

Recommendations for  
Implementation of a Statewide  
Low-Income Water Rate  
Assistance Program  
**APPENDICES**

*State Water Resources Control Board  
February 25, 2020*

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**The report and appendices are available on the State Water Board’s website at:**  
[https://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/assistance/](https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/).

## **Appendix A: Text of Assembly Bill 401, Dodd. Low-Income Water Rate Assistance Program**

The people of the State of California do enact as follows: SECTION 1. Section 189.5 is added to the Water Code, to read: 189.5. (a) This section shall be known, and may be cited, as the Low-Income Water Rate Assistance Act. (b) No later than January 1, 2018, the board, in collaboration with the State Board of Equalization and relevant stakeholders, shall develop a plan 93 for the funding and implementation of the Low-Income Water Rate Assistance Program, which shall include all of the following elements: (1) A description of the method for collecting moneys to support and implement the program, including a discussion of any constitutional restrictions on public water agency rate setting. (2) A description of the mechanism for providing funding assistance under the program through either direct credits to enrollees in the program or reimbursements to water service providers, including a method for verifying income eligibility of low-income ratepayers, clarification of the role of the Public Utilities Commission and water utilities in determining and verifying customer eligibility, and recommendations regarding the structure of the program, particularly whether it will be administered by the state or locally administered. (3) A description of the method to be used to determine the amount of moneys that may need to be collected from water ratepayers to fund the program.

The plan shall include a set of recommendations and best practices of cost-savings measures to ensure water utilities are demonstrating whether and how they are keeping rates low. This section does not authorize the imposition of a state charge to fund the program. (c) In developing the plan required in subdivision (b), the board may consider the existing rate assistance programs authorized by the Public Utilities Commission for investor-owned water utilities pursuant to Section 739.8 of the Public Utilities Code. (d) The plan may also include recommendations for other cost-effective methods of offering assistance to low-income water customers besides rate assistance, including billing alternatives, installation of water conservation devices, and leak repair. In considering other methods, the board may consider the Public Utilities Commission's "Assessment of Water Utility Low-Income Assistance Programs." (e) (1)

No later than February 1, 2018, the board shall report to the Legislature on its findings regarding the feasibility, financial stability, and desired structure of the program, including any recommendations for legislative action that may need to be taken. (2) The requirement for submitting a report imposed under this subdivision is inoperative on February 1, 2022, pursuant to Section 10231.5 of the Government Code. (3) A report to be submitted pursuant to this subdivision shall be submitted in compliance with Section 9795 of the Government Code. (f)

For purposes of this section, the following terms have the following meanings:

(1) "Board" means the State Water Resources Control Board.

(2) “Low-income” means a household with income that is equal to or no greater than 200 percent of the federal poverty guideline level. For one-person households, program eligibility shall be based on two-person household guideline levels.

(3) “Program” means the Low-Income Water Rate Assistance Program.

## Appendix B: Summary of Public Input and Stakeholder Engagement Processes

This appendix outlines the public input and stakeholder engagement process which the State Water Resources Control Board (Board) facilitated to inform plan development. During the development of this proposed plan the Board has provided an opportunity to incorporate community and stakeholder voices. A formal process to facilitate public and expert input began in 2016. As of October 2018, there have been numerous opportunities for public comment, including 17 public events consisting of community meetings, workshops, and symposiums that allowed for remote and in-person participation. The public process engaged over 1,460 participants and generated 152 public comment letters. Moreover, an invited group of expert stakeholders from water associations, water systems, environmental justice advocacy groups, and food, energy and housing assistance programs convened three times to provide targeted input.

The first round of formal public meetings was held at five locations across the state, from October 12, 2016 - November 9, 2016, including a conference call held on November 16, 2016. On February 8, 2017 there was a State Water Board workshop to receive public comment on cost estimates for safe and affordable water. The second round of public meetings were held in seven locations across the state from June 7, 2017 - August 14, 2017, which included online participation during two of those meetings: July 10, 2017 and August 14, 2017. In addition, there were two joint workshops hosted in conjunction with the California Public Utilities Commission held on August 17, 2017 and November 13, 2017 to discuss safe and affordable drinking water through consolidation of water systems. On April 5, 2018 a Water Affordability Symposium was held in Sacramento with over 100 attendees and 400 webcast viewers. The Symposium featured a number of nationally-recognized authorities on the topic of water affordability. Their presentations played a significant role in influencing the Board's recommendations in the report. In sum, the Board's robust public process has allowed for broad input and recommendations to shape the report.

All meeting notices and agendas were distributed electronically through the Board's Water Affordability listserve and posted on the Board's website in English and Spanish. Informational items such as a summary of meeting input, presentation materials, public comments, videos (when applicable), and other public process items about AB 401 and the plan, are also available on the Board's website at "[Water Conservation Portal - Low-Income Water Rate Assistance Program](#)."

The draft report on *Options for Implantation of a Statewide Low-Income Water Rate Assistance Program* was released on January 3, 2019 with a comment period lasting until February 1, 2019. The State Water Board received 64 letters from 80 commenters listed below.

