

# CLIMATE CHANGE

California has a unique opportunity to build on our history of innovation, economic growth and policy driven by science to lead in adapting to and mitigating climate change. We can simultaneously confront the climate crisis and build a more resilient, just, and equitable future for all communities.

Integrating climate solutions with equity and economic opportunity can transform every aspect of how Californians live in their communities. The Governor's Budget reflects the need for urgent and comprehensive action across government and our economy. Record-breaking heat waves, a vanishing Sierra snowpack and life-threatening historic wildfires demonstrate that climate emergencies are growing with frequency and intensity in California, which demand action. The Budget proposes a climate and opportunity agenda to deliver community resilience, affordable housing, and expanded access to health care and education while advancing equity and expanding the number of Californians that share in the state's economic growth. Communities that have suffered disproportionately from pollution will be at the forefront of these solutions.

Building on the state's history of climate leadership and the historic \$15 billion climate resilience investments in the 2021 Budget Act, the Budget includes an additional \$22.5 billion one-time from various fund sources over five years to advance the state's Climate and Opportunity Budget and provide equitable climate solutions to prepare and protect communities.

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## CLIMATE ON THE MOVE

Responsible for more than half of the state's climate emissions, the transportation sector generates air pollution, with a disproportionate impact in low-income and underrepresented communities. The Budget's climate investments will deliver opportunities for affected communities, accelerating job-creating clean technologies, advancing environmental justice, and reducing emissions from the transportation system.

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### ZERO-EMISSION VEHICLE (ZEV) ACCELERATION

The 2021 Budget Act committed \$3.9 billion towards ZEV acceleration through 2023-24. It included market-changing investments—ranging from cleaning up drayage trucks, transit, and school buses to accelerating equitable electrification of passenger vehicles, e-bikes and rail—coupled with infrastructure and incentives for in-state manufacturing.

The Budget invests an additional \$6.1 billion (\$3.5 billion General Fund, \$1.5 billion Proposition 98, \$676 million Greenhouse Gas Reduction Fund, and \$383 million Federal Funds) one-time over five years, with a focus on communities that are most impacted, bringing the total investment to \$10 billion over six years to decarbonize California's most polluting sector and improve public health. The Budget proposes targeted investments in disadvantaged and low-income communities, including tribal communities, to increase access to the benefits of clean transportation and more than doubles the money targeted for heavy-duty market acceleration.

Significant investments include:

- **Low-Income Zero-Emission Vehicles and Infrastructure**—\$256 million for low-income consumer purchases, and \$900 million to expand affordable and convenient ZEV infrastructure access in low-income neighborhoods. These investments will focus on planning and deploying a range of charging options to support communities, including grid-friendly high-power fast chargers and at-home charging.
- **Heavy-Duty Zero-Emission Vehicles and Supporting Infrastructure**—\$935 million to add 1,000 zero-emission short-haul (drayage) trucks and 1,700 zero-emission transit buses; \$1.5 billion Proposition 98 to support school transportation programs, including advancing electric school buses in a coordinated effort between educational, air pollution, and energy agencies; \$1.1 billion for zero-emission trucks, buses, and

off-road equipment and fueling infrastructure; and \$400 million to enable port electrification.

- **Zero-Emission Mobility**—\$419 million to support sustainable community-based transportation equity projects that increase access to zero-emission mobility in low-income communities. This includes supporting clean mobility options, sustainable transportation and equity projects, and plans that have already been developed by communities that address mobility. These locally driven projects continue to be a direct response to critical mobility needs identified by community-based organizations and residents working on the front lines to lift up priority populations.
- **Emerging Opportunities**—\$200 million to invest in demonstration and pilot projects in high carbon-emitting sectors, such as maritime, aviation, rail, and other off-road applications, as well as support for vehicle grid integration at scale. These investments will help maintain California's role as the hub of ZEV market creation and innovation, creating economic development opportunities, while accelerating zero-emission solutions in hardest-to-reach segments of the transportation system.

