

## POLICY BRIEF

### CLIMATE ADAPTATION AND RESILIENCE IN THE FY 2016-2017 CALIFORNIA BUDGET

#### BOTTOM LINE

- The State of California's 2016-2017 budget addresses climate adaptation and resilience by allocating funding for long-term planning and infrastructure improvements, particularly to address drought, infrastructure, and climate change impacts. The budget also dedicates funds to stabilizing the state's long-term finances, which can indirectly support resilience.
- At the close of the legislative session on August 31, 2016, the State addressed a number of climate-related legislative gaps by passing legislation focused on knowledge gaps and environmental justice concerns. The new legislation also mobilizes stalled expenditure planning for the cap and trade auction proceeds.
- California's early investment in adaptation may give it a competitive advantage in becoming more resilient to disasters than other states. The State has set itself up for success, both by funding resilience initiatives and initiating the knowledge-gathering needed to make those programs a success. Unifying and strengthening California's investments while providing clear, cohesive guidance would accelerate implementation and enhance resilience.

#### Introduction

California is a leader on climate resilience and adaptation efforts in the U.S. Yet translating adaptation policies into clear budget priorities can be a challenge. This *Policy Brief* provides a detailed analysis of California's FY 2016-2017 budget with regard to adaptation and resilience spending, with an eye to lessons learned for other states and opportunities for improvement and clarification for future budgets.

California's adaptation policy builds on a growing body of legislation – namely, SB246, AB1482, SB379, and Executive Order B-30-15 highlight California's commitment to adaptation and resilience, as do numerous state and local programs. We found that these priorities are reflected in the 2016-2017 State budget, but somewhat disjointedly.

Governor Brown's proposed budget, which the legislature passed on July 15, does not allocate specific amounts to programs labeled as adaptation- and resilience-focused. Rather, it supports programs related to drought resiliency, infrastructure upgrades, climate change, and other issues. Therefore, tracking resilience-specific finance is difficult; to overcome this challenge, we analyzed the 2016-2017 budget by looking at both specific sections of the budget and policies that relate to climate hazards. Within certain sections, we were able to compare allocations that support climate resilience to the total allocations for sector initiatives. Policies related to hazards include those designed to protect vulnerable populations and the overall strength of the state to respond to disasters.

In our view, California's latest budget does not yet adequately address the state's adaptation challenges, nor does it fully reflect the state's priorities. However, with the final round of legislation passing before the close of the legislative year on August 31, 2016, the State set itself up for success by addressing gaps in

#### California Adaptation Legislation

**SB 246** – establishes the Integrated Climate Adaptation and Resiliency Program to facilitate coordination between state agencies in their support of local adaptation and across state, regional, and local level adaptation efforts, with an emphasis on equity considerations.

**AB 1482** - Calls on CNRA to lead the update of the state's adaptation strategy, Safeguarding California Plan, by July

**SB 379** - Requires localities to include in the next iteration of their hazard mitigation plan by January 1, 2017 adaptation and resilience measures for their city or county.

**EO-30-15** – Requires state agencies to incorporate climate change in their planning and investments and apply a full life-cycle cost accounting approach and consider climate change impacts in all infrastructure projects.

allocations, prioritizing environmental justice and setting the stage to clarify cross-departmental standards for addressing climate change. It is now essential that the state move forward with the implementation of these initiatives in a clear, communicative way, in order to ensure that state funds engender climate resilience.

## Drought Resiliency

In response to the impacts of California's five-year drought—including severe water shortages, ecosystem stress and unprecedented wildfires—the budget allocates \$254.7 million to statewide drought response initiatives. The vast majority of this funding is for immediate emergency management activities, such as distributing food and bottled water or maintaining fire services at above-normal levels. The state is making some preparations for future challenges, but the funding described below amounts to only 20 percent of the \$254.7 million dedicated to state-level drought planning and long-term hazard protection that supports ecosystem health.

- The Department of Water Resources is receiving \$12 million—5 percent of the \$254.7 million—to manage and prepare for future droughts through data gathering, contingency planning, setting efficiency targets and building data tracking systems.
- The Department of Fish and Wildlife is allocated \$17.7 million—7 percent of the \$254.7 million—to help reduce fish stress and protect salmon and aquatic habitat.
- CAL FIRE is receiving \$21 million—8 percent of the \$254.7 million—to invest in fire prevention and tree removal in high-hazard areas.

Although these investments are meaningful, we believe this year's budget alone is only a small contribution towards positioning the state for long-term resilience to water-related climate change impacts. Proposition 1 bond funds do invest in infrastructure, habitat restoration, and water storage and protection projects. However, the drought is one of the most pressing resilience issues facing California, and ongoing, long-term consideration for variations in water supply is essential. Dedicating more of the recurring annual budget to resilience and adaptation would help ensure water availability, and more comprehensive, cohesive planning can also help maximize the value of the isolated projects paid for with Proposition 1 bond funds.