- 46 public water systems;

- 9 environmental justice organizations;
- 7 associations;
- 7 energy utilities;
- 5 individuals;
- 3 academics;
- 2 law firms and attorneys;
- 1 county

The January 2019 draft report included a variety of program designs suitable for a statewide low-income drinking water assistance program. These program design options included aspects of revenue sources, benefit amounts, eligibility level, benefit distribution, and administrative considerations.

## Appendix C: Existing Water Affordability and Rate Assistance Programs

### Lack of Federal and State Water Affordability Programs

There has never been a federal program providing direct ratepayer assistance for drinking water service. There has been legislation introduced to the U.S. Congress as recently as February 2016 to establish a national “Low Income Sewer and Water Assistance Program” (H.R. No. 4542, 114th Cong., 2nd Sess. (2016).) In addition, two more recent federal bills include the Low-Income Water Customer Assistance Programs Act of 2018 (Sen. No. 3564, 115th Cong., 2nd Sess. (2018)), and the Water Affordability Act (Sen. No. 3015, 115th Cong., 2nd Sess. (2018)). However, the Board assesses that the likelihood of passage of such a program by Congress and approval by the President remains low.

Based on a comprehensive search, no other state in the U.S. provides direct ratepayer assistance for drinking water service. Moreover, no other state besides California is known to be currently considering such a program. The State of Massachusetts, however, did operate a low-income ratepayer assistance program starting in the early 2000s. As enshrined in the state’s general law, the Massachusetts Department of Housing and Community Development offered the Low-Income Sewer and Water Assistance Program. Households received a benefit of up to 25% off their annual bills, and eligibility determination matched the Low-Income Home Energy Assistance Program (Massachusetts General Law, Ch. 23B, Sect. 24B). Administrative costs were capped at 10% of total program costs.

One of the implementers described the program in this way:

“Low-Income Sewer and Water program consisted of our state reimbursing low income fuel assistance clients for a portion of their annual water and sewer costs. The state decided to do this because during that period of time it appeared that water and sewer costs were eating away at the attainable income of our low-income clients. I believe the program lasted 1 (2 years at the most) year and has never been funded again. I believe it has been more than a decade since this program existed.”<sup>1</sup>

This program was discontinued by 2014. Little additional public information is available.

### Existing Low-Income Ratepayer Assistance Programs

The following section reviews and highlights common practices employed by existing low-income assistance programs (LIRA) for reducing the affordability burden across sectors and jurisdictions. There are much more robust, organized, and financed public support systems at the

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<sup>1</sup> Personal communication between UCLA and Elizabeth Berube (July 17, 2016), Assistant Executive Director, Citizens for Citizens, Inc. (Massachusetts).

federal and state levels to directly subsidize other vital basic goods and services. By contrast, both in California and nationally, individual publicly owned community water systems (CWS) have traditionally been left to address water affordability by independently implementing LIRA programs. Those systems are subject to state constitutional restrictions on imposing fees and charges for water service, such as Propositions 218 and 26, which together limit the ability of publicly owned systems to fund W-LIRA from fees and charges. Notably, Proposition 218 requires that property related fees for water service not exceed the proportional cost of service attributable to the property and that the revenues derived from such fees not exceed the funds required to provide the property related service.<sup>2</sup> Publicly owned water systems struggle to reconcile the funding of W-LIRA programs by water rate revenues with these constitutional cost-of-service requirements and, as a result, instead fund W-LIRA programs from non-rate revenues. In practice, these limitations mean that only large publicly-owned CWS with access to non-rate revenues, such as lease revenues or voluntary donations, and investor-owned utilities, which are regulated by the CPUC and not subject to Propositions 218 or 26, are able to provide some type of affordability assistance.

Throughout this appendix, consideration is given to defining and describing three critical parameters of program design:

- a. who is eligible for assistance,
- b. the nature of the benefit which eligible participants receive, and
- c. the revenue source for each type of assistance.

As no other state (nor the federal government) currently offers a LIRA to households for drinking water service,<sup>3</sup> California can only draw on existing program features to a limited extent.

## Range and Type of Assistance Programs Reviewed

There is no comprehensive list of rate assistance programs offered by water systems or utilities. Given the absence of a comparable state-level program for water rate assistance in the U.S., this chapter focuses on design elements of:

- a. single-system or single-utility water rate assistance programs in California,
- b. prominent standalone rate assistance programs offered in cities outside California, and
- c. state and federal assistance programs offered for other basic services.

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<sup>2</sup> Cal. Const., art. XIII D, §6(b).

<sup>3</sup> While a new international focus on affordability has been inaugurated in the transition from the Millennium Development Goals to the Sustainable Development Goals as of 2015 (See: <https://reliefweb.int/sites/reliefweb.int/files/resources/The0costs0of0m0ene000summary0report.pdf>), a review revealed no known LIRA programs enabling households to afford drinking water which operate at provincial or national scales in other countries.

To conduct this review, this chapter draws on primary documentation regarding these programs or correspondence with program administrators, in addition to incorporating existing scholarly analyses of similar programs when necessary.

