Petaluma valley and hills.
* Step back future development from the river to allow room for nature-based adaptive responses to sea level rise and high-intensity storm surges, and to preserve riparian forest habitat in sufficient depth along the waterway for shade and nutrient management.
* Enact open space, agricultural area, and green space policies to support habitat connectivity for both wildlife movement and pedestrian trails in balance.

**Prepare for Economic & Public Health Impacts**

Prepare Petaluma for economic shock, increased public health impacts, and changes in population.

* Prepare to house people impacted by climate change-related disasters that occur elsewhere.
* Protect residents in rental housing from losing their homes due to economic impacts.
* Prioritize measures that reduce impacts on frontline and less advantaged groups and reduce structural inequities in public health and education that reduce social resilience. Establish systems and metrics to ensure accountability.
* Create structural resilience by supporting local and regional essential systems along with back-up resources for energy, communications, and water supply.

**APPENDICES**

**Appendix A: Relevant Documents and Documents Reviewed**

**Relevant City Plans and Documents:**

* General Plan 2025
* City of Petaluma Local Hazard Mitigation Plan
* City of Petaluma Bicycle and Pedestrian Plan
* River Access and Enhancement Plan
* Central Petaluma Specific Plan
* Petaluma SMART Rail Station Areas: TOD Master Plan
* Petaluma Municipal Code
* Petaluma Implementing Zoning Ordinance

**Additional Documents Reviewed by the Equity Ad Hoc Committee:**

* A Portrait of Sonoma County--Sonoma County Human Development Report
* The City of Albany’s Climate Action and Adaptation Plan
* The City of Oakland’s 2030 Climate Action Plan Community Workshop Presentation
* The City of Providence’s Climate Justice Plan
* The City of Portland’s Climate Action Plan
* The City of Boulder’s Climate Mobilization Action Plan
* The City of Petaluma Draft Hazard Mitigation Plan.

**Additional Documents Reviewed by the Adaptation and Social Resilience Ad Hoc Committee:**

* Sonoma County Climate Action Plan 2020
* City of Boulder Climate Action Plan
* Albany Climate Action Plan
* Petaluma Local Hazard Mitigation Plan
* City of Oakland Draft Climate Action Plan
* City of Providence Climate Justice Plan
* Intergovernmental Panel on Climate Change (IPCC) 6th Assessment, “AR6 Climate Change 2021: Impacts, Adaptation and Vulnerability”
* CAL OPC “Rising Seas in California: An Update on Sea Level Rise”
* Petaluma Climate Action Commission PowerPoint presentation on Sea Level Rise in Petaluma (<https://petaluma.granicus.com/MediaPlayer.php?view_id=31&clip_id=2917>)

**Appendix B: Metrics for Measuring Progress**

**For adaptation and resilience:**

Has the City:

* Established a Climate Change Department?
* Developed budgets for equity, mitigation, sequestration, adaptation, social resilience, and community engagement?
* Provided climate change education and visioning events (how many)?
* Developed a Climate Change Resilience and Adaptation Plan?
* Established and integrated climate change priorities into the General Plan Update?
* Provided centers that provide needed services, access to basic needs, and continuity for families and businesses during emergency events?
* Supported, participated in, and aligned, where applicable, with the SDAT design process for Washington-McDowell nexus?
* Stopped all floodplain development until it can be proven that the development would not exacerbate flood concerns or add to cumulative flood effects within the watershed?
* Supported measures and actions to reduce wildfire impacts?
* Identified and pursued funding sources to implement short- and long-term actions?
* Established a community-wide climate change education program?
* Made significant investments to improve citywide stormwater management, providing more green infrastructure systems to attenuate stormwater and recharge?
* Adapted the built environment for more extreme heat and developed reach codes to address this, for example, by requiring roofs and paving to be high albedo surfaces?
* Restored riparian areas, wet meadows, and wetlands inside city limits and in collaboration with other entities in adjacent county areas?
* Developed and implemented complete streets that integrate stormwater and trees for shade into all street systems in the City?

