

San Francisco's Climate Action Plan 2021

EXECUTIVE SUMMARY



The consequences of a changing climate are all around us. Rising seas and extreme weather are creating increased flooding and more frequent heat waves, which inflict the most harm on the city’s most vulnerable populations. Reduced snowpack in the Sierra Nevada mountains is threatening the City’s water and hydropower supplies. Ever more destructive fires are polluting the air throughout the state and overwhelming its emergency resources and ability to respond to multiple disasters.

San Francisco, like cities around the world, is faced with the threat of a climate emergency, coupled with long-standing challenges of economic inequality and racial injustice. Local skies have turned orange from wildfires, fueled by decades of unchecked carbon pollution. The American economy is more precarious for working people than it has been in decades, with inequities exacerbated by COVID-19. Demands for action are growing louder, including calls for climate justice, racial justice, disability justice, and economic justice. The most recent [Intergovernmental Panel on Climate Change \(IPCC\) report](#), an international scientific assessment of the threats presented by climate change, was released in August 2021 and indicates that the window in which to act continues to shrink. The most important thing to limit the worst impacts is to rapidly reduce greenhouse gas (GHG) emissions, especially carbon dioxide and methane. This summer, Mayor London Breed sponsored legislation to address the urgent threat of climate change and set new, ambitious goals to slash GHG emissions in San Francisco and reach net-zero emissions by 2040.

While San Francisco is proud of its record on local climate action and pursuit of environmental justice, there is an opportunity to make San Francisco a more affordable, equitable, just and sustainable city for all. The window to avoid climate catastrophe is closing, but there is still time to act. There is an urgent need – and opportunity – to not only reduce emissions, but to build equity,

resilience, and opportunity for the entire city. Bold climate action must give everyone a seat at the table to create a more just society and ensure communities can thrive by guaranteeing clean air and access to good jobs, green space, and healthy housing, and by developing and implementing a shared vision of how to live better together in the face of the growing climate crisis.

LEADING ON CLIMATE ACTION

Since its first Climate Action Plan in 2004, San Francisco has been leading the way on local climate action, environmental justice, and launching innovative community programs and outreach campaigns for residents and businesses.

For decades, San Francisco has created plans, implemented policies, and crafted engaging frameworks to reduce emissions. As of 2019, the city has achieved a 41% reduction in emissions from 1990 levels, while its economic productivity as measured by gross domestic product (GDP) has increased by 199%, and its population has grown by 22%. Its emissions reductions have been driven primarily by cleaner electricity supply, improved energy codes, and city-wide energy efficiency. This progress has not just reduced emissions, but has also come with additional important benefits, such as cutting air pollution and limiting other environmental stressors.



Cities are rapidly growing across the world. Most people live in cities and the cities, in turn, create 70% of global emissions. This means cities have great responsibility and great potential for providing solutions. Further, cities are engaged in international diplomacy on climate change and as a respected leader on the world stage, San Francisco has a vital role to play in modeling climate action for cities around the world.

CLIMATE ACTION PLAN OVERVIEW

Net-Zero Emissions means cutting the overwhelming majority of emissions to zero while relying on biological and technological solutions and offsets to balance out remaining emissions

Tackling the interwoven climate, equity, and racial justice challenges we face has been the driving force for the development of this Climate Action Plan (CAP). It provides a summary of progress through existing programs, and a detailed list of priority actions that San Francisco can take that will have the greatest potential to reduce emissions, while also having the greatest potential to provide an equitable distribution of benefits. The process of creating the CAP brought City departments, residents, community-based organizations, and businesses together to craft a plan focused on science and equity and grounded in compassion and lived experience. This data-driven, community-based plan outlines a detailed list of strategies and actions to achieve net-zero emissions by 2040, while creating solutions that serve intersectional challenges of racial and social equity, public health, economic recovery, and resilient communities (Figure 1).

