May 2025

California Water Association Water Affordability Framework

Across California, water utility managers, elected officials, and state regulators are working to address a critical challenge: funding essential water infrastructure investments that deliver public health through the provision of reliable water service, while minimizing customer rate impacts. To tackle this issue, the California Water Association (CWA) has developed the Water Affordability Framework to guide efforts in maintaining affordability and sustainability for the six million Californians our member utilities serve.

Investing in infrastructure is imperative to guarantee safe and reliable water service. Replacing aging pipelines, upgrading treatment facilities to meet new and increasingly stringent water quality standards, and maintaining critical equipment all require funding. However, these necessary investments are often delayed due to concerns about potential rate increases. Delayed investment disproportionately affects low-income communities, communities of color, and rural areas because aging infrastructure is often located in these areas, where water systems are older and more prone to failure. These delays perpetuate a cycle of underinvestment, leading to deteriorating infrastructure and poor water quality, with the most severe consequences falling on disadvantaged communities.

The lessons from water crises in small communities in the Central Valley of California and around the nation in Flint, Michigan; Newark, New Jersey; Baltimore, Maryland; Jackson, Mississippi; and more recently, Atlanta, Georgia, and Arlington, Virginia, underscore the urgency of timely infrastructure investment. Proactive, innovative programs must be developed to ensure affordability while securing necessary funding for vital upgrades.

Over the next 5 years, CWA members plan to invest up to $5 billion in new water infrastructure projects, including pipeline replacements and meter upgrades. Our members remain committed to minimizing costs and exploring strategies to keep water service affordable, while navigating the financial implications of future regulations.

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Defining Water Affordability

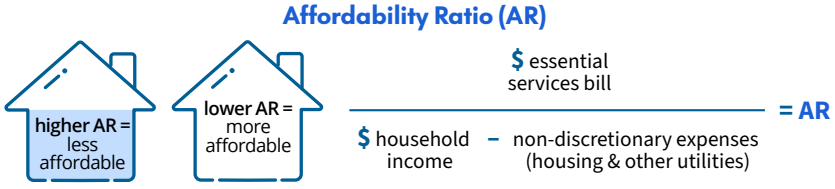
Water affordability is an important issue in California. Ensuring that all residents, particularly low-income households, have access to essential water services without experiencing financial hardship is a state priority. However, it is not feasible to make water low-cost for everyone, especially those who use a lot of water. Those who can pay for discretionary use should pay the fair price necessary to fund critical infrastructure investments. A focus on low-income households is essential because when water rates rise, these individuals are the most impacted. Ensuring affordability for vulnerable communities while maintaining sustainable funding for water systems is a delicate balance that requires thoughtful policy interventions. Additionally, when confidence in tap water is low, households often turn to bottled water that costs hundreds of times more than tap water—an added financial burden that undermines the affordability of the public water supply.

While there is no single statutory definition of water affordability, state agencies such as the California Public Utilities Commission (CPUC) and the State Water Resources Control Board (SWRCB) have established key metrics to assess and address the economic burden of water costs. For drinking water utilities, these agency-defined metrics represent the most relevant standards from both a regulatory and policy perspective.

California Public Utilities Commission (CPUC) Definition

The CPUC assesses water affordability for customers of investor-owned water utilities using the following criteria:

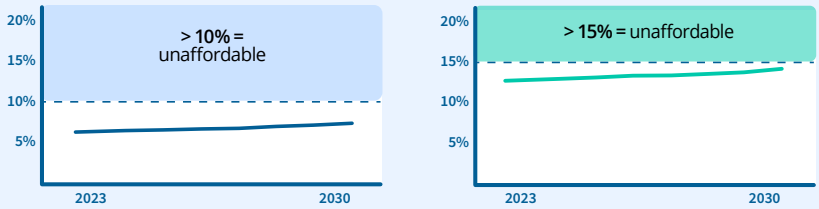
- **Affordability Ratio (AR):** Measures the percentage of household income spent on water services, after deducting non-discretionary expenses and other essential utility services with a benchmark that water bills should not exceed 10% for essential water use.



Where utility services are least affordable for households at a particular point of the income distribution (e.g., AR_{20} is households at the lowest 20th percentile of income)

AR20 measures what share of income households at the 20th percentile spend on a utility. If that percentage is too high, the service may be deemed unaffordable—over 15% for electricity and over 10% for water.

Share of Income at 20th Percentile (AR20)



CPUC estimated AR20 by utility service trends estimated from CPUC data

- **Hours at Minimum Wage (HM):** Calculates the number of hours a minimum-wage worker must work to pay for essential water service.