**For community engagement:**

Has the City:

* Set a baseline for community engagement and climate knowledge? (“Do you know what the city is doing about climate change?” “How aware are you of the city’s climate change-related actions?”)
  + Tracked how many are people engaged in city-sponsored, climate-related activities?
  + Tracked how many climate-related events it has put on?  
    Done a survey after every city-sponsored climate-related event
  + Tracked how many people receive emails about our agendas over time?
  + Tracked how many people visit our web page over time?
  + Hired someone to do outreach specifically for this Commission?
  + Devote staff time to climate-related engagement activities – how much?
  + Produced a climate-related booklet?
  + Created partnerships (official and unofficial) with climate-related organizations – how many?
  + Partnered with school districts to provide climate-related education?
  + Utilized relationship building
  + Created a survey of baseline community understanding about the main themes discussed in this Framework?

**Appendix C: Potential Funding Sources**

Potential funding opportunities for adaptation and resilience:

* Bay Conservation and Development Commission (BCDC)
* California Coastal Commission
* California Office of Emergency Services (CalOES)
* Coastal Conservancy
* CalFire
* City and County budget realignment
* Federal Emergency Management Agency (FEMA) or other federal funding
* Local or Statewide Resilience Bonds
* Local and/or Statewide Progressive tax measure(s)
* Ocean Protection Council (OPC)
* Pacific Disaster Center
* Progressive tax measure(s)
* Resilience Bonds – State bond programs
* San Francisco Bay Restoration Authority
* State Coastal Conservancy

**Appendix D: Environmental Holidays and Days of Observance**

* [World Wetlands Day](http://www.mnn.com/earth-matters/wilderness-resources/blogs/happy-world-wetlands-day) – Feb. 2
* World Forestry Day – March 21
* World Water Day – March 22
* Earth Hour – Last Saturday of March
* Earth Day – April 22
* [Arbor Day](https://www.arborday.org/) – Last Friday in April (each state also has its own observation based on best tree planting time)
* International Migratory Bird Day – 2nd Saturday in May in the U.S. and Canada
* [International Day for Biological Diversity](http://www.cbd.int/idb/) (World Biodiversity Day) – May 22
* Bike-to-Work Day – Third Friday in May
* National Trails Day – First Saturday in June
* World Environment Day – June 5
* World Oceans Day – June 8
* Global Wind Day – June 15
* World Day to Combat Desertification and Drought – June 17
* National Wildlife Day – Sept. 4
* International Day for the Preservation of the Ozone Layer – Sept. 16
* [Clean Up the World Weekend](http://www.cleanuptheworld.org/en/Activities/clean-up-the-world-weekend.html) – Third weekend in September
* Zero Emissions Day – Sept. 21
* World Car Free Day – Sept. 22
* Ecological Debt Day ([Earth Overshoot Day](http://www.footprintnetwork.org/en/index.php/gfn/page/earth_overshoot_day/)) – changes annually, August 22, 2020
* World Rivers Day – Every last Sunday in September
* World Habitat Day – First Monday in October
* International Day for Natural Disaster Reduction – Second Wednesday in October
* World Planting Day – Oct. 22
* International Day of Climate Action – Oct. 24
* [America Recycles Day](http://icountformyearth.wordpress.com/2010/11/14/your-voice-counts-on-america-recycles-day/) – Nov. 15(ish)
* World Soil Day – Dec. 5
* International Mountain Day – Dec. 11

Here are special week-long, year-long and even decade-long environmental/Earth-related events. Keep in mind, the actual dates vary by year.

* [National Park Week](http://www.nationalparks.org/national-park-week)
* [Dark Sky Week](http://www.darksky.org/int-l-dark-sky-week-main)
* National Clean Beaches Week – July 1-7
* Conservation Week
* Bike Week – Second week in June
* Recycle Week – June 20-26
* [Green Office Week](http://blogs.usda.gov/tag/green-office-week/)
* Junk Mail Awareness Week – First week of October
* United Nations Decade on Biodiversity – 2010-2020

**Appendix E: Framework Contributors**

Members of the Climate Action Commission (CAC) would like to express their gratitude to the following community members who volunteered their time to help develop this Climate Action Framework by researching, writing, editing, and providing ideas and feedback.

