

# CLIMATE CHANGE

In 2020, 9,000 wildfires burned over four million acres across the state, more than the 2017 and 2018 fire seasons combined and significantly higher than the most recent five-year average of acres burned. Hotter, drier conditions in the state's forests, driven by climate change and the consequences of a century-old legacy of fire suppression, have generated unparalleled fuel conditions that result in significant wildfire risk.

A second consecutive year of below-average precipitation has created drought or near-drought conditions throughout many portions of the state, and the 2021 fire season is on pace to rival last year's scale of wildfires. In addition to widespread drought, the below-normal snowpack is expected to melt off earlier than usual, leaving middle and upper elevations available for fire spread earlier in the season than usual.

The May Revision proposes \$11.8 billion in investments over multiple years to address and reduce the state's multi-faceted climate risks, ranging from water supplies, wildfires, heat and sea level rise.

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## **WATER RESILIENCE AND DROUGHT**

Climate change is intensifying the impacts of droughts on the state's communities, economy, and environment. The Administration's comprehensive vision to build water resilience in the face of climate change can be found in the Water Resilience Portfolio, which outlines actions to support California's water systems to cope with increasing

temperatures, shrinking snowpacks, rising sea levels, and more intense and frequent periods of drought.

After two very dry winters, storage in major reservoirs lags and the Sierra-Cascade snowpack, source of much of the water Californians use, is well under half of average levels. Many parts of the state are facing drought conditions. Experience from the last drought has demonstrated the value of preparing for potentially sustained dry conditions, improving our monitoring and forecasting capabilities, and many other lessons that are captured in the Administration's Report to the Legislature on the 2012-2016 Drought. Since the last drought, the state and local partners have strengthened drought resilience with prior state investments, implementation of the Sustainable Groundwater Management Act, establishment of the Safe and Affordable Fund for Equity and Resilience Program, and continued water conservation by Californians whose current statewide urban water use is 16 percent lower than at the beginning of the last drought.

To respond immediately to drought conditions in many parts of the state, prepare for escalating drought impacts in the case of a third consecutive dry winter, support communities and agriculture, stabilize habitats to support biodiversity, and build long-term water resilience, the Governor issued drought proclamations on April 21, 2021 and May 10, 2021, that directed state agencies to take immediate action to bolster drought resilience and prepare for impacts on communities, businesses and ecosystems, and included regional emergency declarations in the Russian River, Klamath River, Sacramento-San Joaquin Delta, and Tulare Lake Watersheds. The Drought Resilience Task Force will continue to coordinate drought preparedness and response across state government and with partners throughout the state. Consistent with the Administration's Water Resilience Portfolio and Governor's drought proclamations, the May Revision proposes an additional \$4.35 billion over multiple years (\$3.475 billion in 2021-22), which includes \$2.8 billion General Fund, \$1.54 billion in federal American Rescue Plan Act funds, and \$10.5 million bond and special funds. These investments build on the \$757 million included in the Governor's Budget for a total of \$5.1 billion in proposed water resilience investments.

The May Revision proposes a comprehensive strategy that invests in the following priorities:

- Providing access to safe drinking water, building water supply reliability, and improving flood protection;
- Providing immediate drought support;

- Enabling improved data collection and monitoring; and
- Restoring fish and wildlife habitat, reconnecting wildlife corridors, and removing barriers to fish passage.