## Infrastructure Upgrades

The budget allocates \$688 million toward infrastructure improvements, mostly to address the state's \$77 billion in deferred maintenance needs. In addition, Proposition 1 funds support a number of isolated infrastructure improvements, particularly habitat protection and restoration settlement agreements across the state, as well as priorities in the state Water Action Plan.

California's adaptation strategy, *Safeguarding California*, recommends departments incorporate climate risk into the planning, design and maintenance of all infrastructure projects, which bodes well for the large investment made as part of the 2016-2017 budget. The Strategic Growth Council is responsible for reviewing the annual Five-Year Infrastructure Plan and verifying its alignment with the goals and initiatives set forth in *Safeguarding California*, as mandated in AB 1482. However, our review of the Five-Year Infrastructure Plan indicates that the guidelines for integrating climate change into department mandates for infrastructure planning are currently undefined, and different agencies appear to be implementing the recommendation in varying ways.

For example, the transportation sector—which claims 91 percent of the funding for infrastructure upgrades and includes Caltrans, the CA Highway Patrol, the High Speed Rail Authority, and the DMV—writes about green construction techniques and reducing greenhouse gas emissions in construction work in its “Integrating Climate Change into Planning” section of the Five-Year Infrastructure Plan. This mitigation-focused approach is beneficial but lacks any mention of adaptation, which is surprising given that Caltrans has developed and is encouraging the use of internal guidance on incorporating sea level rise into

its projects in line with Executive Order S-13-08. [This order requires transportation planning to integrate estimates about sea level rise for 2050 and 2100 into construction projects.](#) On the other hand, CalEPA explicitly addresses plans to integrate future climate projections into decision-making, but fails to go into the same level of programmatic detail in its section of the Five-Year Infrastructure Plan. The variations among departments reinforce our belief that California should prioritize cohesive communication about its climate goals.

It is promising that the state is taking steps to address this lack of alignment. The Technical Advisory Group (TAG) established under EO B-30-15 is currently developing policy guidance for how to incorporate climate change into infrastructure investments; this guidance aims to develop a shared understanding and consistency among and across state agencies. (Editor's Note: Four Twenty Seven CEO Emilie Mazzacurati is a member of the TAG.) In addition, AB 2800, a bill passed late August 2016 (awaiting Governor's signature at the time of writing) provides for a new [Climate-Safe Infrastructure Working Group](#). The Group will be tasked with making recommendations to the Legislature and Strategic Growth Council for creating climate change-ready engineering design, identifying institutional barriers and ensuring cross-sectoral communications between climate scientists and engineers by July 2018.

Effective implementation of resilience and adaptation into state-level activities will be dependent on the definition of clear criteria for state agencies. The fact that the State is dedicating resources to uniting experts and stakeholders in working groups to inform future design and investment means that much of this work is yet to be done and significant knowledge gaps exist. Consistency across departments and engineering design are likely to improve relative to the extent that these efforts produce clear, well-formed guidance and standards.

## Cap-and-Trade Funds

The California Global Warming Solutions Act of 2006 (AB32) and SB862, the trailer bill detailing the allocation of cap-and-trade auction proceeds, mandate that auction revenues be allocated to projects that reduce greenhouse gas emissions. Emission reductions are a way to mitigate climate change impacts rather than increase resilience, but the two are intertwined. For example, 60 percent of auction proceeds are required to fund public transit, affordable housing, sustainable communities, and high-speed rail. The Affordable Housing and Sustainable Communities Program emphasizes infill and compact development, which reduces emissions by increasing mobility and walkability of communities. Such development also increases disaster resilience by increasing the accessibility of resources and connectedness of communities. At least 20 percent of the initiatives eligible for auction-proceed funding would offer these adaptation co-benefits.

To date, these funds have been caught in gridlock and [last year's legislature left over \\$800 million of cap and trade funds unallocated](#), largely due to unresolved [disagreements about priorities](#) and ongoing legal disputes. However, late August, the CA Senate passed an expenditure plan which mobilizes the allocation of auction funds that was postponed in the original budget. An initial look at the \$900 million allocated for investment in projects during 2016-2017 showed that about \$275 million support resilient initiatives. This include funding for transformative climate communities grants, the Urban Greening Program run by the Natural Resources Agency, the Healthy Soils Program, the State Water Efficiency and Enhancement Program (SWEEP), the Healthy Forest Program and urban forestry programs. This amounts to about a third of the total spending of cap and trade funds – demonstrating that investment in resilience is being woven into statewide climate initiatives.