**Equity Ad Hoc Committee** (Commissioners Jean Ger, Ned Orrett, Ann Baker); contributions by:

* Elece Hempel (Petaluma People Services Center)
* Brent Newell (Sr. Food Project Attorney with Public Justice)
* Dennis Pocekay (NBOP, North Bay Rapid Response Network, & American College of Occupational and Environmental Medicine—retired)

**Mitigation and Sequestration Ad Hoc Committee** (Commissioners Panama Bartholomy, Jean Ger, Ned Orrett); contributions by:

* Building Energy Use and Electricity: Pete Gang, Ann Edminster, Aaron Daly
* Urban Land Use and Mobility/Transportation: Brian Barnacle, Dave Alden, Fred Tarr
* Soil and Land Management and Water: Trathen Heckman and Brianna Schaefer (Daily Acts), Torri Estrada and Jeff Creque (Carbon Cycle Institute), D’Lynda Fischer (Petaluma Council Member and CAC Liaison), Claire Jahns, Aimee Drew
* Waste: Marie Kneemeyer (Daily Acts), Celia Furber and Lisa Moore (Recology), Annie Stuart (350 Petaluma)
* Technical Analysis: Pete Gang, George Beeler, Andy Ferguson, Ann Edminster

**Adaptation and Resilience Ad Hoc Committee** (Commissioners Kendall Webster, Kailea Frederick, Ann Baker); contributions by:

* Bruce Hagen
* Hal Bohner
* John Shribbs (Petaluma Wetland Alliance)
* Drew Norton (Sherwood Design Engineers)
* Additional information and review provided by Susan Kirks (PLAN)

**Community Engagement Ad Hoc Committee:** Commissioners Kailea Frederick and Panama Bartholomy, Kendall Webster; contributions by Liz Platte-Bermeo (Daily Acts).

1. <https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf> [↑](#footnote-ref-2)
2. Jones and Kammen, *A Consumption-Based Greenhouse Gas Inventory of San Francisco Bay Area Neighborhoods, Cities and Counties: Prioritizing Climate Action for Different Locations*: 17 Dec 2015, p. 34, <https://escholarship.org/uc/item/2sn7m83z>. [↑](#footnote-ref-3)
3. <https://www.nytimes.com/interactive/2020/07/05/us/coronavirus-latinos-african-americans-cdc-data.html> [↑](#footnote-ref-4)
4. <https://www.politico.com/news/2020/07/06/racial-disparities-families-struggle-food-348810> [↑](#footnote-ref-5)
5. [↑](#footnote-ref-6)
6. Walk Score is a private company that provides online apartment search tools and a free walkability indexing tool that assigns a numeric score to any address in the US, Canada, and Australia. [↑](#footnote-ref-7)
7. <https://www.fs.fed.us/nrs/pubs/ru/ru_fs178.pdf> [↑](#footnote-ref-8)
8. Jones and Kammen, *A Consumption-Based Greenhouse Gas Inventory of San Francisco Bay Area Neighborhoods, Cities and Counties: Prioritizing Climate Action for Different Locations*: 17 Dec 2015, p. 36, <https://escholarship.org/uc/item/2sn7m83z>.

   [↑](#footnote-ref-9)
9. <https://oag.ca.gov/environment/impact> [↑](#footnote-ref-10)
10. Executive Order B-30-15 directs the Office of Planning and Research to provide guidance for State agencies to integrate current and future climate conditions into all planning and investment decisions. [↑](#footnote-ref-11)
11. Section 502 of the Clean Water Act, ‘green’ infrastructure is “...the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters.” [↑](#footnote-ref-12)