### ***Single-system or single-utility rate assistance programs in California***

Using comprehensive 2015 data on rate assistance program offerings from Los Angeles County and data from large systems collected by the Board, 22% of 731 large systems in California self-report that they offer some type of direct or indirect rate assistance. These water systems offering some type of rate assistance serve 46% of the entire population of California. However, despite this apparent widespread coverage, actual per person monetary assistance is relatively low, as described in the report and also below. Furthermore, as described in the report and below, most low-income households do not directly pay a water bill and could not receive assistance under current programs.

Oversight and guidance of the California Public Utilities Commission (CPUC) ensures households holding direct water accounts with Class A investor-owned water utilities (IOUs) (those serving 10,000 or more service connections, serving roughly 14% of the state's population), are guaranteed to be able to access a rate assistance program. These programs, however, do not assist households that do not pay bills. Since 2005, the Low-Income Oversight Board within the CPUC has prompted the development and increasing standardization of rate assistance offerings across large IOUs.<sup>4</sup> The Board notes, however, that this effort to establish water rate assistance has been relatively recent, compared to energy rate assistance programs or California Alternative Rates for Energy (CARE) programs which have been offered since the mid-1990s.<sup>5</sup> Despite regulation by the CPUC, non-Class-A private water systems (serving fewer than 10,000 service connections) are much less likely to operate rate assistance programs.

Outside of CPUC-regulated Class A water utilities, rate assistance programs are not mandatory for drinking water systems. Publicly owned systems in California are also constrained by Propositions 218 and 26 in the use of water rate revenues.<sup>6</sup> Accordingly, the prevalence and character of publicly-governed assistance programs is much more constrained due to the varying kinds and generally limited amounts of non-rate revenues available as a funding source. Mutual water companies (MWCs) are much less likely to operate formal rate assistance programs than

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<sup>4</sup> Wilson, S. October 2007. "Assessment of Water Utility Low-Income Assistance Programs." California Public Utilities Commission: Division of Water and Audits. See [http://ftp.cpuc.ca.gov/PUC/water/dwa\\_low-income\\_research\\_paper\\_112507.pdf](http://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf).

<sup>5</sup> Kahlon, Rami. February 23, 2016. "Water Utilities Update: Low-Income Oversight Board." California Public Utilities Commission Division of Water and Audits. See <http://www.liob.org/resultsmt.cfm?meetingtype=Board%20Meeting>.

<sup>6</sup> University of North Carolina Environmental Finance Center (2017). *Navigating Legal Pathways to Rate-Funded Customer Assistance Programs: A Guide for Water and Wastewater Utilities*. See <https://efc.sog.unc.edu/sites/www.efc.sog.unc.edu/files/Pathways%20to%20Rate-Funded%20CAPs.pdf>.

either publicly-owned or other privately-owned water systems, although informal rate assistance practices by MWCs are reputed to be more common.<sup>7</sup>

The IOU rate assistance programs primarily focus on single-family residences, although at least two Class A IOUs offer the rate assistance program to agricultural employee housing, migrant farmworker housing, and non-profit group living facilities. Another IOU extends rate assistance to mobile home park residents, but only if they are sub-metered. Therefore, in general, landlords whose multi-family residences are served by Class A IOUs are not eligible for rate assistance, which then prevents them from passing assistance along to their tenants.

### ***Prominent standalone W-LIRA examples in other states***

The Board reviewed existing W-LIRA programs offered by single drinking water systems or utilities in other U.S. states to identify general trends and to focus on programs which feature particularly novel and relevant dimensions for consideration in California's W-LIRA program design.

In the U.S., the overall prevalence of rate assistance programs offered by single drinking water systems or utilities is unknown. In several reports discussing drinking water rate assistance programs across the U.S., the most commonly cited examples appear to be in Oregon, Ohio, Michigan, and Pennsylvania. With the notable exception of Wisconsin, other public utility commissions outside of California do not appear to play as large of a role in regulating water systems, much less rate assistance programs. Among those public utility commissions which do oversee drinking rate assistance programs, none appear as proactive or comprehensive in promoting rate assistance offerings as the CPUC (Pennsylvania's Public Utility Commission comes the closest).

### ***Federal or state-level ratepayer assistance programs offered for other basic services***

For several decades the electric, gas, and telecommunications utilities regulated by the CPUC have offered rate assistance programs to California's households. Other federal programs administered by a joint effort between state agencies, county agencies, and local non-profit contracting entities, also offer direct financial assistance to low-income households for other basic services. These include energy (Low Income Home Energy Assistance Program-LIHEAP), food (Supplemental Nutrition Assistance), and housing (Section 8) programs.

