Pay Now or Pay Later:

Understanding the challenges of water financing, what investments are necessary, and exploring policy levers for managing the cost of water in the era of climate uncertainty

Background Paper

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"Delivering clean, reliable, and inexpensive (emphasis added) water to every Californian is becoming an increasingly delicate balancing act." Letitia Grenier Director, PPIC Water Policy Center.

"California is already in a crisis, but the crisis is moving so slowly that the state's leaders and residents often fail to recognize it. Given anticipated changes in demographic, economic, climatic, and ecosystem conditions, today's conflicts are likely to worsen unless California can quickly develop significant, forward-looking (emphasis added) changes in water policy." - Ellen Hanak et al., Managing California's Water: From Conflict to Reconciliation, 2011

Summary:

- ***Available funding mechanisms are insufficient for California's water infrastructure needs.*** *Aging infrastructure, climate change and changing hydrology, rising construction costs, and the need to expand water supplies are increasing financial pressures on water agencies, while existing funding sources remain insufficient to address the scale of urgently needed investment.*
- ***The ability to finance water infrastructure varies across project types and agencies.*** *Major infrastructure projects can benefit from state funding commitments, while agencies with reliable revenue streams are better positioned to access affordable, long-term financing. However, projects such as stormwater capture face greater financing challenges due to constraints on local revenue generation and limited access to dedicated funding.*
- ***Early financial support from the State can help advance projects, but the absence of a consistent and comprehensive funding source remains a barrier to all infrastructure development.*** *State grants, revolving loan programs, and other financing arrangements have helped projects move forward and reduced borrowing costs for local agencies.*

However, reliance on periodic bond measures and intermittent federal funding limits the amount of financing available and the State's ability to provide sustained support.

- ***Permitting timelines remain a barrier to infrastructure projects, even with financial assistance.*** *It can take years for projects to secure necessary approvals, during which construction costs may rise, regulatory requirements may change, and project partners may reconsider their financial commitments.*
- ***California has a comprehensive framework for statewide water planning, but lacks a strategy for prioritizing projects and a consistent financing mechanism for its implementation.*** *As the state prepares its next California Water Plan under SB 72, there is an opportunity to build on this work by considering a complementary statewide prioritization and financing strategy.*

I. Introduction

To meet the future water supply needs of California, water agencies must balance investments in maintaining aging infrastructure but also investments to adapt water management infrastructure to changing hydrologic conditions, both of which are complicated by limited federal funding and the absence of a stable, dedicated source of state infrastructure financing. Going forward, the decisions made about *which* projects to pursue and *how* to finance them will affect both the long-term cost of California's water system and ratepayer affordability.

The purpose of this hearing is to examine how California finances its water infrastructure, understand which investments are necessary to maintain and adapt the system, and whether additional financing mechanisms or policy changes could help manage water costs in an era of climate uncertainty.

II. California's Growing Water System Needs, Increasing Costs & The Benefit of Early, Foundational Support from the State.

California's water whiplash. As identified in the 2023 California Water Plan Update, declining snowpack, changing runoff patterns, extreme precipitation, drought, and rising temperatures are increasing the demands on existing infrastructure while creating the need for additional capacity and more flexible management approaches.[1] California's water whiplash between extreme drought and intense rainfall creates an economic challenge: water is most expensive when it is needed most, yet opportunities to capture and store it are often lost during wet years.[2]

In response to a changing water climate, California set a goal to increase water supplies by 9 million acre-feet.[3] However, this goal was set amidst a backdrop of rising costs. California's Construction Cost Index increased approximately 68% between 2015 and 2025, reflecting higher labor and material costs.[4] Cost increases can be particularly consequential for water projects that require lengthy planning, permitting, and construction timelines.

Cost pressures do not affect every water project equally. The project costs and financing options vary depending on the infrastructure type, project ownership, and whether an investment maintains existing service or expands capacity. Examining the facilities used to capture, store,

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[1] California Department of Water Resources, *California Water Plan Update 2023* (Sacramento: California Department of Water Resources, 2023), https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/Update2023/Final/California-Water-Plan-Update-2023.pdf.

[2] Amy Quinton, "California Surface Water Costs Triple During Drought," University of California, Davis, November 5, 2025, https://www.ucdavis.edu/climate/news/california-surface-water-costs-triple-during-drought.

[3] SB 72 (Caballero), Chapter 210, Statutes of 2025.