SAN FRANCISCO'S CLIMATE ACTION FRAMEWORK

Net-Zero Emissions Citywide By 2040
Racial, Social & Economic Equity

SECTORS

 RESPONSIBLE PRODUCTION & CONSUMPTION	 TRANSPORTATION & LAND USE	 ENERGY SUPPLY	 BUILDING OPERATIONS	 HEALTHY ECOSYSTEMS	 HOUSING
<p>GOALS:</p> <p>By 2030:</p> <ol style="list-style-type: none"> 1) Reduce solid waste generation 15% below 2015 levels 2) Reduce disposal to landfill 50% below 2015 levels 	<p>GOALS:</p> <ol style="list-style-type: none"> 1) By 2030, 80% of trips taken by low-carbon modes 2) By 2030, at least 25% of all vehicles registered in SF are electric, reaching 100% by 2040 	<p>GOALS:</p> <ol style="list-style-type: none"> 1) 100% renewable electricity by 2025, 2) 100% renewable energy by 2040 (no fossil fuels) 	<p>GOALS:</p> <ol style="list-style-type: none"> 1) Zero emissions new construction by 2021 2) All large commercial buildings are zero emissions by 2035 3) All buildings zero emissions by 2040 	<p>GOALS:</p> <p>Sequester residual emissions through nature based solutions</p>	<p>GOALS:</p> <p>Build at least 5,000 new units per year, with no less than 30 percent affordable, focus on rehab of existing housing</p>
<p>KEY AREAS:</p> <ul style="list-style-type: none"> Embodied carbon in materials Consumption of goods & services Diet & food waste Air travel 	<p>KEY AREAS:</p> <ul style="list-style-type: none"> Shift to low-carbon modes; align land use with climate and equity goals Advance electric vehicles 	<p>KEY AREAS:</p> <ul style="list-style-type: none"> Renewable electricity via Hetch Hetchy and CleanPowerSF Grid readiness and resilience Local clean energy jobs 	<p>KEY AREAS:</p> <ul style="list-style-type: none"> New construction Existing commercial Existing municipal Existing residential 	<p>KEY AREAS:</p> <ul style="list-style-type: none"> Soil health & sequestration Urban forest Ecosystem management & restoration 	<p>KEY AREAS:</p> <ul style="list-style-type: none"> Equity and affordability Production Preservation and rehab
<p>0</p>	<p>80</p>	<p>100</p>	<p>ROOTS</p>	<p>ALL</p>	

THE PATH TO REACH NET-ZERO BY 2040

The imperative to address climate change is simple: cut emissions as quickly as possible. But achieving these goals is complex and demands an integrated approach across society. San Francisco's approach to reaching net-zero emissions is first and foremost grounded in equity. The most significant consequences of climate change will be felt by Black, Indigenous, and People of Color (BIPOC) communities, people with disabilities, and other vulnerable populations. Climate action must also prioritize a just transition, which calls for a strategic, people-focused approach to phasing out polluting industries while creating employment pathways for workers in those industries and a new generation of workers to transition to quality jobs that support economic and climate justice. Further, communities that have been and will continue to be most harmed by climate change have not historically benefited from climate solutions in the past.

To advance climate justice, the CAP makes four core commitments:

- Build greater racial and social equity
- Protect public health
- Increase community resilience
- Foster a more just economy

By integrating these four climate justice commitments, the CAP proposes two ambitious and achievable climate emission reduction targets:

- An interim target of cutting sector-based emissions 61% below 1990 levels by 2030; and
- Net-zero sector-based emissions by 2040, a 90% reduction from 1990 levels

Sector-based emission inventories track traditional emissions in categories produced within municipal boundaries such as transportation, energy use in buildings, and solid waste. The City is beginning to account for the impacts of its "upstream" emissions, which include emissions from the consumption of services and goods produced outside San Francisco. In essence, these emissions are outsourced to other communities, generating harmful climate pollution and exacerbating environmental injustice. In keeping with its commitment to equity, San Francisco is determined

to reduce the impacts of these outsourced emissions and has set two targets:

- A 40% reduction in consumption-based emissions by 2030
- An 80% reduction in consumption-based emissions by 2050
- In total, the Climate Action Plan provides an innovative framework to reach its sector-based (Figure 2) and consumption-based emission targets, while also removing carbon from the atmosphere.

ENGAGING OUR DIVERSE COMMUNITIES

Led by the San Francisco Department of the Environment (SF Environment), crafting the CAP was a highly collaborative process, which engaged expert City staff, community-based organizations, residents, businesses, and other stakeholders to identify high-impact opportunities to reduce emissions and support equity. The CAP public engagement process brought together San Francisco residents with honesty, transparency, and respect. It reached hundreds of thousands of people through social media, websites, surveys, web-based workshops and presentations, and online open houses. Over the course of four months, SF Environment hosted a kick-off webinar with Mayor London Breed, which was followed by eleven public workshops, including in-language sessions in Spanish and Chinese, and eleven additional community presentations. Further, the Department received more than 1,400 comments on the online open house platform as well as nine emailed comment letters from different stakeholder groups. This process ensured the community could identify new actions and integrate their priorities, data, and best practices into the plan.