#### Zero-Emission Vehicle Investments

(Dollars in Millions)

Investment Category	Program	2021 ZEV Package Multi-Year Investment	2022 ZEV Package Multi-Year Investment	ZEV Package Totals
Passenger Vehicles	Clean Vehicle Rebate Project	\$525	\$0	\$525
	Clean Cars 4 All & Other Equity Projects	\$400	\$256	\$656
	ZEV Fueling Infrastructure Grants	\$300	\$600	\$900
	Equitable At-home Charging	\$0	\$300	\$300
Big ZEVs	Drayage Trucks & Infrastructure	\$470	\$475	\$945
	Drayage Trucks & Infrastructure Pilot Project	\$65	\$0	\$65
	Transit Buses & Infrastructure	\$290	\$460	\$750
	School Buses & Infrastructure	\$450	\$1,500	\$1,950
	Clean Trucks, Buses and Off-Road Equipment	\$700	\$1,100	\$1,800
	Ports	\$0	\$400	\$400
	Near-Zero Heavy Duty Trucks	\$45	\$0	\$45
Other	ZEV Consumer Awareness	\$5	\$0	\$5
	ZEV Manufacturing Grants	\$250	\$0	\$250
	Community-Based Plans, Projects and Support / Sustainable Community Strategies	\$0	\$419	\$419
	Emerging Opportunities	\$0	\$200	\$200
	Transportation Package ZEV	\$407	\$383	\$790
<b>Totals</b>		<b>\$3,907</b>	<b>\$6,093</b>	<b>\$10,000</b>

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### TRANSPORTATION

Alongside the investments in zero-emission vehicles and infrastructure, the Budget includes \$9.1 billion one-time General Fund and Bond funds over two years for transportation programs and projects that align with climate goals, advance public health and equity, and improve access to opportunity; further, the state will be competitively positioned to pursue significant federal investments from the Infrastructure Investment and Jobs Act. These investments will create thousands of jobs, accelerate new investments to modernize existing transportation options, and support clean transportation projects that address climate change and equity. Significant investments include:

- **Active Transportation**—\$750 million General Fund for projects to transform the state's active transportation networks, improve equity, and support carbon-free transportation options, including funding for: Active Transportation Program projects, the Reconnecting Communities: Highways to Boulevards Pilot Program, and bicycle and pedestrian safety projects.
- **High-Speed Rail and Transit**—\$4.2 billion Proposition 1A bond funds for High-Speed Rail, \$3.25 billion General Fund for statewide, regional and local transit and rail projects, and \$500 million General Fund for high-priority rail safety improvements.
- **Climate Adaption**—\$400 million General Fund for climate adaptation projects that support climate resiliency and reduce infrastructure risk.

See the Transportation Chapter for additional detail.

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### CLEAN ENERGY

Combating the climate crisis will require a diverse portfolio of new clean energy technologies to be developed and deployed as quickly as possible. California will need to pursue a range of solutions to meet climate goals and help meet the increased electricity demand from electrification of its transportation and building sectors; improve grid reliability and resilience; promote and support energy equity across California including in tribal, low-income, and underrepresented communities; and equitably transition towards low- and zero-carbon energy appliances and generation.

To address the scale and urgency of California's changing energy needs, the Budget includes \$2 billion (\$2.035 billion General Fund over two years, \$1.5 million Energy Resources Programs Account in 2022-23, \$2.6 million Public Utilities Commission Utilities

Reimbursement Account ongoing) for a Clean Energy Investment Plan that will spur additional innovation and deployment of clean energy technologies in the energy system. The Budget focuses on fostering and deploying technologies to address key energy needs for diverse and reliable sources of electric power, and the decarbonization of buildings, agriculture, and industry by scaling up new technologies designed to drive down consumer costs. Significant investments include:

- **Long Duration Storage**—\$380 million General Fund over two years to invest in long duration storage projects throughout the state to support grid reliability. This investment will help with resilience in the face of emergencies, including wildfires, and provide a decarbonized complement to intermittent renewables, which will provide the state with additional energy storage options during periods of low renewable power availability.
- **Green Hydrogen**—\$100 million General Fund in 2022-23 to advance the use and production of green hydrogen, in which electricity is used to split water into oxygen and hydrogen. Green hydrogen is critical to the decarbonization of California's economy and achieving carbon neutrality.
- **Industrial Decarbonization**—\$210 million General Fund over two years to accelerate industrial sector decarbonization. There are over 40,000 industrial facilities in California, employing over 1.2 million people. This funding will provide a grant program for the purchase and deployment of commercially available advanced technologies and equipment to decarbonize this sector while focusing on reducing criteria pollutants in disadvantaged communities.
- **Food Production Investment**—\$85 million General Fund in 2022-23 to accelerate the adoption of energy technologies at California food production facilities. Grants will be provided to California food producers to install energy efficiency and renewable energy technologies that will reduce operating costs, as well as climate emissions.
- **Offshore Wind Infrastructure**—\$45 million General Fund in 2022-23 to create the Offshore Wind Energy Deployment Facility Improvement Program, which will invest in activities to advance the capabilities of deploying offshore wind energy in federal waters off California in the areas of facility planning and development.
- **Oroville Pump Storage**—\$240 million General Fund over two years to build a temperature management project to address temperature issues at the Oroville Dam that will allow a pump-storage project to operate at greater capacity for the benefit of the statewide electrical grid.

- **Energy Modeling to Support California's Energy Transition**—\$7 million General Fund in 2022-23 to support improvements to energy modeling activities, such as electricity system models to determine what types of electricity generation resources need to be built to meet state clean energy goals while maintaining reliability. Updating these models to reflect climate change impacts will improve state energy planning and policy development.
- **Equitable Building Decarbonization**—Older buildings with minimal insulation, air gaps, and non-existent or low-performing space heating and cooling are not equipped to adequately withstand extreme heat and protect occupants. Funding for this purpose will be prioritized for California's most vulnerable residents. The Budget includes \$962.4 million General Fund over two years for critical investments, including:
  - \$622.4 million General Fund over two years for a statewide low-income direct-install building retrofit program, including funding for replacement of fossil fuel appliances with electric appliances, energy-efficient lighting, and building insulation and sealing.
  - \$300 million General Fund over two years for consumer rebates for building upgrades, such as replacement of fossil fuel equipment with electric appliances.
  - \$40 million General Fund over two years to accelerate the adoption of ultra-low-global warming potential refrigerants.

The chart below summarizes these investments.

**Energy Package**

(Dollars in Millions)

Department	Program	Fiscal Year 2022-23	Fiscal Year 2023-24	Two-Year Total
California Energy Commission	Incentives for Long Duration Storage Projects	\$140	\$240	\$380
	Green Hydrogen Grants for Green Electrolytic Hydrogen	\$100		\$100
	Industrial Decarbonization	\$110	\$100	\$210
	Food Production Investment Program	\$85		\$85
	Equitable Building Decarbonization	\$322.6	\$599.8	\$922.4
	Offshore Wind Infrastructure	\$45		\$45
	Energy Modeling to Support California's Energy Transition	\$7		\$7
Air Resources Board	Equitable Building Decarbonization - Accelerating Adoption of Ultra-Low Global Warming Potential Refrigerants	\$20	\$20	\$40
Department of Water Resources	Oroville Pump Storage	\$100	\$140	\$240
Various	Resources to Support Offshore Wind Generation and Energy Reliability	\$8.2	\$1.5	\$9.7
<b>Total</b>		<b>\$937.8</b>	<b>\$1,101.3</b>	<b>\$2,039.1</b>

**CLEAN ENERGY LOAN PROGRAM**

The Administration is exploring opportunities, in coordination with the U.S. Department of Energy Loan Program Office, to provide pre-development financing for projects and technologies that focus on mitigating climate change in disadvantaged communities—geographic areas in which private capital has not adequately invested. Through mechanisms such as loan guarantees, first loss programs, and direct loans, the Administration will support the growth in California of emerging technologies and industries that need further development for the state to meet its climate goals. These loans will be structured so that if businesses become profitable, a share of benefit from these projects can be shared with Californians. These technologies and industries include electric vehicle supply chain development and manufacturing, virtual power plants, geothermal energy production, and lithium extraction.

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## LITHIUM VALLEY DEVELOPMENT

Lithium is becoming an increasingly critical resource as the state—and the world—moves toward a clean energy future to tackle the climate crisis. This metal is a crucial component of batteries needed to power electric vehicles, enable a 100-percent clean electric grid, and move the state's homes and industries away from fossil fuels.