**Water Resilience Package**  
(\$ in millions)

Category	Department	Program	May Revision 2021-22
Drinking Water, Water Supply and Reliability, Flood	State Water Resources Control Board	Drinking Water/Wastewater Infrastructure	\$1,300
		PFAs Support (\$20 million over two years)	\$10
		Groundwater cleanup/Water Recycling (\$150 million over two years)	\$85
	Department of Water Resources	Salton Sea (\$220 million over two years)	\$50
		SGMA Implementation (\$300 million over two years)	\$200
		Water Conveyance (\$200 million over two years)	\$100
		Flood (\$140 million over two years)	\$70
		Watershed Climate Studies	\$25
		Aqueduct Solar Panel Pilot Study	\$20
		Oroville Pump Storage	\$200
Department of Food and Agriculture	State Water Efficiency and Enhancement Program	\$60	
Natural Resources Agency	Clear Lake Rehabilitation	\$5.7	
Immediate Drought Support	Various	Data, Research, and Communications	\$91
	Various	Drought Technical Assistance and Emergency Water Supplies	\$27
	Department of Conservation	Multi-benefit Land Repurposing	\$500
	Department of Water Resources	Small Water Suppliers Drought Relief & Urban Water Management Grants	\$300
	Various	Drought Permitting, Compliance, and Enforcement	\$38
	Department of Fish and Wildlife	Drought Fisheries and Wildlife Support	\$33
Nature Based Solutions	Natural Resources Agency	Water Resilience Projects (\$266 million over two years)	\$166
	Wildlife Conservation Board	Wildlife Corridors/Fish Passage (\$230 million over two years)	\$65
	Department of Water Resources	Habitat Restoration (\$200 million over two years)	\$100
	Department of Conservation	Riparian Restoration	\$30
<b>Total</b>			<b>\$3,475</b>

**Drinking Water, Water Supply Reliability, and Flood**—The May Revision proposes \$2.6 billion over multiple years to support the following:

- \$1.47 billion (\$85 million General Fund and \$1.39 billion federal funds) over two years to expand and protect water supplies by protecting drinking water and wastewater infrastructure, supporting local groundwater supply projects and planning, cleaning up contaminated groundwater, supporting water recycling projects, and installing treatment systems on drinking water wells contaminated by Per- and polyfluoroalkyl substances (PFAS).
- \$371 million General Fund over two years to facilitate groundwater recharge and capture of flood flows by repairing canals damaged by subsidence, support the state cost-share of critical federal urban flood risk reduction projects, and advance detailed, watershed-scale studies of likely climate effects to give local water managers better data for local decision-making, including rehabilitation strategies at Clear Lake.
- \$440 million General Fund over two years to better manage the energy consumption tied to water management, including a pilot study of solar panels over aqueducts and construction of a pipeline at the Oroville hydroelectric complex that would allow a pump-storage project to operate at greater capacity for the benefit of the statewide electrical grid. These investments also further the State's work to restore habitat and improve air quality at the Salton Sea.
- \$360 million (\$240 million General Fund and \$120 million federal funds) over two years to support Sustainable Groundwater Management Act implementation through groundwater projects and the State Water Efficiency and Enhancement Program.

**Immediate Drought Support**—The May Revision proposes \$989 million (\$949 million General Fund, \$30 million federal funds, and \$10 million bond and special funds) to meet current and likely future water supply needs while building regional capacity to endure dry conditions. These investments will fund multi-benefit land repurposing activities as part of the state's drought response and transition to sustainable use of groundwater; emergency drought relief projects that help secure and expand water supplies; small supplier and rural community drought contingency planning and preparedness projects; and local water resilience capacity building that includes outreach to disadvantaged communities. In addition, funding will support the repair and enhancement of the state's backbone water data infrastructure; a state cost-share on a federal desalination research hub; equipment; and limited-term

positions to help address drought impacts on state wildlife areas and to address the increased need for monitoring of species and permitting of projects.

**Nature-Based Solutions**—\$726 million General Fund to improve long-term ecological conditions on California waterways to help species cope with climate change. This includes infrastructure, program, and investments for environmental flows and habitat improvements in the state's largest watershed, which drains to the Sacramento-San Joaquin estuary; construction of wildlife overcrossings and undercrossings where road traffic kills sensitive species; and screening of migration corridors with natural habitat for species sensitive to human presence. This funding will also support the construction of projects that direct wildlife away from roadways; removal of fish passage impediments; and protection, restoration, and enhancement of working lands and riparian corridors through conservation easements and restoration projects on agricultural lands.

In addition to these investments, the May Revision includes \$1 billion in federal American Rescue Plan Act funding to assist with water arrearages for households that have not been able to pay their water bills due to the pandemic. (See the General Government and Statewide Issues Chapter for additional detail.)