SAN FRANCISCO'S CLIMATE ACTION GOALS

BUILDINGS

By 2021, require zero onsite fossil fuel emissions from all new buildings; By 2035, require zero onsite fossil fuel emissions from all large existing commercial buildings and all buildings by 2040

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ZERO WASTE

By 2030, reduce solid waste generation by at least 15% and reduce the amount of solid waste disposed of by incineration or landfill by at least 50% below 2015 levels

TRANSPORTATION

By 2030, increase low-carbon trips to at least 80% of all trips and increase EVs to at least 25% of all private vehicles registered, and by 2040, increase EVs to 100% of all private vehicles registered

ROOTS

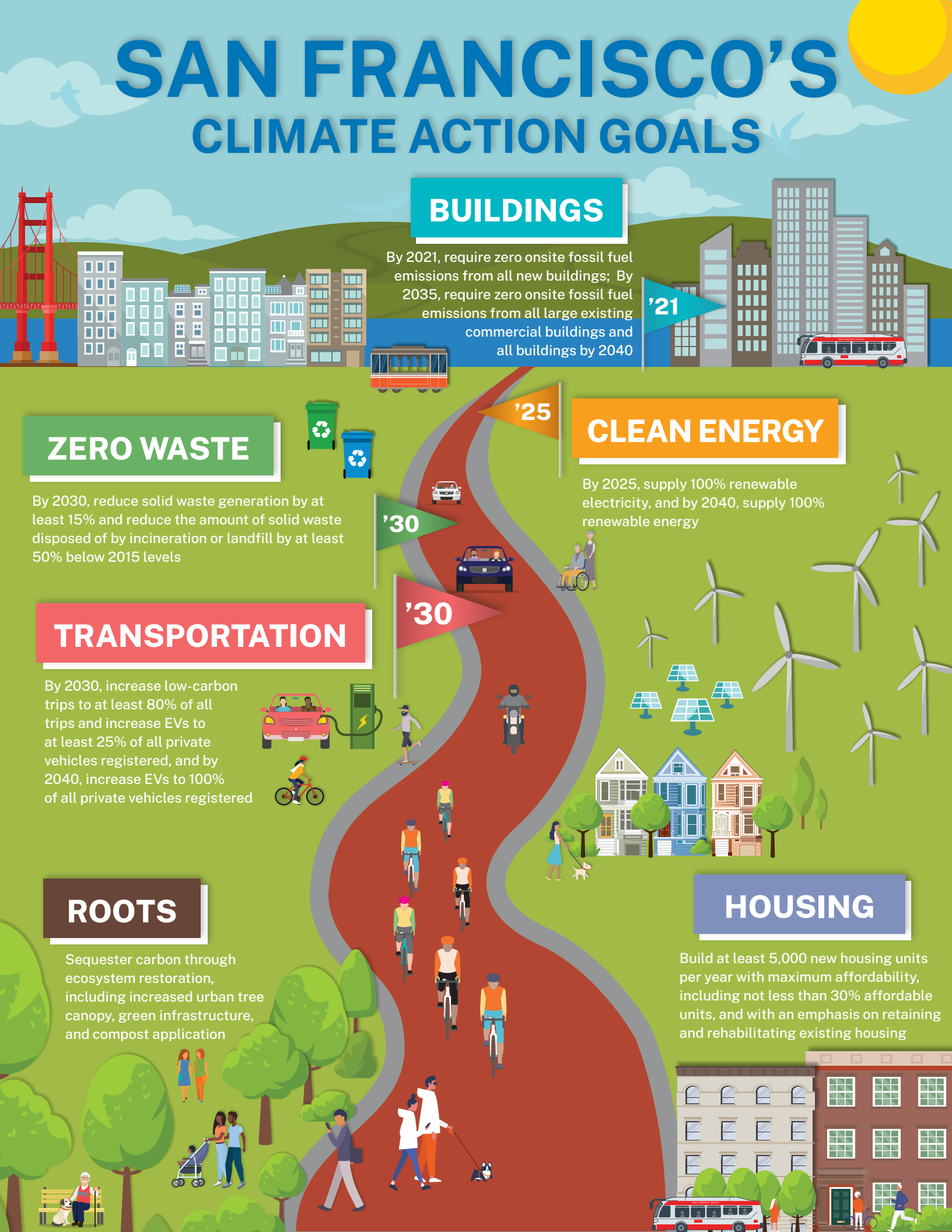
Sequester carbon through ecosystem restoration, including increased urban tree canopy, green infrastructure, and compost application