California has abundant untapped lithium reserves, including in geothermal brine more than a mile underground near the Salton Sea. The state is poised to become a global leader in the deployment of new, environmentally sound technologies that can coproduce lithium with renewable electricity from geothermal power plants in the Imperial Valley. Experts estimate the region could satisfy more than one-third of today's global lithium demand. Building out a world-class battery manufacturing ecosystem in tandem with lithium production and processing would also increase economic opportunity in the Salton Sea region, delivering quality jobs and community benefits to the region.

Through economic development incentives for the clean energy sector, the Administration proposes a robust infrastructure that will:

- Provide incentives to advance the clean energy market in California.
- Provide Californians a share of the benefit from these projects.
- Develop labor standards that deliver community benefits, economic development, and labor opportunities.
- Provide a model in the clean energy sector that can guide state engagement in other opportunity areas, such as offshore wind, with a focus on supporting California's clean energy goals, maintaining high environmental and labor standards, and engaging proactively with affected stakeholders and communities, for real and lasting benefits for Californians.

## EXPEDITED PERMITTING AND ROYALTIES

Throughout the spring, the Administration will work with the Legislature, the Lithium Valley Commission, and county and community partners to develop a model for revenue sharing and a fund that benefits Californians. By regulating lithium extraction the state will work with industry and community members to provide high paying jobs



and expanded economic opportunity to the Salton Sea community. California will also work to oversee long-term environmental protection and community benefits.

The state can provide certainty and accountability in permitting, community benefits, and labor protections. The Administration will work with the Legislature, with input from the Lithium Valley Commission, to simplify permitting for geothermal facilities and lithium extraction in the Salton Sea area while maintaining high environmental standards that protect the surrounding communities, and incorporating public participation and community engagement. Additionally, the state will require strict timelines for permits thus providing some certainty to developers.

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## SUSTAINABLE COMMUNITIES

The state is committed to building sustainable and equitable communities by creating and preserving housing in areas that are closer to neighborhood-serving amenities. Building housing in these locations supports the reduction of climate emissions and helps reduce the exposure of low-income Californians to the impacts of the climate crisis. To that end, the Budget invests \$1 billion General Fund in housing development that also furthers the state's climate goals. These investments include:

- **Infill Infrastructure Grant Program**—\$500 million General Fund over two years to prioritize housing production on prime infill parcels in downtown-oriented areas, including brownfields.
- **Affordable Housing and Sustainable Communities**—\$300 million General Fund over two years to support land-use, housing, transportation, and land preservation projects for infill and compact development that reduce climate pollution.
- **State Excess Sites Development**—\$100 million General Fund over two years to expand affordable housing development and adaptive reuse opportunities on state excess land sites.
- **Adaptive Reuse**—\$100 million General Fund over two years for adaptive reuse incentive grants. These grants will help remove cost impediments to adaptive reuse (e.g., structural improvements, plumbing/electrical design, exiting) and help accelerate residential conversions, with a priority on projects located in downtown-oriented areas.

See the Housing and Homelessness Chapter for additional detail.

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## CLIMATE HEALTH

Climate change affects the health of every Californian, but some communities experience disproportionate public health impacts from climate change more than others. The Budget includes key investments to integrate and elevate health and equity into California's climate agenda. Significant investments include:

- **Climate and Health Resilience Planning**—\$25 million one-time General Fund for a grant program to bolster the actions of local health jurisdictions and develop regional Climate and Health Resilience Plans.
- **Climate, Health and Disease Monitoring**—\$10 million ongoing General Fund to establish a monitoring program to track emerging or intensified climate-sensitive health impacts and diseases.
- **Community Health Workers**—\$350 million one-time General Fund to recruit, train, and certify 25,000 new community health workers by 2025, in areas such as climate health, homelessness, and dementia.
- **Community Air Monitoring**—\$30 million one-time Greenhouse Gas Reduction Fund to deploy local, real-time pollution monitoring, including climate, air and toxic emissions, in disadvantaged communities across the state.

See the Health and Human Services Chapter and the Labor and Workforce Development Chapter for additional detail.