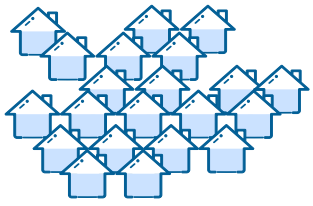
Hours at Minimum Wage (HM)

hours earned employment at the local minimum wage needed to pay for essential services

= HM where low-income households will have the most difficulty paying for essential services regardless of the socioeconomic condition of the neighbors

- **CalEnviroScreen (CES):** Represents a metric that is independent of utility data and is comprised of 21 population characteristics and pollution burden indicators. The CES identifies communities least able to afford an increase in charges for essential water service.

CalEnviroScreen (CES)



relative standing of community (census tract) based on:

- population characteristics
- pollution burden

= CES identifies communities least able to afford increases in charges for essential services

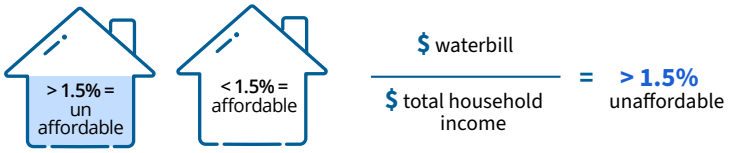
Essential Water Use Standard: The CPUC typically defines essential water use as 6 hundred cubic feet (HCF) per month per household (4,488 gallons per month), which translates to 200 gallons per day for a family of four.

State Water Resources Control Board (SWRCB) Definition

The SWRCB, responsible for overseeing water affordability statewide, employs a broader framework that includes:

- **Percent of Median Household Income (%MHI):** Uses a 1.5% household income threshold as a benchmark for affordability in its Drinking Water Affordability Assessment.

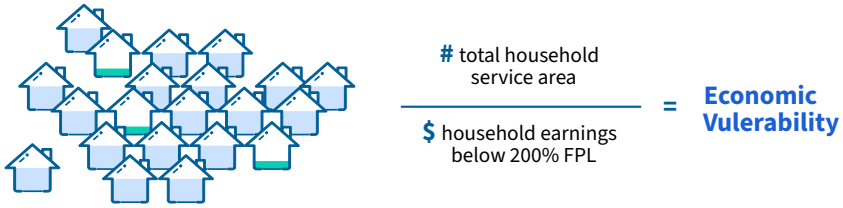
Percent of Median Household Income (%MHI)



Extreme Water Bill: Defines water as unaffordable if it exceeds 150% of the statewide average for essential use.

- **Household Socioeconomic Burden:** Identifies communities with high housing costs for low-income customers, based on Poverty Prevalence and Housing Burden indicators. Assesses the percentage of households in a service area earning below 200% of the Federal Poverty Level (FPL) to gauge economic vulnerability.

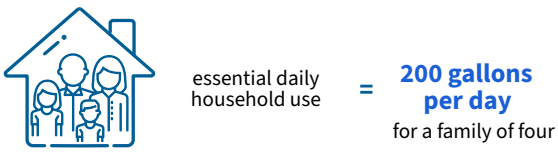
Household Socioeconmic Burden



- **Poverty Prevalence** measures the percent of the population with household income less than 200% of the Federal Poverty Level (FPL).
- **Housing Burden** measures the percentage households that are both low-income and severely burdened by housing costs.

Statewide Essential Water Use Standard: Similar to the CPUC, the SWRCB assumes a baseline of 6 HCF per month for affordability calculations.

Daily Essential Household Use



200 gallons per day is equivalent to 600 cubic feet (6CHF) per month

Water affordability remains a priority for California policymakers and regulatory agencies. The CPUC and SWRCB have developed frameworks to evaluate affordability, balancing economic conditions with the need for sustainable water infrastructure funding. These are essential to guiding policy and regulation, protecting low-income households, supporting funding, and holding utilities accountable.

As discussions continue, future legislation and funding mechanisms will play a crucial role in ensuring measurable benchmarks, transparency, and protections for equitable access to water for all Californians.

Factors Driving Up the Cost of Water

The rising cost of high quality and reliable water service in California is driven by a combination of regulatory, economic, and environmental factors. Because utility rates are designed to recover the full cost of providing service, these pressures are reflected directly in customer bills.