[4] California Department of General Services, "California Construction Cost Index (CCCI)," Real Estate Services Division, https://www.dgs.ca.gov/RESD/Resources/Page-Content/Real-Estate-Services-Division-Resources-List-Folder/DGS-California-Construction-Cost-Index-CCCI.

convey, treat, and deliver water helps illustrate how these differences shape the financial burden on water agencies and ratepayers.

Above-ground/Below-ground Storage: Expanding water storage and improving flood protection have been part of California's water agenda for more than a decade. In 2014, voters approved Proposition 1, including $2.7 billion for water storage. A decade later, voters approved Proposition 4, providing approximately $3.8 billion for water supply, drought resilience, and flood protection.

In 2018, the California Water Commission conditionally selected eight projects for funding through the Water Storage Investment Program (WSIP), established under Proposition 1, expected to add approximately 4.3 million acre-feet of storage capacity.[5] The importance of additional storage was subsequently reaffirmed in California's 2022 *Water Supply Strategy: Adapting to a Hotter, Drier Future*, which called for developing up to 4 million acre-feet of additional storage capacity to capture water during major storms for use during dry periods.

The WSIP program was a new approach to financing water storage: rather than funding entire projects, the state would contribute toward the costs associated with public benefits. Project proponents remained responsible for securing the financing needed to cover other costs. The state's contribution is nevertheless substantial. For example, Sites Reservoir has a conditional state funding commitment of approximately $1.36 billion, representing roughly 20% to 22% of its estimated $6.2 billion to $6.8 billion total project cost.

However, advancing these projects has proven difficult. Following the withdrawal of Temperance Flat Reservoir in 2020, Los Vaqueros Reservoir Expansion in 2024, and Pacheco Reservoir Expansion in 2025, five projects remain in WSIP: four involving groundwater storage, recharge, or recycled water (Chino Basin, Harvest Water, Kern Fan, and Willow Springs) and one new surface reservoir (Sites). Together, these projects represent approximately 2.5 million acre-feet of potential additional storage capacity. Although they support statewide water supply objectives, each is locally or regionally led and depends on a combination of state support and other financing sources.

Yet even substantial state funding commitments cannot guarantee that a project will reach construction. The Los Vaqueros Reservoir Expansion illustrates the broader challenges projects can face. Despite its conditional state funding commitment, the project was cancelled after years of planning and negotiations. Its estimated cost increased from approximately $1 billion in 2017 to nearly $1.6 billion in 2024, while changes in regulatory requirements reduced anticipated water supply benefits. As costs increased and expected benefits declined,

[5] California Department of Fish and Wildlife, "Water Storage Investment Program (WSIP)," https://wildlife.ca.gov/Conservation/Watersheds/WSIP.

participating agencies faced increasingly difficult decisions about whether their share of the investment remained justified.[6] *While early state support can help projects advance through planning and development, project delays can substantially change project costs, benefits, and financial feasibility before construction begins.*

Stormwater Capture: California's urban areas generate an estimated 770,000 to 3.9 million acre-feet of runoff annually, underscoring the potential for stormwater capture to expand California's water supply.[7] To put that volume in perspective, it represents roughly half to more than twice the storage capacity of the proposed 1.5 million acre-foot Sites Reservoir, though stormwater runoff is measured in annual flow rather than reservoir storage capacity.

While the benefits of stormwater capture have long been recognized, financing remains a persistent challenge. One mechanism available to finance stormwater improvements is the Clean Water State Revolving Fund (CWSRF), established by Congress through amendments to the Clean Water Act in 1987. Congress provides annual capitalization grants to state-established revolving funds, generally requiring a 20% state match. In California, the State Water Resources Control Board (State Water Board) administers the CWSRF, combining federal and state contributions with loan repayments to offer low-interest financing and, for qualifying projects, principal forgiveness. For example, the San Francisco Public Utilities Commission secured a $7.4 million CWSRF loan at 1.6% interest over 30 years for its Lake Merced Green Infrastructure Project.[8]

Even with access to low-interest financing, local agencies face infrastructure costs that exceed local funding sources, limiting their ability to advance needed projects. The scale of the financing gap as it relates to stormwater is most evident in Los Angeles County, where voters approved Measure W in 2018 to establish a dedicated stormwater funding source. The measure is projected to generate $5.6 billion over 20 years, yet the estimated cost of meeting the county's stormwater water-quality objectives is approximately $24 billion over the same period, leaving an $18.4 billion funding gap.[9]

Conveyance: California's economy has been built, in part, around its ability to move water from the Sierra Nevada to the Central Valley and Southern California. Unlike storage projects that add

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[6] Craig Whittom, *Los Vaqueros Reservoir Expansion: Lessons Learned Report*, prepared for Contra Costa Water District (2025), https://www.politico.com/f/?id=00000199-5991-dc43-af99-f9d7ab000000.