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## CLIMATE SCHOOLS AND RESEARCH

California's K-12 and higher education systems are critical in meeting the state's ambitious climate goals. The Budget includes funding to develop career pathways for students to enter technology and climate-related fields, and also makes significant investments in research that will support the next generation of innovations to address climate change, and serve as catalysts for expanded opportunity for all Californians. Finally, the Budget includes infrastructure investments in K-12 and higher education that decarbonize these systems, reducing emissions, improving health of students, and lowering costs over the long term.

Investing in research to address climate change:

- \$185 million one-time General Fund for climate initiatives at the University of California, including \$100 million for climate research grants, \$50 million for regional climate innovation incubators, and \$35 million for climate workforce development and training hubs.
- \$20 million one-time General Fund for a grant to Carnegie Science to support the Pasadena Climate Research Hub facility, which will house approximately 200 researchers focused on climate resilience.
- \$83 million one-time General Fund to support construction of the California State University (CSU) Bakersfield Energy Innovation Center.

Climate resilient infrastructure for K-12 schools and universities:

- \$1.5 billion one-time Proposition 98 to support greening K-12 school transportation, including electric school buses, as part of the broader acceleration of ZEVs.
- \$50 million one-time General Fund to support equipment and facilities upgrades at the CSU University Farms, which provide hands-on experience for career preparation in climate resilience, regenerative agriculture, animal welfare, food processing, and water and natural resources management.
- \$30 million one-time and \$3 million ongoing General Fund to continue supporting and expanding the Farm to School Program's investments to improve the health and well-being of California schoolchildren through integrated nutrition education and healthy food access.

For additional information on these investments, please see the K-12 Education and the Higher Education Chapters.

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## CLIMATE JOBS AND OPPORTUNITY

In addition to the significant investments outlined above, the Budget expands workforce training opportunities in climate-related fields so more Californians can participate in the state's economic growth. These investments will reduce harmful emissions in California's communities, and will support workers transitioning to new climate jobs and opportunities. The Budget includes \$465 million one-time General Fund over three years to continue expanding workforce strategies to reach its climate goals:

- **Oil and Gas Well Capping**—\$200 million one-time General Fund over two years to plug orphan or idle wells, decommission attendant facilities, and complete associated environmental remediation.
- **Well-Capping Workforce Pilot for Displaced Oil and Gas Workers**—\$15 million one-time General Fund to support a workforce training pilot to train displaced oil and gas workers in remediating legacy oil infrastructure, as the state aims to establish California as the leader in both well remediation activity and workforce training.
- **Displaced Oil and Gas Worker Pilot Fund**—\$50 million one-time General Fund for a pilot support fund to address the needs of oil and gas workers facing displacement.
- **Goods Movement Workforce Training Facility**—\$110 million General Fund over three years for a Goods Movement Training Center in Southern California.
- **Low Carbon Economy Workforce**—\$60 million General Fund in total over three years to restart the California Workforce Development Board's Low Carbon Economy Workforce grant program.
- **Wildfire and Forest Resilience Workforce Development**—\$30 million one-time General Fund over two years to support community colleges and vocational training programs to train, develop, and certify forestry professionals and expand the workforce available to support the implementation of forest health and fuel reduction projects.

See the Labor and Workforce Development Chapter for additional detail.

Building on California's global climate leadership, the Budget encourages the development of innovations that will preserve and protect communities from climate change, create high-paying jobs, and spur economic growth. The Budget includes two tax credits that support the state's climate goals:

- **Innovation Headquarters Credit**—\$250 million General Fund per year for three years for companies headquartered in California that are working to mitigate climate change.
- **Credit for Green Energy Technologies**—\$100 million General Fund per year for three years to develop green energy technologies. This credit would be structured to allow taxpayers to opt-in, so that if the business becomes profitable, a share of the profits will be repaid to the state.

For additional information on these investments, please see the Economic Growth, Job Creation, and Expanded Opportunity Chapter.

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## CLIMATE RESILIENCE

Building on the over \$15 billion multi-year climate resilience investments in the 2021 Budget, the Budget advances programs to protect communities from the imminent climate threats of wildfire and drought, while implementing budget priorities on extreme heat, nature-based solutions, sea-level rise, and community resilience.

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### WILDFIRE AND FOREST RESILIENCE

The ongoing impacts of climate change on California's wildlands continue to create critically dry fuel conditions and longer, more severe fire seasons. The state experienced 4 of the largest 20 wildfires in its history in 2021.