CLEAN ENERGY

By 2025, supply 100% renewable electricity, and by 2040, supply 100% renewable energy

HOUSING

Build at least 5,000 new housing units per year with maximum affordability, including not less than 30% affordable units, and with an emphasis on retaining and rehabilitating existing housing



PRIORITY SOLUTIONS

Through this robust engagement process the CAP identified 31 strategies (Table 1) and 159 supporting actions for San Francisco to achieve its climate and equity goals across six key areas, or sectors: Energy Supply, Building Operations, Transportation and Land Use, Housing, Responsible Production and Consumption, and Healthy Ecosystems.

Along with stakeholder input, key criteria used to inform the development of the strategies and supporting actions included their emissions reduction potential and their contribution to the four lenses of racial and social equity, public health, community resilience, and a just economy. While the CAP identifies hundreds of possible pathways needed to reach San Francisco's slated target of achieving net-zero emissions by 2040, not all have the same impact. The most critical stand-alone or subsets of strategies and actions have been summarized in the **top ten climate solutions:**

Energy Supply: Use 100% renewable electricity and phase out all fossil fuels

Building Operations: Electrify existing buildings

Transportation and Land Use:

- Invest in public and active transportation projects
- Increase density and mixed land use near transit
- Accelerate adoption of zero emission vehicles and expansion of public charging infrastructure
- Utilize pricing levers to reduce private vehicle use and minimize congestion
- Implement and reform parking management programs

Housing: Increase compact infill housing production near transit

Responsible Production and Consumption: Reduce food waste and embrace plant-rich diets

Healthy Ecosystems: Enhance and maintain San Francisco's urban forest and open space

Now that San Francisco has laid the foundation for a new, more inclusive climate agenda, it is time to move forward from planning to execution. New approaches will be needed to spur action across City departments and change underlying systems to embed climate considerations into municipal operations and ensure the timely delivery of projects.

TRANSPARENCY AND REPORTING

The CAP is not a "stand-alone" document. It leverages progress and momentum from complementary plans and policy initiatives, such as CleanPowerSF; building electrification code efforts; the [Housing](#) and [Transportation Element](#) updates of the General Plan; [urban forest](#) and [biodiversity plans](#); and [zero waste](#) work. These other plans and policies give the CAP a solid platform to help the city meet these pressing issues.

The CAP must and will be revisited and updated regularly, with a formal update every five years. Transparency is crucial for creating a plan that serves all San Franciscans. Further, the CAP is not just a summary of actions government will take on its own. Addressing climate change will require ongoing engagement with the entire community. Indeed, residents are parts of the implementation process too. To that end, the City will create a robust and accessible monitoring, evaluation, and reporting system to track and review the intended results and real progress of the targets, goals, strategies, and actions. This is essential to monitoring the success and effects of climate actions across the city, quantifying the benefits of the policies, and ensuring stakeholders can actively contribute to progress toward our climate goals.