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## WILDFIRE AND FOREST RESILIENCE

As California enters a second consecutive year of dry fuel conditions, resulting in drought or near-drought throughout many portions of the state, the 2021 fire season is on pace to rival last year's record number of acres burned.

To address the scale and urgency of these wildfire risks, the May Revision proposes to maintain the Governor's Budget proposal with \$708 million in 2021-22 to support the Forest Management Task Force's Wildfire and Forest Resilience Action Plan. This includes \$31 million to fully fund the Climate Catalyst Fund proposal that was not adopted in early action. The May Revision investments build on the \$536 million adopted in early action as part of Chapter 14, Statutes of 2021 (SB 85).

These investments result in a total \$1.24 billion wildfire and forest resilience funding over two years to improve public safety across California's most wildfire-vulnerable communities and significantly increase the pace and scale of forest management projects. This investment will also enable regional efforts to build a pipeline of wildfire resilience projects, expand fire-adapted homes and communities, improve stewardship on state lands, and create high-road jobs while jumpstarting small businesses that meet California's climate objectives.

**Wildfire and Forest Resilience Expenditure Plan**  
(\$ in Millions)

Investment Category	Department	Program	Early Action 2020-21	Proposed 2021-22	Total
Resilient Forests & Landscapes	CAL FIRE	Forest Health Program	\$155	\$100	\$255
		Forest Improvement Program for Small Landowners	\$10	\$40	\$50
		Forest Legacy & Reforestation Nursery	\$8	\$17	\$25
		Urban Forestry	\$10	\$13	\$23
		Tribal Engagement	\$1	\$19	\$20
	State Parks, Fish & Wildlife & State Lands Commission	Stewardship of State-Owned Land	\$30	\$123	\$153
	Conservancies	Project Implementation in High-Risk Regions	\$69	\$61	\$130
Wildfire Fuel Breaks	CAL FIRE	CAL FIRE Unit Fire Prevention Projects	\$10	\$40	\$50
		Fire Prevention Grants	\$123	\$80	\$203
		Prescribed Fire & Hand Crews	\$15	\$35	\$50
	California Conservation Corps	Forestry Corps & Fuel Reduction Projects	\$0	\$20	\$20
	Department of Conservation	Regional Forest & Fire Capacity	\$50	\$60	\$110
Community Hardening	Cal OES & CAL FIRE	Home Hardening	\$25	\$0	\$25
	CAL FIRE	Defensible Space Inspectors	\$2	\$6	\$8
	CAL FIRE & University of California	Land Use Planning & Public Education Outreach	\$0	\$7	\$7
Science-Based Management	CAL FIRE	Ecological Monitoring, Research & Adaptive Management	\$3	\$17	\$20
	Natural Resources Agency	Remote Sensing	\$0	\$15	\$15
	Air Resources Board & Water Board	Permit Efficiencies	\$0	\$4	\$4
Forest Sector Economic Stimulus	IBank & GO-Biz	Climate Catalyst Fund & Market Strategy	\$16	\$33	\$49
	CAL FIRE	Workforce Training	\$6	\$18	\$24
	Office of Planning & Research	Market Development	\$3	\$0	\$3
<b>Total</b>			<b>\$536</b>	<b>\$708</b>	<b>\$1,244</b>

The May Revision also proposes to augment resources for the Department of Forestry and Fire Protection (CAL FIRE) to provide a surge in firefighter staffing. (See Emergency Response Chapter for additional details.)

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## CLIMATE RESILIENCE

Climate policies and programs in California have cut carbon emissions, created jobs, catalyzed innovation and spurred partnerships across the United States and around the world, all while prioritizing public health and equity. As California drives toward carbon neutrality, the state is committed to protecting people and nature from the impacts of climate change such as catastrophic wildfire, sea level rise, drought, extreme heat and flooding. Climate-related disasters are occurring at an increasing speed and scale.