### **Eligibility: Who benefits from the program?**

The first parameter of program design defined and described is eligibility. The proposed plan defines eligibility as the socioeconomic criteria by which households are qualified or disqualified

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<sup>7</sup> Personal communication with Adán Ortega, Executive Director, CalMutuals.

from a rate assistance program. As suggested by the term “Low Income Rate Assistance” program, the most common eligibility criteria is some measure of or reference to household income level, often tied to household size. However, in practice, there are numerous instances of non-income criteria used in combination with or to substitute for income level as measures of eligibility for rate assistance programs. While individual variations of eligibility criteria are too numerous to describe one by one, Table 1 outlines the options identified in the Board’s review. A number of different types of eligibility criteria for W-LIRAs are employed across California, and more broadly across the U.S. See Table 1 on the next page.

**Table 1. Range of Major Options for Rate Assistance Program Eligibility Determination Seen Across the U.S.**

<b>Eligibility Determination</b>	<b>Eligibility Definition</b>	<b>Example Water Systems</b>
100% of the Federal Poverty Level (FPL)	A household income amount that is tied to household size. <sup>8</sup>	None identified
150% of FPL	A household income amount at or below 150% of the FPL	The defunct Massachusetts Statewide LIRA program, Great Lakes Water Authority, West Virginia American Water, Detroit Water and Sewerage Department, Kentucky American Water, Pennsylvania Water Company, Philadelphia Water Department, Columbus City Department of Public Utilities
200% of FPL	A household income amount at or below 200% of the FPL	All CPUC-regulated Class A water utilities. Municipal systems tend to reference CARE requirements
Other Income Criteria	An income level set without reference to the FPL, but usually based on some other poverty threshold	Tucson-City Water, Kansas City Water Services, Sussex County Sewer and Water, Aquarion Water Company of Connecticut, New York City Department of Environmental Protection
Financial Crisis	Household is undergoing a financial hardship or crisis as defined by the water system	Illinois American Water, Memphis and Shelby County, Saint Paul Regional Water Services, Hampton Roads Virginia Water Company
Income Criteria & Age	A household income below a poverty threshold with an account holder over a certain age limit	Los Angeles Department of Water and power, Azusa Light and Water, Burbank-City Water, Crescenta Valley County Water District, Glendale-City Water, La Verne-City Water, Santa Fe Springs, Santa Monica-City Water, Torrance- City Water

<sup>8</sup> These levels do not consider variation in local cost of living except for Alaska and Hawaii. They are the same for the 48 contiguous states and the District of Columbia.

Income Criteria & Medical or Disabled Criteria	A household income below a poverty threshold with an account holder or household member who is disabled or has a severe medical condition	Azusa Light and Water, Burbank City Water
High Drinking Water Service Cost	A Rate Support Fund established by a utility subsidizes rates for one CWS based on rate premiums collected from other CWS	California Water Service Company
Affordability	Cost of drinking water service paid by household divided by household income	Philadelphia Water Department
Multi-Family Household Eligibility	Households who do not hold direct water accounts but are otherwise eligible for rate assistance can still obtain the program benefit	Golden State Water Company systems, East Bay Municipal Utility District, Columbus- City Department of Public Utilities; City of St. Helena <sup>9</sup>

The most common household eligibility criteria for rate assistance programs is a household income adjusted for the number of people in the household and based on a certain threshold. In most cases, the threshold for household size-adjusted income is made with reference to the federal poverty level (FPL), although no systems appear to use 100% of the FPL as the sole criteria.

The Board did not find any water systems which use income thresholds below 100% FPL as the eligibility basis for their rate assistance program, and most systems use income thresholds significantly above this level. For instance, each of the CPUC’s nine Class-A water utilities use 200% of FPL as the criteria for household eligibility in their rate assistance programs. This is the same eligibility criteria which the CPUC-regulated energy utilities use for their LIRA, the CARE program. Similarly, many municipal water systems will enroll households which demonstrate enrollment in CARE, or other federal programs that define eligibility as 200% of FPL, without further verifying their eligibility independently.

Outside of California, other water systems rely on similar income limits. For instance, Sussex County Sewer and Water of Delaware determines eligibility based on U.S. Housing and Urban

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<sup>9</sup> These programs all have limitations as to which multi-family households can receive benefits; none provide universal eligibility.

Development income limits which are in turn based on the Median Family Income estimates and Fair Market Rent area definitions. Aquarion Water Company of Connecticut and the New York City Department of Environmental Protection will both automatically enroll households in their rate assistance programs, if households demonstrate their existing enrollment in other assistance programs.

If reference is not made to other low-income program enrollment, rate assistance program administrators typically define eligibility based on household income below the 130-150% FPL. Yet other systems, within and outside California, use an exact income level (i.e., \$40,000) without making adjustments for household size as an eligibility criterion. The logic for these income levels are rarely specified in writing but, when asked, systems usually refer to either borrowing income criteria from another rate assistance program or doing their own internal analysis of income levels within their community.