[7] Heather Cooley et al., The Untapped Potential of California's Urban Water Supply: Water Efficiency, Water Reuse, and Stormwater Capture (Oakland: Pacific Institute, April 2022), 29, https://pacinst.org/wp-content/uploads/2022/04/PI_California_Untapped_Urban_Water_Potential_2022-1.pdf#page=29

[8] San Francisco Public Utilities Commission, *Wastewater Enterprise Annual Disclosure Report, Fiscal Year 2019–20*, https://www.sfpuc.gov/sites/default/files/about-us/policies-reports/FY20_WWE-AnnualDisclosure.pdf.

[9] American Society of Civil Engineers, *2025 Report Card for California's Infrastructure* (2025), "Stormwater," https://infrastructurereportcard.org/wp-content/uploads/2025/12/california-2025-infrastructure-report-card-full.pdf.

capacity, conveyance projects support the delivery of existing supplies as well as enable the movement of water during wet periods.

The State Water Project (SWP), owned and operated by the California Department of Water Resources (DWR), is a central component of California's water conveyance system and illustrates the financial challenges of maintaining infrastructure. As envisioned, the project was developed to deliver 4.23 million acre-feet of water; however, due to a variety of externalities the SWP has fallen short, delivering only 2.4 million acre-feet of water to contract holders on average.[10]

One of those externalities is land subsidence in the San Joaquin Valley, caused primarily by excessive groundwater pumping has reduced conveyance capacity in portions of the California Aqueduct. In January 2026, DWR estimated that restoring infrastructure affected by past and projected subsidence through 2085 could cost approximately $3.9 billion, including $1.62 billion for the California Aqueduct and $2.25 billion for the federally owned San Luis Canal.

These subsidence costs are particularly consequential given the SWP's financing structure. Initially supported in part by $1.75 billion in general obligation bonds authorized by voters in 1960, the SWP now relies heavily on revenue bonds backed by payments from its 29 contracting agencies, with costs ultimately recovered through local water rates.

Broadly, there is debate surrounding how the costs of subsidence related repairs should be allocated. Although groundwater pumping contributed to the need for repair, the financial responsibility falls on the contracting agencies.

In response, the Legislature considered SB 559 (Hurtado) in 2021 which would have appropriated $785 million amounting to one-third of the total costs for four conveyance projects that had lost capacity due to subsidence. Ultimately, the state appropriated $100 million in the 2021 Budget Act [SB 129 (Skinner), Chapter 129, Statutes of 2021] to cover part of the cost of repairs.

Going forward, there is still an unresolved question about how these obligations should be allocated and if the project provides a statewide public benefit such that the state should have a greater role in subsidizing the project.

Water Treatment and Recycling: In 2022, California established goals to recycle at least 800,000 acre-feet annually by 2030 and 1.8 million acre-feet by 2040. In addition to expanding supplies, California's wastewater infrastructure is aging and in need of upgrades. Overall, California's

[10] California Department of Water Resources, "State Water Project Operations Continues to Adapt to Climate Change," May 25, 2023, https://water.ca.gov/News/Blog/2023/May-23/State-Water-Project-Operations-Continues-to-Adapt-to-Climate-Change.

statewide wastewater total infrastructure needs exceed $65 billion, equivalent to $1,657 per resident.[11]

To help local agencies finance these investments, California relies in part on two revolving loan programs. In addition to the previously discussed CWSRF, which supports wastewater treatment and water recycling, the state administers the Drinking Water State Revolving Fund (DWSRF), established by Congress in 1996 to finance drinking water infrastructure.

Both programs provide below-market loans that can reduce borrowing costs for local agencies and ratepayers. For example, Sacramento Area Sewer District received approximately $1.58 billion in CWSRF financing for its EchoWater treatment project, with loan terms expected to save ratepayers more than $500 million in interest. Similarly, Santa Margarita Water District completed its $111.7 million Trampas Canyon recycled water reservoir using a $15 million Proposition 1 grant and a $96.7 million CWSRF loan at 1% interest. DWSRF has provided similar financing benefits for drinking water treatment. In 2026, West Valley Water District completed a $62.5 million upgrade to its Oliver P. Roemer Water Filtration Facility using a $46.6 million DWSRF loan at 1.1% interest over 30 years. The improvements increased treatment capacity by 50%, with the district estimating approximately $26 million in savings compared with conventional financing.