TABLE 1: STRATEGIES IN 2021 CLIMATE ACTION PLAN

ENERGY SUPPLY (ES)	
ES 1	Supply 100% renewable electricity to residents and businesses.
ES 2	Invest in local renewable energy and energy resilience projects.
ES 3	Design and develop the reliable and flexible grid of the future.
ES 4	Develop workforce capacity to deliver clean energy resources.
ES 5	Plan for the equitable decommissioning of the City's natural gas system.
BUILDING OPERATIONS (BO)	
BO 1	Eliminate fossil fuel use in new construction.
BO 2	Eliminate fossil fuel use in existing buildings by tailoring solutions to different building ownership, systems, and use types.
BO 3	Expand the building decarbonization workforce, with targeted support for disadvantaged workers.
BO 4	Transition to low-global warming potential refrigerants.
TRANSPORTATION & LAND USE (TLU)	
TLU 1	Build a fast and reliable transit system that will be everyone's preferred way to get around.
TLU 2	Create a complete and connected active transportation network that shifts trips from automobiles to walking, biking, and other active transportation modes.
TLU 3	Develop pricing and financing of mobility that reflects the carbon cost and efficiency of different modes and projects, and correct for inequities of past investments and priorities.
TLU 4	Manage parking resources more efficiently.
TLU 5	Promote job growth, housing, and other development along transit corridors.
TLU 6	Strengthen and reconnect communities by increasing density, diversity of land uses, and location efficiency.
TLU 7	Where motor vehicle use or travel is necessary, accelerate the adoption of zero-emissions vehicles (ZEV's) and other electric mobility options.
HOUSING (H)	
H 1	Anchor BIPOC families and advance their return to San Francisco through robust housing and stabilization programs.
H 2	Support vulnerable populations and underserved communities through both the preservation and rehabilitation of existing housing and new housing development that serves their needs.
H 3	Advance zoning and implementation improvements that support new housing production sufficient to meet goals, especially sustainable, small, mid-sized, family, and workforce housing in lower density neighborhoods.
H 4	Expand subsidized housing production and availability for low-, moderate-, and middle-income households.
RESPONSIBLE PRODUCTION & CONSUMPTION (RPC)	
RPC 1	Achieve total carbon balance across the buildings and infrastructure sectors.
RPC 2	Reduce the carbon footprint of the food system by reducing waste, promoting climate friendly diets, and getting excess food to communities in need.
RPC 3	Promote reduction, reuse, repair, and recovery of goods and materials.
RPC 4	Lead the aviation sector by reducing emissions across the airline passenger journey.
HEALTHY ECOSYSTEMS (HE)	
HE 1	Advance citywide collaboration to continually refine nature-based climate solutions that sequester carbon, restore ecosystems and conserve biodiversity.
HE 2	Increase equitable community participation and perspectives in nature-based climate solutions, including meaningful efforts to prioritize Indigenous science and Traditional Ecological Knowledge.
HE 3	Restore and enhance parks, natural lands and large open spaces.
HE 4	Optimize management of the city's entire urban forest system.
HE 5	Maximize trees throughout the public realm.
HE 6	Maximize greening and integration of local biodiversity into the built environment.
HE 7	Conduct carbon sequestration farming pilot projects and research.

ACTION MOVING FORWARD

In addition to reducing emissions to net-zero over the next 18 years, the CAP strives to ensure all San Franciscans have the skills, knowledge, and resources to meet the challenges of climate change that lie ahead. Communication will be key to engaging businesses, residents, and communities in ongoing action and ensuring that all San Franciscans benefit from climate action. Climate change is inherently a complicated challenge: it encompasses major sectors of the economy, draws heavily on scientific research and data, merges private and public interests, and has outsized equity implications.

Funding the strategies and actions in the CAP is imperative for success. While the expected initial cost of implementing CAP strategies will be immense, research and the experience of cities already being confronted by climate change show that the financial consequences of inaction will be even worse.² In mid-2021, after strong advocacy from local residents inspired to act by the unfolding climate emergency, the City committed funding to develop high-level accounting of the cost of implementation and perform in-depth research and analysis to identify successful funding models to support implementation of the strategies included in this CAP.

The City must implement policies and creative financing mechanisms to provide ongoing and stable funding and build on support from the private sector and philanthropy, as well as federal, state, and regional agencies. It must continue to illustrate the case for climate action and secure commitments from a range of diverse stakeholders to invest in solutions, while creating incentives to support these investments. As a leader in global sustainability, San Franciscans have a chance to prove to the world that a net-zero future is achievable, advances justice, and creates a vibrant, diverse city where people can thrive.

A CALL TO ACTION

This path forward will be challenging. San Franciscans will need to be bold and courageous to achieve our vision of a city that provides adequate and healthy housing, safe transportation, green space in every community, and expansive employment opportunities. While individual action is important, including each City department, business, and resident working to reduce emissions, collective action will be vital. That includes rapidly getting off fossil fuels, understanding the science of climate change, and helping others grasp the magnitude of the threats to where we live, work, worship and play. Collective action includes listening to and learning from each other, lifting one another up to move forward together, and showing the entire world that San Francisco can lead the way in addressing the climate crisis.



THURSDAY NIGHT

OPEN TILL 9 PM

Larkin

DON'T FIGHT THE REAL

THURSDAY NIGHT

THE