Another type of rate assistance program eligibility criterion requires that the eligible households be both low-income and meet additional vulnerability criteria, such as being elderly or disabled, as seen in the guidelines of many rate assistance programs operating in Southern California cities. Some systems determine their eligibility with reference to acute household financial hardship conditions but with no specific longer-term income thresholds. These programs typically reference “financial crisis or hardship” but do not further specify how they define eligibility. Examples of hardships include a recent loss in the family or unemployment.<sup>10</sup>

Uniquely, the California Water Service Company (Cal Water) gives an additional benefit to all households served by systems within its total service territory which charge high retail water costs. Cal Water identified three high-cost districts within its service territory and collects surcharges from all ratepayers served by the company to fund rate relief within those three districts.<sup>11</sup>

As discussed in more detail throughout the report (especially Chapter 3), low-income households living in master-metered units which otherwise would be eligible for a rate assistance program are in most cases practically disqualified from receiving a benefit because they do not have a direct account with the water system running the program.<sup>12</sup> Estimates using administrative data suggest that nearly half of the households living in master-metered facilities in California would be income-eligible (have incomes at or below 200% of the FPL) for a rate assistance program. Several systems have guidelines allowing them and tenants, landlords, or building managers (who hold the water account) to find a way to deliver a rate assistance benefit to households. However, awareness of these guidelines is low, and, despite significant searching and inquiry,

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<sup>10</sup> Memphis Light, Gas, and Water Division. (2017). “Plus-1.” See <http://www.mlgw.com/plus1>.

<sup>11</sup> California Service Water Company. “Water Rate Update: Redwood Valley District, Lucerne System.” See [https://www.calwater.com/docs/grc/2012/decision/grc\\_decision-rv-luc.pdf](https://www.calwater.com/docs/grc/2012/decision/grc_decision-rv-luc.pdf).

<sup>12</sup> Environmental Protection Agency. (2016). “Drinking Water and Wastewater Utility.” See [https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww\\_utilities\\_cap\\_combined\\_508.pdf](https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf).

the Board only identified a single system, the City of St. Helena,<sup>13</sup> which actually delivers benefits to non-account holders. This is particularly significant considering that more than 30% of low-income households in the state are non-account holders and thus may have difficulty accessing a rate assistance program despite being eligible for one.

### Benefit: Type and Level(s) of Financial Assistance Offered by Program

The second parameter of program design defined and described is the benefit. Households enroll in a rate assistance program to receive a benefit. The plan defines the term “benefit” as the type and level of assistance which households receive by enrolling. While non-rate assistance benefits were reviewed, robust benefit offerings are typically delivered by systems in the form of on-bill rate assistance.

There is more diversity in exact benefits than eligibility criteria among rate assistance programs. For instance, while eligibility criteria are consistent across Class A water utilities in California, and Class A utilities deliver benefits in the form of on-bill financial assistance, the benefit levels vary substantially depending on the individual water systems within the utilities. Given their diversity, Table 2 highlights the major types of benefits offered by rate assistance programs. Among the rate assistance programs offered by the 60 systems across California for which a dollar value of their benefit could be calculated using the Board’s electronic annual reporting data, the average monthly benefit amount is \$11.99.

**Table 2. Benefit Types for Rate Assistance Programs in the U.S.**

Type of Assistance	Explanation	Examples
Alternative Rate Structure (lifeline)	Subsidized rate for a fixed amount of water, then higher tiered water charges based on necessary consumption levels	City of El Segundo, San Gabriel Valley Water Company, Montebello-City Water, Marin Municipal Water Department, Los Angeles Department of Water and Power (LADWP), City of Norman, District of Columbia Water and Sewer Authority
Fixed or Capped Credit	A flat amount credited to bill which may take the form of a fixed-dollar credit, meter charge discount or utility tax exemption, or a percentage	Most common. All Class A water utilities. East Bay Municipal District. Santa Clara Valley Water district. Glendale Water and Power. City of Huntington Beach, Marin

<sup>13</sup> Information based on electronic communication between Board staff and St. Helena CWS CARES program administrators.

	discount which is capped at a certain dollar amount	Municipal Water District, Western Municipal Water District, Palmdale Water district
Total Bill Percentage Discount	A percentage discount on the total bill	San Francisco Water Power and Sewer, San Jose Water Company, Seattle Human Services Department, the CARE program
Rate Stability Guarantee	Exempt from water rate increase for given amount of time	Bellflower Municipal Water System
Flexible Terms on Timing and Level of Payment	Arrearage forgiveness and time adjustment for bill payments	East Bay Municipal District, Elk Grove Water District, LADWP, California American Water systems, Riverside Public Utilities District, Illinois American Water
Temporary Assistance or Unspecified Assistance Dependent on Contributions or General Fund Support	Short-term or one-time basis assistance or amount of assistance is not defined	City of Palo Alto, LADWP, Elk Grove Water District, El Dorado Irrigation District, Aquarion Water Company, New York City Department of Environmental Protection, Memphis Light, Gas, And Water, Hamptons Roads Sanitation District, Tacoma Public Utility, City of Santa Rosa, City of San Diego
Percent of Income Spent on Water	Limits the percentage of their income which eligible households must pay for water service	Philadelphia
Water Efficiency	Subsidizes repairs and offers rebates	California Water Service Systems, Marin Municipal Water District, City of Aurora, Pueblo Wastewater Department, Portland Water District, Kansas City Water Services, San Antonio Water System, City of Dallas, Pennsylvania American Water Company