III. Limits on Local Financing and Ratepayer Affordability

Although local water agencies can finance infrastructure through rates and borrowing, their ability to raise revenues is constrained by affordability concerns and constitutional requirements.

Recent events in San Diego showcase the difficulty of balancing critical infrastructure financing needs against ratepayer affordability. In 2025, the city proposed increasing water rates by approximately 63% and wastewater rates by 31% for a 4-year period, through to 2029, to address rising operating and infrastructure costs. Facing substantial public opposition and concerns about affordability, the council postponed the decision and later approved a much narrower two-year schedule of water rate increases: 14.7% in 2026 and 14.5% in 2027.

San Diego's experience illustrates the difficult decisions local agencies face when balancing infrastructure investment needs against ratepayer affordability. These decisions are further complicated by constitutional restrictions that limit how local agencies can establish and adjust rates to recover the costs of providing service.

[11] American Society of Civil Engineers, *2025 Report Card for California's Infrastructure* (2025), "Wastewater," https://infrastructurereportcard.org/wp-content/uploads/2025/12/california-2025-infrastructure-report-card-full.pdf.

A key constitutional provision, Proposition 218 (approved in 1996), requires water and wastewater rates to be tied to the cost of providing service and poses another challenge for local agencies when seeking to address affordability challenges. In order to assess a fee, water agencies must ensure it meets five standards under Proposition 218: that a fee or charge (1) not exceed the cost of providing the service for which it is charged; (2) not be used for any purpose other than that for which it is charged; (3) not exceed the proportional cost of providing a service to an individual property; (4) not be imposed for a service unless that service is actually used by or available to a property owner; and (5) not be imposed for general governmental services that are available to the public in the same manner as they are to property owners.

To comply with Proposition 218, water agencies have to undertake a detailed cost study to establish the basis upon which the amount of a proposed fee or charge is calculated, notify customers of a proposed fee or charge, and hold a public hearing on the proposed fee or charge. If a majority of the property owners that will be subject to the proposed fee or charge protest the fee or charge, a local agency may not impose the fee or charge. Majority protests are rare, but lawsuits challenging a local agency's cost of service study often occur (San Diego, for example). As a result, many local agencies take a conservative approach when setting rates.

In 2010, voters approved Proposition 26, that redefined the term "tax" to ensure that neither the state nor local agencies could impose "fees" that were, in effect, taxes paying for general government services. The act's findings asserted that agencies "have disguised new taxes as 'fees' in order to extract even more revenue from California taxpayers without having to abide by . . . [the Proposition 13 supermajority] constitutional voting requirements." Proposition 26 prohibits "regulatory" fees, which may be adopted on a majority vote of an agency board or the Legislature, from exceeding the reasonable cost of the regulation or paying for general government services. It also limits fees for mitigating current or prospective environmental harm.

IV. Evaluating water infrastructure investments as part of an interconnected system, emphasizing a holistic and scaled approach.

As discussed in the preceding sections, financing water infrastructure remains a persistent challenge in California. State funding can provide critical support for projects, but limited resources raise important questions about whether and how the state should prioritize its infrastructure investments.

California already has an important foundation for such an approach: the California Water Plan. Developed to coordinate water management across the state's fragmented, locally led system, the plan assesses long-term water needs and identifies strategies to address them. Yet while the

plan provides a comprehensive picture of California's water challenges, it does not establish a corresponding framework for prioritizing infrastructure investments across state funding programs or provide predictable financing to implement its recommendations. This raises a broader question: *Should California better connect its existing statewide planning efforts with the decisions that determine which infrastructure projects receive state support?*

The idea of bringing these functions together is not new. The 2005 California Water Plan emphasized the state's responsibility to coordinate water management across federal, regional, and local agencies and develop sustainable financing methods. The 2009 update explicitly called for investment in the plan's recommended actions. By 2013, the plan called for a coordinated funding approach that would improve returns on investment and make infrastructure financing more consistent and efficient. The 2023 update similarly recognized the need for dedicated funding for California's water sector.

As the state prepares its next California Water Plan under SB 72, there is an opportunity to build on this work with a complementary prioritization and financing strategy.