1. **More Stringent Water Quality & Operations Regulations** – Increased state and federal mandates require utilities to implement costly treatment processes and operational adjustments to meet increasingly stringent water quality and environmental standards.
2. **Unrecovered Costs Due to Conservation** – Customer conservation efforts, while essential for long-term sustainability, have resulted in significant declines in per-customer water sales. As a result, water utilities fail to recover all of their fixed costs, leading to further increase in unit prices.
3. **Increasing Cost for Imported Water Supply** – California relies heavily on imported water from the Colorado River and the State Water Project, both of which are facing supply constraints and rising costs.
4. **Increases in Groundwater Extraction & Regulatory Fees** – New fees imposed by the Sustainable Groundwater Management Act (SGMA) and rising State Water Resources Control Board (SWRCB) regulatory fees add to the financial burden on water suppliers.
5. **Rising Labor, Insurance, and Energy Costs** – Inflation and workforce demands have increased labor costs, while insurance and energy costs have skyrocketed in recent years, further driving up the cost of water distribution and treatment.
6. **Aging Infrastructure Replacement** –California's water infrastructure is aging and, in many cases, outdated, necessitating the replacement of aging and failing infrastructure at costs that are many times that of their original costs.
7. **Investments in Drought & Climate Resilience** – As droughts become more severe, utilities must invest in the development of alternative water sources, storage, and resilience strategies to secure long-term supply reliability, adding significant costs.
8. **Inflation in Construction & Material Costs** – Rising prices for essential materials such as steel, concrete, PVC pipes, and treatment chemicals have driven up project costs, while supply chain disruptions and labor shortages have further compounded expenses. Additionally, higher fuel and transportation costs add to the price of delivering materials to construction sites. Inconsistent permitting and delays in permitting can

significantly increase the cost of an infrastructure project. The longer a project is delayed, the more susceptible it becomes to rising material costs due to inflation, supply chain disruptions, or market fluctuations.

These combined factors are increasing the cost of water for residents and businesses across the state.

Strategies for Addressing Water Affordability

CWA's Water Affordability Framework outlines a comprehensive strategy to balance affordability with necessary investment. CWA members are committed to the following strategies:

1. Supporting Customer-Focused Rate Structures and Rate Consolidation

Rate design plays a crucial role in encouraging conservation by influencing how much and when customers use water. Utilities can structure rates to send price signals that promote efficient resource use and reduce waste. CWA advocates for rate structures that equitably balance affordability, conservation incentives, and necessary investment while at the same time align with the interests of customers, utilities and the environment.

Strategies:

- Ensure equitable and progressive rate-making policies that lower fixed charges and increase variable rates to encourage customers to save money through conservation
- Design tiered water rate systems requiring those with excessive consumption or those in more costly to serve high elevation areas to pay more, reducing the burden on essential water use
- Implement consolidated rate structures to create a more equitable system by sharing costs across a broader customer base, similar to public education or transportation which is supported collectively
- Develop rate support programs to support communities facing disproportionately higher than average water costs, which are due to factors outside of their control like geography, limited water sources, or small customer bases

2. Lowering the Overall Cost of Service

A vast majority of water service costs are dedicated to system operations, maintenance, and regulatory compliance. CWA actively identifies cost-saving opportunities to optimize efficiency and supports efforts to reduce reliance on regressive fees, such as taxes on water bills.

Strategies:

- Eliminate federal taxation on infrastructure grants
- Educate local officials on the impact of utility taxes on affordability
- Streamline local government permitting requirements
- Advocate for state legislation to reduce insurance costs
- Promote industry-wide collaboration where possible—for example, in workforce training programs, new employee recruitment efforts, and centralized procurement databases
- Support initiatives that reduce operational expenses
- Deploy Advance metering Infrastructure technology to lower non-revenue water and provide transparency to customers to manage their usage and resulting monthly bill
- Implement data-driven infrastructure replacement strategies
- Installing energy efficiency technologies, like solar and battery storage
- Consolidating small systems into larger systems results in savings from the economies of scale
- Support drinking water source protection because prevention is less expensive than treatment Develop and treat local water sources that are more reliable, produce less greenhouse gas, and cost customers less than imported water sources
- Replace and upgrade failing or inefficient water system components to reduce short-, mid-, and long-term maintenance and supply costs

3. Funding Low-Income Rate Assistance and Crisis Assistance

CWA supports robust customer assistance programs that help alleviate financial burdens on low-income customers while ensuring access to safe and reliable drinking water. Since the COVID-19 pandemic, CWA member companies have secured over $170 million in arrearage assistance through state and federal programs.

Strategies:

- Maximize enrollment in existing customer assistance programs (CAPs)
- Access available state and federal crisis assistance funding
- Partner with community-based organizations to reach low-income populations
- Advocate for statewide low-income rate assistance legislation
- Support permanent funding of the Low-Income Household Water Assistance Program (LIHWAP)
- Enhance funding mechanisms and implement disconnection protections
- Provide extended repayment options

4. Increasing Access to Grant Funds and Employing Polluter Pay Strategies

State and federal grants play a crucial role in funding infrastructure projects related to drinking water safety, wildfire prevention, clean energy, and climate resilience. These investments help build sustainable water systems while keeping costs low for customers. The CPUC ensures these benefits translate into lower rates for consumers. Additionally, it is important for water utilities to hold polluters accountable for contamination to ensure that those who caused the problem pay for its remediation, not innocent ratepayers or utilities.