“Lifeline Rates,” considered a benefit in the broadest conception of the term, are an alternative rate structure for households. These rates offer a discounted rate for a baseline amount of water that covers a household’s basic needs. Higher water rates begin to apply when a household surpasses the lifeline amount. However, lifeline rates in the U.S. are typically available to all water system customers and thus have no eligibility criteria *per se*. The CPUC is currently evaluating all Class A water utilities’ low-income rate assistance programs, in addition to investigating assistance to low-income customers of Class B, C, and D water utilities.<sup>14</sup>

The most common type of direct benefit made available to eligible households through rate assistance programs appears to be a flat or capped dollar discount amount on the ratepayer’s bill. Most Class A water utilities and many municipal systems offer this type of benefit to eligible households. The exact benefit may take the form of a capped-dollar credit on the total bill, or more commonly, a percentage or fixed-dollar credit on some portion of the bill in the form of a meter charge discount or utility tax exemption. Flat discounts in California base benefit level on the total bill and, in our review, range from \$6.50-\$25.50. This flat-dollar value, however, typically equates to a smaller discount on the total bill than rate assistance programs which offer a percentage discount or the CARE program.

Other rate assistance programs offer percentage discounts on the total bill for eligible households. For instance, the San Jose Water Company offers a 15% discount on the total bill via its water rate assistance program. The prevalence of total bill discounts, however, is much less common than flat discounts among water systems or as compared to the energy sector. The CARE program offered by IOUs and some municipal power providers offers a 20% discount on natural gas bills, and 30-35% discount on electricity bills, with consumption caps on discounts set high above average consumption.

Temporary assistance programs which offer financial assistance to eligible households on a yearly or ad hoc basis are increasingly common, particularly in California where publicly owned water systems are constrained to limited, non-rate revenues to pay for assistance programs. One time-assistance can range from \$50 up to \$750, and in some cases non-profit organizations offer this assistance rather than the water systems.<sup>15</sup>

Some rate assistance programs do not offer a direct discount at all, but rather allow for more flexible terms of repayment or repayment forgiveness on water bills to eligible households.

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<sup>14</sup> CPUC Proceeding (filed June 29, 2017). “Order Instituting Rulemaking Evaluating the Commission’s 2010 Water Action Plan Objective of Achieving Consistency between Class A Water Utilities’ Low-Income Rate Assistance Programs, Providing Rate Assistance to All Low – Income Customers of Investor-Owned Water Utilities, and Affordability.” R.17-06-024. See:

[https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5\\_PROCEEDING\\_SELECT:R1706024](https://apps.cpuc.ca.gov/apex/f?p=401:56:0::NO:RP,57,RIR:P5_PROCEEDING_SELECT:R1706024).

<sup>15</sup> For instance, see Aquarian Water Company’s assistance program:

<http://www.aquarian.com/CT/CustomerAssistanceProgram> or the City of Palo Alto’s assistance program: <https://www.cityofpaloalto.org/civicax/filebank/documents/16912>.

Flexible payment terms can include debt forgiveness, normalized debt repayment schedules, or the delay of payment dates. For instance, a simple plan may require households to pay 25% of the total balance within 48 hours of notice from their water company, whereas a more nuanced payment plan might offer eligible households to pay 20-50% of total utility balance upfront, then the remaining balance in 3-6 months.

Uniquely, the City of Philadelphia has implemented a percentage-of-income benefit for eligible households: The Tiered-Assistance Program. As of July 2017, Philadelphia was the only known water system in the U.S. offering this type of benefit. The program was designed to match the required customer payment for water with the customer's ability to pay and to stop the accrual of delinquent back payments due by customers unable to pay their bill. Households making 0-50% of the FPL will pay a maximum of 2% of their monthly income for their water bill. Households making 51-150% of the FPL will pay a maximum of 2.5-3% of their income.<sup>16</sup>

A rate stability guarantee is another unique type of benefit rarely offered by water systems. Although it is unclear whether this program is still in effect since the system's privatization in 2016, Bellflower Municipal Water System recently offered a rate assistance program which exempted eligible households from up to 50% of water rate increases in their monthly payments. Finally, a rate assistance program can offer water efficiency benefits or incentives to some households. Providing this type of benefit assumes that such upgrades will lead to lower consumption by eligible households and thus to lower water bills. Efficiency benefits can include the subsidization of leak repair, fixture upgrades, rebates for or free high-efficient indoor or outdoor fixtures, or direct installation services to eligible households. However, as explained below, low-income households may only receive marginal financial benefit from these programs.

### **Financing: How are the funds for benefit distribution and program operation raised?**

The third parameter of program design is financing the benefit. Internal financing is typically, if not universally, necessary for water systems to cover the cost of direct rate assistance benefits provided to eligible households, as well as administrative costs of the program. Compared to the diversity seen in eligibility and benefit components, financing for single-system W-LIRA programs appears to only have one major sustainable approach: putting a charge on the water bills of non-program eligible ratepayers served by the system. On-bill charges on non-participating customers' bills are how all CPUC-regulated systems finance their CARE and water rate assistance program offerings.