The 2021 early action package and 2021 Budget Act included a combined \$1.5 billion one-time investment to restore the state's wildfire resilience by increasing the pace and scale of forest and fuel management practices.

The Budget includes an additional \$1.2 billion (\$800 million General Fund and \$400 million Greenhouse Gas Reduction Fund) one-time over two years for a total \$2.7 billion investment over four years for a comprehensive wildfire and forest resilience strategy to advance critical investments in forest health and fire protection to continue to reduce the risk of catastrophic wildfires. This includes funding to support resilient forest and landscapes; wildfire fuel breaks; community hardening; regional and tribal capacity; science-based management; and economic development of the forest sector.

See the Emergency Response Chapter for additional detail.

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### DROUGHT RESILIENCE AND RESPONSE

While recent storms have brought needed rain and snowfall, California remains at risk of a continued serious state of drought with near-record low reservoir storage and negative impacts on fish and wildlife. After two dry years, reservoir storage is markedly below 2019 levels, underscoring the need for ongoing water conservation. State agencies have mobilized to prepare for the possibility of a third consecutive dry year. The Governor first declared a regional drought emergency in April 2021 followed by an

extension of the drought emergency statewide in July. The State Water Resources Control Board, Department of Water Resources, and Department of Fish and Wildlife have since taken additional steps to protect drinking water supplies, prevent salinity intrusion, and minimize harm to fisheries and the environment.

Tribal, low-income and underrepresented communities are disproportionately impacted by drought. Small water systems in low-income communities are among the hardest hit, and the state is still providing hauled or bottled water to eight jurisdictions experiencing supply outages in counties from Tulare to Los Angeles. The state will continue to invest in innovative drought preparedness and response to make the most of the state's water supplies. From water recycling to groundwater replenishment projects, the state is creating and implementing new solutions to respond to this new, unpredictable hydrology.

The 2021 Budget included a historic investment of \$5.2 billion over three years to advance water resilience and drought response. This investment provides immediate assistance to struggling communities and prepares for more severe, climate-induced drought and flood conditions in the long term.

The Budget builds on this investment by including an additional \$750 million one-time General Fund to support drought resilience and response. Significant investments include:

- **Water Conservation Programs**—\$180 million for grants to large urban and small water suppliers to improve water efficiency, address leaks, reduce demand, provide water use efficiency-related mapping and training, support turf replacement, and maintain a drought vulnerability tool. These investments advance water conservation as Californians work to achieve the Governor's 15-percent voluntary water conservation target and as local water districts adapt to forthcoming efficiency standards.
- **Urban and Small Community Drought Relief**—\$145 million for local emergency drought assistance and grants to local water agencies facing loss of water supplies.
- **Fish and Wildlife Protection**—\$75 million to mitigate immediate drought damage to fish and wildlife resources and build resilience of natural systems.
- **Multibenefit Land Repurposing**—\$40 million to increase regional capacity to repurpose irrigated agricultural land to reduce reliance on groundwater while providing community health, economic well-being, water supply, habitat, renewable energy, and climate benefits.

- **Groundwater Recharge**—\$30 million to provide grants to water districts to fund planning, engineering, water availability analyses, and construction for groundwater recharge projects.
- **On-Farm Water Conservation**—\$20 million to bolster the State Water Efficiency and Enhancement Program, which provides grants to implement irrigation systems that save water on agricultural operations.
- **Technical Assistance and Drought Relief for Small Farmers**—\$10 million to provide mobile irrigation labs, land use mapping and imagery, irrigation education, and direct assistance to small farmers and ranchers who have experienced water cost increases of more than 50 percent.
- **Drought Contingency**—\$250 million as a drought contingency set aside to be allocated as part of the spring budget process, when additional water data will be available to inform additional drought needs.

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## NATURE-BASED SOLUTIONS, EXTREME HEAT, COASTAL RESILIENCE, AND COMMUNITY RESILIENCE

The 2021 Budget included \$3.7 billion one-time General Fund over three years for investments that support multi-benefit and nature-based solutions, address impacts of extreme heat, build ocean and coastal resilience, advance environmental justice, and deliver community resilience and capacity where resources are most needed. The Budget includes approximately \$2.1 billion General Fund in 2022-23, associated with the second year of investments.