Strategies:

- Advocate for state bond measures with eligibility for investor-owned utilities
- Apply for grants and low-interest loans to finance infrastructure improvements
- Expedite approval processes for state grant funding
- Secure funding for operations and maintenance
- Promote loan forgiveness programs
- Hold polluters accountable, especially at the federal level
- Advocate for FEMA eligibility for regulated utilities

5. Increasing Trust in Tap Water

Public confidence in tap water is essential for affordability, as skepticism about water quality drives consumers to rely on costly bottled water. Water that is perceived or unsafe to drink is not affordable at any price, as its value lies in its safety and health benefits, which are paramount and cannot be compromised. CWA is committed to customer education initiatives that highlight the safety, quality, and cost-effectiveness of tap water.

Strategies:

- Develop localized customer education campaigns
- Improve awareness and transparency in water quality reporting
- Gather customer insights through surveys and feedback mechanisms
- Support the National Drinking Water Alliance's initiatives

Actionable Solutions for Policymakers, Regulators, and Utilities

To address drinking water affordability, policymakers, regulators, and utilities can take the following actions:

Policymakers:

- **Establish Statewide Low-Income Rate Assistance Programs:** Implement a permanent, state-funded assistance program to subsidize water bills for low-income households.
- **Expand Funding Mechanisms:** Identify sustainable funding sources, such as federal and state grants, to support water affordability initiatives.

Regulators:

- **Implement Progressive Rate Structures:** Design tiered water rate systems where higher-income users or those with excessive consumption pay more, reducing the burden on essential water use.
- **Encourage Regional Consolidation of Small Water Systems:** Merge smaller, struggling water systems with larger, more efficient utilities to improve service quality and reduce costs.
- **Mandate Affordability Reporting:** Require utilities to regularly report on water affordability metrics to ensure accountability and guide future policy decisions.

Utilities:

- **Improve Water System Efficiency:** Invest in infrastructure upgrades to reduce water loss, which can help stabilize rates and lower overall costs for consumers.
- **Enhance Customer Assistance Programs:** Strengthen outreach and enrollment efforts for existing assistance programs to ensure that eligible households receive support.
- **Promote Water Conservation Programs:** Provide rebates, incentives, and education programs that help households reduce water use and lower their bills.

Differences Between Water and Energy Affordability

While both water and energy affordability address essential services and their cost burdens on households, key differences exist in their affordability frameworks:

- **Consumption Patterns:** Energy consumption fluctuates depending on climate, appliance efficiency, and seasonal demand, while water consumption is largely determined by both indoor and outdoor use. Essential household water needs occur indoors and can be met at a low, predictable cost. However, outdoor water use is discretionary, and under a tiered rate system, it significantly increases a customer's water bill.
- **Infrastructure and Cost Recovery:** Energy utilities have broader cost-recovery mechanisms, including dynamic pricing and demand response programs, whereas water utilities often rely on fixed rates and tiered pricing structures. Energy utilities have true-up mechanisms that facilitate the use of more aggressive rate designs and pricing structures which support affordability.

- **Subsidy and Assistance Programs:** Energy assistance programs are more widely available and funded, such as the Low-Income Home Energy Assistance Program (LIHEAP), California Alternate Rates for Energy (CARE), and Energy Savings Assistance (ESA) while water affordability programs, such as the Customer Assistance Program (CAP) are only available to 15% of the State's residents served by the larger CWA member companies.
- **Multifamily Challenges:** While electricity and gas are often individually metered in multifamily units, water service is typically handled differently, with a single master meter for the entire building, and the cost of water is often included in the rent or allocated among residents, rather than individual bills.

Conclusion

Water affordability remains a priority for California policymakers, regulatory agencies, and drinking water utilities. The CPUC and SWRCB have developed frameworks to evaluate affordability, balancing economic conditions with the need for sustainable water infrastructure funding. Investing in sustainable water systems today is essential to prevent future crises, protect vulnerable communities, and maintain affordability for generations to come. By implementing targeted policy changes, financial assistance programs, and efficiency improvements, we can ensure equitable access to water for all Californians.

About California Water Association (CWA):

The California Water Association (CWA) represents 84 investor-owned water utilities serving over six million Californians. CWA advocates for sound water policy, shares best practices, and supports the delivery of safe, reliable water. Our members are dedicated professionals committed to sustainable water management and the future of California's communities.