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<sup>16</sup> Walton, Brett. (2017). "Philadelphia Water Rate Links Payments to Household Income." Circle of Blue. <https://www.circleofblue.org/2017/water-management/pricing/philadelphia-water-rate-links-payments-household-income/>.

The Board’s review found that water systems offering programs provide little information about program financing mechanics, as compared to the well-described eligibility and benefit aspects of their programs.

Given the different socioeconomic profiles of the populations served by these systems and their differing benefit levels, however, surcharges levied upon non-participating customers within CPUC-regulated systems are not standardized. These fees range from flat surcharges of \$0.04-\$6.07 per month to usage-based surcharges of \$0.014-\$0.156 per CCF (100 cubic feet, CCF). The Golden State Water Company utilizes different surcharges across its three regions, while Cal Water uses either flat or usage-based surcharges dependent upon customer type. Class A IOUs (including the Great Oaks Water Company and San Gabriel Valley Water Company) levy surcharges authorized by the CPUC upon their non-participating customers to fund their rate assistance program.

In contrast to privately owned water systems, publicly owned systems in California are restricted by Proposition 218 in their use of water rate revenues and do not fund W-LIRA programs from water rates imposed on non-participating households. Accordingly, many systems fund their rate assistance programs from voluntary donations (such as the City of San Diego). Lack of internal financing capacity is a common theme amongst W-LIRAs in other states as well (for instance, see the Aquarion Water Company of Connecticut, Memphis and Shelby County Tennessee, and NYC Department of Environmental Protection). In fact, less than 20% of rate assistance programs surveyed in the U.S. in 2010 reported direct system financing. Most systems relied on external, but limited financing options including voluntary customer or non-profit contributions.<sup>17</sup> Programs financed by donations tend to offer limited assistance on a first-come, first-serve basis.

Direct or implicit transfers from a general fund or other internal revenue streams are another means of finance that cities may employ. Some cities specify their internal revenue sources. For instance, the City of Santa Rosa states that a portion of the revenues accrued via cellular tower leases granted by the city provide financing for its rate assistance program.<sup>18</sup>

## Conclusion

Our review of current rate assistance programs, with the exception of IOU Class A programs, suggests sparse publicly-available data on any aspects of these programs besides eligibility and benefits— whether it be financing, enrollment levels, or measured impact of the program. Additionally, our review of the relevant policy design parameters of existing W-LIRA programs offered by CWS and other utilities revealed enormous diversity in eligibility and benefit levels. This diversity, and thus the variation in availability and quality of rate assistance programs,

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<sup>17</sup> Water Research Foundation (2010). *Best Practices in Customer Payment Assistance Programs*. See <https://www.waterrf.org/>.

<sup>18</sup> State Water Resources Control Board. (2018). “Water System Electronic Annual Report 2017.” *State of California*.

illustrates the potential for a state-wide program to ensure more equal opportunity for all low-income households in need of water affordability assistance. The lack of successful examples which deliver benefits to non-water account holding households (e.g. renters) reinforces this lack of equal opportunity.

The review also revealed the dependence of rate assistance programs on the standards and household enrollment efforts of other social benefit programs which are longer-standing and supported at the state or federal scales. Finally, because the financing of rate assistance programs is constrained (except for CPUC-regulated systems), the revenue sources used by water systems to support their programs is generally inadequate to finance programs that are capable of addressing the need. Sustainable and equitable financing ensures that the program is accessible to all eligible households who apply and can avoid the economic burden of benefit programs ultimately falling back on lower- or middle-income households

## Appendix D: Program Scenarios

The program scenario analysis is summarized in Chapters 2, 3, and 4 but is also featured throughout the report. The revenue collection options are detailed in Chapter 5.

### Overview of Data and Methods

Data were derived from several sources to support the proposed plan's state-wide program design options (discussed in Chapters 2, 3 and 4). This research provides the evidence base for the options and recommendations in the report. The four key categories of data informing the analysis were:

- 1) the spatial boundaries of community water systems (CWS),
- 2) other observable characteristics of CWS,
- 3) socio-economic data characterizing the state's residents, and
- 4) retail drinking water rates paid by the state's residents.

Wherever possible, we cite the raw data source and explain the method used to obtain and process it in the broader analysis. Only the rate data estimated for a small proportion of the state's population is not included here.

### Community Water System Boundaries

The raw geographical boundaries of CWS were obtained in Geographic Information System (GIS) shapefile format from the California Environmental Health Tracking Program (CEHTP) maintained by the California Department of Public Health. The [CEHTP compilation](#) represents by far the most comprehensive set of boundaries available for the state. The CEHTP database was originally compiled with the assistance of University of California, Davis' Information Center for the Environment in 2012.<sup>19</sup> Individual boundaries within the shapefile are crowd-sourced, presumably mostly by individual water system staff, and the aggregate file is updated by CEHTP staff as often as possible.<sup>20</sup>

We downloaded the most recent version of this dataset in March 2016. At the time, this dataset only contained boundaries for approximately 50% of approximately 3,000 active CWS in the state, when compared to the list of active systems maintained by the Board's Drinking Water Watch Database (2016). However, in 2018, the systems for which boundaries are available in

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<sup>19</sup> ICE, 2012.