The May Revision proposes to further advance the Governor's goal of building a climate resilient California with an additional investment of \$1.3 billion General Fund over multiple years (\$784 million in 2021-22) in projects and programs to support communities that are facing the impacts of climate change today and advancing efforts to conserve 30 percent of our lands and coastal waters by 2030.

This investment package focuses its resources specifically in communities where resources are most needed. This includes disadvantaged and low-income communities who are often the hardest hit by climate change, and other health, environmental, and economic challenges. These investments will provide necessary support for these communities while providing opportunities to leverage local, federal, and private investment opportunities.

**Climate Resilience Package**  
(\$ in millions)

Category	Department	Program	May Revision 2021-22
Heat	California Natural Resources Agency	Urban Greening (\$200 million over two years)	\$100
	Department of Community Services and Development	Low Income Weatherization	\$50
	California Energy Commission	BUILD Program (\$100 million over two years)	\$50
Sea Level Rise	Ocean Protection Council	Coastal Wetland Restoration (\$200 million over two years)	\$100
	Department of Parks and Recreation	State Parks Sea Level Rise Adaptation Strategy	\$11.5
Community Resilience	Strategic Growth Council	Transformative Climate Communities (\$420 million over three years)	\$140
		Regional Climate Collaboratives (\$20 million over two years)	\$10
	Office of Planning and Research	Climate Adaptation & Resilience Planning Grants (\$25 million over two years)	\$15
		Vulnerable Communities Platform & CalAdapt Mapping	\$5
	California Environmental Protection Agency	Environmental Justice Initiative (\$25 million over two years)	\$15
Other	Department of Conservation	Oil Well Abandonment and Remediation	\$200
		Biomass to Hydrogen/Biofuels Pilot	\$50
	Various	Fifth Climate Assessment	\$22
	Air Resources Board	Fluorinated Gas Reduction Incentive Program	\$15
<b>Total</b>			<b>\$784</b>

**Heat**—\$350 million General Fund over two years to support communities vulnerable to the impacts of extreme heat through funding for urban greening projects, accelerating deployment of low global warming potential appliances in low-income households eligible for energy efficiency upgrades, and supporting strategic greening of new near-zero emission low-income residential buildings. These programs strengthen protections for California's most vulnerable by cooling communities, reducing energy costs, improving air quality, and safeguarding public health and safety.

**Sea Level Rise**—\$211.5 million General Fund over two years to protect communities from sea-level rise and flooding through coastal wetland restoration, and increasing coastal resilience of State Parks to advance coastal resilience as outlined in the State Parks Sea Level Rise Adaptation Strategy. Sea level rise and flooding threatens public health and safety, public and private property, critical infrastructure and valuable coastal habitats. Coastal wetlands can provide protection against sea-level rise and flooding by buffering the built environment from extreme tides and storms while providing additional benefits of increased biodiversity, carbon sequestration, and public access opportunities.

**Community Resilience**—\$495 million General Fund over three years to provide investments that align economic resilience with the State's climate goals, empower vulnerable communities, and support the leadership capacity of key regional and local stakeholders. This includes funding to support the Strategic Growth Council's Transformative Climate Communities Program, which funds place-based, catalytic projects that serve as a model for equitable, community-driven infrastructure investments in the most disadvantaged communities of California. Additionally, funding is proposed to support the Regional Climate Collaboratives program, Environmental Justice Initiative, and Climate Adaptation and Resilience Planning Grants, which support local and community participation in and development and implementation of resilience plans and associated projects.

The May Revision also proposes an additional \$287 million General Fund for projects and programs that support the State's climate goals including funding for the development of the state's Fifth Climate Assessment; plug and abandon orphaned oil and gas wells and decommission attendant facilities that could pose a danger to life, health, water quality, wildlife, or natural resources; and to expand the reach of the Air Resources Board's program to promote the adoption of low-global warming potential refrigerant technologies.

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## ZERO EMISSION VEHICLE ACCELERATION

California is committed to developing the zero-emission vehicle (ZEV) market equitably, not only as a foundational tool to protect public health and combat climate change, but as a focal point of economic development and job creation. Today, California is home to 34 ZEV-related manufacturers and over 360 unique ZEV-related companies, and in 2020, ZEVs became the state's number one export.