V. Financing Strategies from Other States

California is not alone in grappling with how to finance its long-term water infrastructure needs. Across the country, states are exploring new approaches to financing water projects, from linking statewide plans to dedicated investment funds to coordinating priorities across existing programs and identifying new sources of revenue. While these efforts vary in scope and design, they offer examples of how states are moving beyond traditional funding mechanisms to support long-term infrastructure investment.

Texas: Texas provides an example of connecting statewide water planning with dedicated financing. In 2013, the state established the State Water Implementation Fund for Texas (SWIFT), capitalized with a one-time $2 billion transfer from its Economic Stabilization Fund. SWIFT provides low-cost financing for projects identified through 16 regional water plans and incorporated into the state water plan.

Regional planning groups evaluate proposed water supply projects based on factors such as urgency, feasibility, sustainability, and cost-effectiveness. Projects seeking SWIFT financing then undergo a statewide scoring process that considers population served, regional benefits, projected water needs, local financial contributions, and project readiness. These rankings help determine which projects advance to financing.

In 2023, Texas voters approved the creation of the Texas Water Fund to support existing and new water financing programs. In November 2025, voters approved a constitutional amendment dedicating up to $1 billion annually to the fund for 20 years, beginning in September 2027. Under the measure, the first $1 billion in state sales tax collections exceeding

$46.5 billion in a fiscal year is directed to the fund, subject to legislative appropriations. Unlike a one-time bond measure, this approach establishes a recurring source of investment capital tied to existing state revenues, helping support long-term water infrastructure financing.

Utah: Utah is taking steps to coordinate how water infrastructure projects are identified, prioritized, and financed across the state. In 2024, the Utah State Legislature established a Unified Water Infrastructure Plan and Water Infrastructure Fund, responding in part to concerns that existing state and local water plans were not sufficiently integrated. Rather than replacing existing financing programs, the legislation created a common process for evaluating projects seeking state assistance across drinking water, wastewater, water supply, irrigation, and flood control. Under the new framework, projects generally must be included in the statewide plan to qualify for state assistance, while the state's three principal water funding agencies continue evaluating projects within their areas of expertise. A coordinating council uses these priorities to inform funding allocations among agencies and identify additional financing needs. Although Utah has not yet established a dedicated recurring revenue source for its new fund, the framework provides a mechanism for connecting statewide infrastructure needs with future funding decisions.

Colorado: Colorado has taken a different approach in establishing a dedicated revenue source for water projects. In 2019, voters approved Proposition DD, legalizing sports betting and imposing a 10% tax on operators' net proceeds. The measure authorized up to $29 million in annual tax revenue. Sports betting began in May 2020, and the tax generated $8.1 million in its first full fiscal year, 2020–21.

As sports betting expanded, annual tax revenues increased to $30.4 million in fiscal year 2023–24, exceeding the $29 million revenue limit approved by voters in 2019. Under Colorado's Taxpayer's Bill of Rights, revenue above that limit would have been refunded to sports betting operators unless voters authorized the state to retain it. In November 2024, voters approved Proposition JJ, removing the annual revenue ceiling and directing the additional proceeds to water conservation and protection projects without increasing the existing tax rate.

In fiscal year 2024–25, sports betting generated $36.8 million in tax revenue, of which approximately $33.5 million, or 91%, was designated for implementation of the Colorado Water Plan.

Taken together, these examples demonstrate that states are pursuing different strategies to connect water infrastructure needs with available resources. Some are strengthening the relationship between planning and investment decisions, while others are establishing new financing mechanisms or dedicated revenue streams. *These approaches offer California*

examples to consider as it evaluates how to better coordinate infrastructure priorities and provide more predictable financial support for projects over time.

VI. Conclusion

Water is vital for the state's dynamic economy, high quality of life, and diverse ecosystems. While local, state, and federal agencies have been very successful in delivering this essential resource to California homes and businesses over the past century, this success is by no means guaranteed going forward given the many challenges facing California's water sector. Aging built infrastructure, degraded natural infrastructure, climate change, competing demands, and insufficient funding are all factors contributing to the challenges facing water managers in California today.

In order to meet the challenges of the 21st century, California will have to make major investments to upgrade and expand its built infrastructure, restore and enhance its natural infrastructure (e.g., watersheds), and modernize its institutions. These efforts will all require more coordinated planning combined with reliable funding and financing mechanisms. California must meet this challenge, other states provide potential models to borrow from, but action is necessary to preserve our economy and high quality of life.