### EXTREME HEAT

Every corner of the state will be impacted in years and decades to come by higher average temperatures and more frequent and severe heat waves. Extreme heat threatens public health and safety, economic prosperity, and communities and natural systems. It also poses profoundly disproportionate consequences for the most vulnerable populations, including tribal nations, low-income neighborhoods, communities of color, and older and disabled adults.

The 2021 Budget committed \$800 million one-time General Fund over three years to reduce urgent risks and build long-term resilience to the impacts of extreme heat across California. The Budget includes approximately \$175 million in 2022-23 associated with the second year of investments including:

- **Urban and Community Forestry and Urban Greening**—\$100 million to cool communities through nature-based solutions, such as expanding tree canopy and green infrastructure projects.
- **Community Resilience and Heat Program**—\$25 million to reduce the impacts of extreme heat and the urban heat island effect.
- **Community Resilience Centers Program**—\$25 million to support vulnerable residents experiencing extreme heat, wildfires, power outages, flooding, and other emergency situations brought about by the climate crisis.
- **Low-Income Weatherization Program**—\$25 million to accelerate energy efficient upgrades in low-income households through, for example, accelerated deployment of air conditioning heat pumps and low global warming potential refrigerants in communities particularly vulnerable to heat.

The 2021 Budget also included \$300 million General Fund over two years to support the implementation of the state's updated Extreme Heat Action Plan. The Administration has released a draft plan, which will inform both the final plan and the detailed budget proposal forthcoming in the spring.

Based on public input on the draft plan, the Administration is considering the following major funding streams:

- Cooling schools in heat-vulnerable communities.
- Building a climate smart workforce through training partnerships, and apprenticeships in jobs and careers that address extreme heat such as construction, urban forestry, building weatherization, and climate smart management of schoolyards.
- Protecting vulnerable populations through targeted education for employers and employees, increased enforcement before and during heat events, and enhanced review and tracing systems.
- Increasing public awareness to reduce risks posed by extreme heat.

### NATURE-BASED SOLUTIONS

California's natural and working lands—forests, wetlands, croplands, grasslands, deserts, and other landscapes—help sustain the state's communities and economy. They are also essential to combating the climate crisis and preserving California's



world-renowned biodiversity. Nature-based solutions buffer state residents from climate threats, strengthen and protect cultural connections to the environment, sequester carbon, sustain rivers and water supplies, protect fish and wildlife, and provide for outdoor experiences.

California is committed to the goal of conserving 30 percent of the state's lands and coastal waters by 2030 (30x30). California's 30x30 initiative is part of an international movement to conserve natural areas across the planet to protect biodiversity, expand equitable access to nature and its benefits, combat climate change, and build resilience to climate impacts.

The 2021 Budget committed \$1.4 billion one-time General Fund over three years for multi-benefit nature-based solutions. The Budget includes approximately \$382 million in 2022-23 associated with the second year of investments. These investments are supporting:

- Immediate drought response for communities and fish and wildlife and strengthened long-term water resilience for natural systems.
- Improved resilience of the state's forests and wildlands to withstand long-term climate threats, protection for wildfire-vulnerable communities, and reduced near-term wildfire risks.
- A range of multi-benefit and nature-based solutions that deliver on Executive Order N-82-20 to combat climate change, expand outdoor access, and protect biodiversity.
- Community greening initiatives that support the state's climate goals and equity goals.
- Scaled support for climate smart agriculture planning and practices.
- Protection for the ocean and California's coasts through restoration projects and improved community planning.
- Community economic resilience funding that creates economic opportunity in nature-based sectors such as agriculture, forestry, and climate restoration.

The 2021 Budget also included \$768 million one-time General Fund over two years to support implementation of the state's Natural and Working Lands Climate Smart Strategy and 30x30 Pathways strategy. The Administration has released drafts of these strategies and will incorporate public input into the final documents and proposed budget that will be forthcoming in the spring.