The May Revision builds on the Governor's Budget and proposes \$826 million in additional investments that accelerate the state toward meeting climate and transportation goals established in Executive Order N-79-20 and consistent with California's Zero Emission Vehicle Market Development Strategy. The Strategy is designed to galvanize all relevant stakeholders—from industry to non-governmental organizations, to all levels of government and academia—around the four pillars of the ZEV market: Vehicles, Infrastructure, End Users, and Workforce.

Totaling \$1.8 billion in 2021-22, and \$3.2 billion over three years, the ZEV investments in the Governor's Budget and May Revision not only push progress in each market pillar, but increase private sector confidence and enable increased participation in the market, allowing the zero emission industry to capitalize on scale. These investments, coupled with investments in the Labor and Workforce Development Chapter, create economic development and job opportunities in a sector primed for rapid expansion and to fuel California's recovery—helping to bring down the cost of deployments globally—while maintaining California's competitive advantage as the hub of zero emission manufacturing and deployment.

## Zero Emission Vehicle Package

(\$ in Millions)

Investment Category	Department	Program	Governor's Budget	May Revision 2021-22	Total 2021-22
Low Carbon Transportation & ZEV Strategy		Clean Trucks, Buses & Off-Road Equipment	\$315	\$87	\$402
	Air Resources Board	Clean Cars 4 All & Transportation Equity Projects (\$400 million total)	\$150	\$0	\$150
		Clean Vehicle Rebate Project (\$400 million total)	\$0	\$134	\$134
		Drayage Trucks & Infrastructure (\$470 million total)	\$0	\$160	\$160
	Air Resources Board & California Energy Commission	Drayage Pilot Project	\$0	\$65	\$65
		Transit Buses & Infrastructure (\$290 million total)	\$0	\$100	\$100
		School Buses & Infrastructure (\$450 million total)	\$0	\$150	\$150
	California Energy Commission	Clean Transportation Program/ ZEV Infrastructure	\$500	(\$500)	\$500
		ZEV Manufacturing Grants (\$250 million total)	\$0	\$125	\$125
	GO-Biz	ZEV Market Development Strategy	\$0	\$5	\$5
<b>Total</b>			<b>\$965</b>	<b>\$826</b>	<b>\$1,791</b>

The May Revision proposes funding for programs that improve air quality and drive recovery through economic development and job creation such as expansion of zero emission drayage trucks, transit buses, and school buses, as well as the requisite charging and fueling infrastructure to enable these deployments. These investments will target disadvantaged communities who have disproportionately borne the negative impact of poor air quality. In parallel, the May Revision includes additional funding for zero emission vehicle rebate programs that provide more equitable access to ZEVs for low- and moderate-income households.

The Governor's Budget included the securitization of approximately \$1 billion of future revenues (including \$500 million of bond expenditures to meet the state's 2025 ZEV goals) to increase the pace and scale of market-enabling electric vehicle charging and hydrogen fueling stations, funded by an extension of both the California Energy Commission's Clean Transportation Program and other existing fees scheduled to sunset

in 2024, to support incentive programs for cleaner vehicles. The May Revision maintains the extension of existing fees which are necessary for providing a sustainable funding source for priority programs, but replaces the securitization of future revenues with \$500 million one-time General Fund to support the Commission's Clean Transportation Program. This funding will close the existing light-duty ZEV infrastructure gap for 2025 and further support infrastructure for medium-duty and heavy-duty vehicles and equipment such as transit and school buses, last-mile delivery trucks, regional and long-haul goods movement, transport refrigeration units, and port vehicles.