## Towards Social Resilience

Investing in the overall financial stability of the state is a form of resilience; robust savings build the state's capacity to deal with large-scale events under its current hazard response paradigm. The 2016-2017 budget invests more than the constitutionally required deposit in the State Rainy Day Fund, raising the balance to \$6.7 billion. The primary purpose of the fund is to help the state weather a future recession, but it does help provide greater financial resilience to unforeseen events.

The budget supports resilience in other indirect ways as well. For example, it repeatedly emphasizes public health initiatives, including:

- Access to healthcare.
- Access to and quality of mental health services and facilities.
- Housing and assistance for the homeless.
- Senior nutrition programs.
- In-home healthcare treatment (through the continuum of care reform).

These programs help support the resilience of the state by building community connections and supporting the elderly and homeless populations, who generally have the fewest personal resources available to cope with climate-related hazards. Still, a more deliberate connection to climate adaptation that integrates climate preparedness into these and other strategies [presents a considerable opportunity for resilience](#).

For example, the governor's attempt to fast track affordable housing development met criticism from environmental groups and others who were concerned about this creating a lack of transparency and undermining the quality of development in two ways. First, it may encourage construction in hazard-prone areas, where land is less expensive. Second, fewer resilience features may be included in buildings to reduce costs. Opportunities exist to incorporate climate data into these kinds of development decisions and other social initiatives to help protect vulnerable populations. Climate policy in California repeatedly addresses environmental justice concerns by prioritizing disadvantaged communities – this is especially true of the most recent round of legislation passed over the past couple weeks which explicitly targets investment in disadvantaged communities through AB32 and the Cap and Trade Expenditure Plan, future land use planning (SB1000) and the Transformative Climate Communities Program (AB2722). It is in the best interest of the state to ensure that both climate-centric and general social enhancement projects are designed with climate hazards in mind so that environmental justice and social programs work to support each other.

## Conclusion

California is actively prioritizing adaptation through the budget and is addressing programmatic and information gaps with recent legislation. However, the comprehensive funding and implementation of these endeavors is limited outside of specific large scale efforts such as Proposition 1 and AB32. There is a need to better communicate the true goals of climate mitigation and adaptation activities throughout the government, and continue to support those goals with adequate funding across agencies, so that departments can better implement a consistent, cohesive approach to addressing climate risk as resilience initiatives grow throughout the state.

## Reference Documents

2016 Five Year Infrastructure Plan:  
<http://www.ebudget.ca.gov/2016-Infrastructure-Plan.pdf>

Full Budget Summary:  
<http://www.ebudget.ca.gov/FullBudgetSummary.pdf>

Watersheds bill AB2480  
[http://leginfo.ca.gov/fares/billTextClient.xhtml?bill\\_id=201520160AB2480](http://leginfo.ca.gov/fares/billTextClient.xhtml?bill_id=201520160AB2480)

Infrastructure planning bill AB2800  
[http://leginfo.ca.gov/fares/billNavClient.xhtml?bill\\_id=201520160AB2800](http://leginfo.ca.gov/fares/billNavClient.xhtml?bill_id=201520160AB2800)

ARCCA's Legislative Tracker:  
<http://www.arccacalifornia.org/initiatives/legislative-tracking/>

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Visit [www.427mt.com](http://www.427mt.com) to sign up for our newsletter, read on critical developments in climate science and policy, and learn about tools and methodologies to identify and quantify climate risk and opportunities.

## ABOUT THIS PUBLICATION

### About Four Twenty Seven

Four Twenty Seven ([www.427mt.com](http://www.427mt.com)) is a market intelligence and research firm focused on climate risk analytics and resilience strategies. Four Twenty Seven focuses on helping its clients understand how climate change will impact them so they can build awareness, mitigate risk, and identify new resilience opportunities. We serve federal agencies and municipalities, nonprofits, and large corporations with complex supply chains and operations.

Four Twenty Seven's capabilities include climate risk and vulnerability assessments, development of climate resilience and adaptation strategies, development of metrics and indices for benchmarking, monitoring and evaluation, and training and stakeholder engagement. Our team comprises highly qualified professionals with backgrounds in climate science, economics and finance, natural resources management, policy analysis, public health, and international development.

Four Twenty Seven was a finalist for the prestigious Cartier Women's Initiative Award (2014), earned Climate Change Business Journal Awards for Climate Risk Management and Adaptation (2014 and 2015), took first prize in the ESRI Human Health and Climate Change Challenge 2015, and won the Verdantix Environment, Health and Safety Information Management Award (2016). The company was founded in 2012 and is headquartered in the San Francisco Bay Area, California.

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