## CLIMATE CHANGE

Based on public input to inform the state's Natural and Working Lands Climate Smart Strategy and 30x30 Pathways document, the Administration may invest these set-aside funds in five major funding streams that:

- Scale support for forest, desert, and oak woodland conservation; wetland and riparian restoration; and rangeland, grazing land and grassland protection through projects that expand equitable access to nature, protect biodiversity, and deliver climate benefits on the state's natural and working lands.
- Catalyze regional action through expanded technical assistance and capacity building.
- Increase workforce development and training opportunities through the California Conservation Corps, local conservation corps, tribal conservation corps, and expanded environmental literacy.
- Partner with California Native American tribes to implement shared nature-based solutions.
- Support additional strategic investments to drive implementation of the Natural and Working Lands Climate Smart Strategy and Pathways to 30x30 document.

## COASTAL RESILIENCE

The 2021 Budget included \$612 million one-time General Fund over three years to build resilience for California's coastal and ocean ecosystems, communities, cultural resources, and critical infrastructure from sea level rise, flooding and other climate-driven impacts. Of this amount, the Budget includes \$400 million associated with the second year of investments including:

- **Coastal Protection and Adaptation**—\$350 million for coastal wetland protection and restoration, and projects that build coastal resilience.
- **Ocean Protection**—\$50 million for projects that protect and restore healthy ocean and coastal ecosystems, including estuarine and kelp forest habitat, the state's system of marine protected areas, and to build climate-ready fisheries.

## COMMUNITY RESILIENCE

The 2021 Budget included \$819 million one-time General Fund over three years for investments that align economic resilience with the state's climate goals, empower tribal and vulnerable communities, and support the leadership capacity of tribal,

regional and local governments and stakeholders. Of this amount, the Budget includes \$325 million associated with the second year of investments that include but is not limited to:

- **Transformative Climate Communities Program**—\$165 million to support catalytic projects that serve as a model for equitable, community-driven infrastructure investments in the most disadvantaged communities of California.
- **Regional Climate Collaboratives and Resilience**—\$135 million to provide direct investment in communities through capacity building grants, tribal, local and regional adaptation planning, and implementation of resilience projects.
- **California Climate Action Corps**—\$4.7 million ongoing to empower Californians to take climate action through service positions, volunteer opportunities, or individual action.

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## CLIMATE SMART AGRICULTURE

The 2021 Budget Act included \$1.1 billion (\$863 million General Fund and \$238 million special funds) one-time over two years in climate smart agriculture investments that support the agriculture sector and create a healthy, resilient, and equitable food system by supporting long-term sustainability and resilience and addressing economic recovery and high-road job growth.

The Budget includes \$417 million associated with the second year of these investments to provide critical support for farmers and ranchers as they continue to work towards the state's climate goals and support the state's youth in establishing lifelong healthy eating habits and experiential learning about agriculture, nutrition, and climate for youth. Significant investments include, but are not limited to:

- **Funding Agricultural Replacement Measures for Emission Reductions Program (FARMER)**—\$150 million to provide funding that supports the replacement of equipment used in agricultural operations.
- **Healthy Soils Program**—\$85 million to provide grants for on-farm conservation management practices designed to sequester carbon within the soil.
- **Livestock Methane Reduction**—\$48 million for livestock methane reduction programs.
- **Climate Catalyst Fund**—\$25 million to support Climate Smart Agriculture loans.

- **Technical Assistance and Conservation Management Plans**—\$22 million to fund technical assistance grants for the development of conservation plans, carbon sequestration plans, and transition to organic plans to focus on carbon and water actions.
- **Pollinator Habitat Program**—\$15 million for implementation of pollinator habitat and forage on working lands in partnership with private landowners and federal, state, and local entities.

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## CIRCULAR ECONOMY

Building the circular economy will help California combat climate change and move to a carbon neutral future by reducing methane pollution and plastic waste. The 2021 Budget Act included \$270 million (\$130 million General Fund and \$140 million special funds) one-time over two years to support a circular economy that recognizes waste as a resource, shifting the state's focus to a more resilient and renewable economy in California. The Budget includes \$65 million associated with the second year of these investments to support implementation of goals to reduce short-lived climate pollutants, including advancing organic waste infrastructure, edible food recovery, and non-organic waste recycling. Successfully building California's circular economy will require innovative solutions in California that reduce use of natural resources, bring new remanufacturing industries and jobs to the state, and enhance the ability of Californians to recycle.