Other significant investments include:

- **Heavy-Duty Zero Emission Vehicles and Supporting Infrastructure**—\$1.4 billion one-time General Fund and special funds over the next three years to deploy over 1,000 zero emission drayage trucks, 1,000 zero emission transit buses, and 1,000 zero emission school buses in underserved rural school districts. These investments will prioritize projects that directly benefit priority populations and improve air quality in low-income and disadvantaged communities. This funding builds on \$315 million included in the Governor's Budget for Clean Truck, Bus, and Off-Road Equipment.
- **Light-Duty Zero Emission Vehicle Adoption**—\$650 million one-time General Fund over the next three years to invest in consumer adoption of ZEVs through the Clean Vehicle Rebate Program and statewide expansion of Clean Cars 4 All, with a focus on low-income and disadvantaged communities. This funding is in addition to \$150 million provided in the Governor's Budget Cap and Trade Expenditure Plan.
- **Zero Emission Vehicle and Infrastructure Manufacturing**—\$250 million General Fund one-time over two years for manufacturing and supply chain grants to expand California's nation leading ZEV manufacturing footprint, administered by the Clean Transportation Program. This investment may be coupled with High Road Training Partnerships to increase access to high-quality jobs for workers, and increase the level of highly-skilled employees for employers.
- **ZEV Market Development Strategy Implementation**—\$5 million one-time General Fund to accelerate implementation of the ZEV Market Development Strategy's focus on increasing awareness and access to ZEVs in the hardest to reach communities and expanding tools that help convert this awareness into decisions to drive or ride in ZEVs.

The May Revision also proposes adjustments to the Governor's Budget Cap and Trade Expenditure Plan to shift funding included in the 2020-21 early action package to fiscal year 2021-22. This maintains critical investments to protect public health in

disadvantaged communities, including \$325 million one-time to support the Community Air Protection Program (AB 617), which reduces emissions in communities with disproportionate exposure to air pollution through targeted air monitoring and community emissions reduction programs.

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## ENERGY

California has long led the nation and the world in setting ambitious renewable energy and climate policies, working toward a clean economy that is healthier and more equitable. Achieving its energy goals will improve public health so that the benefits of cleaner, more efficient energy are enjoyed by all Californians, and support economic growth and job creation.

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### INVESTMENTS TO ACCELERATE PROGRESS ON THE STATE'S CLEAN ENERGY GOALS

The May Revision includes \$912 million (\$905 million General Fund, \$5 million reimbursements, and \$2 million special funds) to accelerate California's progress on meeting its clean energy goals and better position California as a leader in advancing clean technologies and as a leading partner with the federal administration in tackling climate change and stimulating the economy.

Major investments include:

- \$35 million General Fund to carry out critical resource and transmission planning to support the unprecedented levels of clean energy buildout needed to meet the state's energy and climate goals,
- \$350 million General Fund to support pre-commercial long duration storage projects that are critical to the success of California's efforts to decarbonize the electricity system,
- \$250 million General Fund for energy efficiency in the industrial sector,
- \$125 million General Fund in the Food Production Investment Program to reduce energy use at food production facilities,
- \$20 million General Fund to spur environmentally responsible development of offshore wind energy, and

- \$110 million General Fund in green hydrogen production to accelerate the transition away from using fossil fuels to produce hydrogen and to displace the use of gas at power plants.

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## **ENERGY RESOURCES PROGRAMS ACCOUNT (ERPA)**

The California Energy Commission (CEC), which is the state's primary energy policy and planning agency, administers programs that leverage technology to meet consumer needs while using less energy. These programs have saved California consumers billions of dollars over the last few decades.

ERPA is the main fund supporting the CEC. Its revenues are linked to the sale of metered electricity. As building and appliance energy efficiency produces customer savings and flattens statewide electricity consumption, ERPA revenues have decreased and the costs have been borne by fewer and fewer consumers.

To more equitably distribute the costs among ratepayers, the May Revision proposes to raise the statutory cap on the ERPA surcharge, tie the statutory cap to the Consumer Price Index, and extend the surcharge to apply to behind-the-meter electricity consumption.

This increase will generate \$4.5 million in additional revenues in 2021-22 and approximately \$9 million annually thereafter to offset recent revenue decreases, and will allow the CEC to continue playing a critical role in creating the energy system of the future.