<sup>20</sup> Meltzer, 2016.

the CEHTP compilation serve approximately 92% of the state's population. This collection of boundaries is by far the most comprehensive source in the state.<sup>21</sup>

Because of errors or inaccuracies introduced by those drawing shapefile boundaries, approximately half of the drinking water systems showed overlapping boundaries when in fact they are spatially discrete. However, most of these overlaps were very small in spatial extent. We took several steps to remedy this problem using the ArcGIS software program. First, we manually reviewed systems and excluded those with overlapping boundaries which were pure wholesale systems that were originally mis-classified in the database as CWS).<sup>22</sup> Second, for those remaining overlaps, we evaluated several potential rectification methods. We ultimately decided to employ a similar method as used by the Office of Environmental Health Hazard Assessment in their determination of discrete system boundaries for the purpose of their [CalEnviroScreen 2.0 \(2014\)](#) — namely, to default to keeping the boundaries of the smallest system in any overlapping set of boundaries under the assumption that smaller system boundaries were more likely to be accurate. We subsequently reviewed the results of this procedure and found it to be reliable in resolving individual boundary discrepancies. Using this method allowed us to create a set of non-overlapping boundaries for all systems in the shapefile.

To account for the remaining 8% of residents served by the systems for which we do not have complete, reliable boundaries, we obtained a single, reliable address for each system from the Safe Drinking Water Information System's [Drinking Water Watch](#) from the Board's website and matched it to block group characteristics available in the American Community Survey (ACS), as further described below.

## Publicly-Available System-Level Data

As described above, a list of active CWS at any given point in time can be obtained from the Board's [Drinking Water Watch](#) website. We obtained a version of this list in March 2016.<sup>23</sup> This database maintained by the Board provides basic information such as the California public water system number, water system name, type of public water system, system status (active or inactive), principal county served, and primary source water type. Additional information about the water system, such as its administrative contact information and address, as well as a link to its consumer confidence report can also be found within each "water system detail" page. One

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<sup>21</sup> In Washington, the state administrative code requires water companies to maintain a current map of its system and submit the map to the Public Utilities Commission for review within five business days of a request (WAC 480-110-261). These maps are not available on their website.

<sup>22</sup> Full technical details of this coding procedure performed in GIS are available upon request.

<sup>23</sup> We note that more commonly- federal EPA databases of California CWS have missing data gaps as compared to the Board's database.

can also obtain basic information about the primary source type<sup>24</sup> for each system and whether the system is served by a wholesaler. From this database, we identified 2,950 active CWS operating in California in March 2016.

Governance type of each was coded manually using keyword identification from system names given in the database. Systems were classified into one of five categories based on the water system name. The value “0” identified a city or municipally-run water system – which typically contains keywords “City of” or “municipal” in its water system name. The value “1” represented private water systems – these systems often have “company” in their name. This category also included mobile home parks and trailer parks. Non-municipal but public agencies—such as county water districts, irrigation districts, and public utility districts—were coded as governance type “2.” Mutual water companies were identified when the water system names contain keywords “mutual” or “MWC” and were coded as governance type “3.” Other types of CWS were identified in a separate category “4.” To the extent possible, community water systems which would not be included in any W-LIRA scenarios— including universities, prisons, and other public facilities which house residential populations but whose residents do not directly pay for water service— were omitted from the analysis on the basis of their name.

To estimate the revenue option of fees from drinking water accounts, we needed estimates of the number of connections by customer class or pipe size serviced by each drinking water system. As the Board does not currently maintain such a database, we developed an estimate using the Board’s 2016-2017 Wastewater User Charge Survey. This survey contains a recent tally of wastewater connections by customer class (single family, multi family, industrial, commercial, and institutional) across California. We expect most users with drinking water connections to also have wastewater connections (with the exception of those practicing on-site wastewater treatment). To validate this dataset, we examined the ACS count for the number of single-family households against the wastewater survey’s number of single-family wastewater connections.

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<sup>24</sup> The Drinking Water Watch database classifies each system according to one of the following primary sources:

GU - Groundwater under the direct influence (UDI) Surface Water – System that has a source that provides water under the direct influence of surface water (e.g., unprotected well or springs) and no surface water sources.

GUP - Purchased Groundwater UDI Surface Water – System that purchases water that originates from source that provides water under the direct influence of surface water and no surface water sources.

GW - Groundwater – System that has a groundwater source that is not under the direct influence of surface water (e.g., protected wells) and no surface water or groundwater under the influence of surface water sources.

GWP - Purchased Groundwater – System that purchases water that originates from a groundwater source that is not under the direct influence of surface water and no surface water or groundwater under the influence of surface water sources.

SW - Surface Water – System that has a surface source (e.g., river, reservoir, intake).

SWP - Purchased Surface Water – System that purchases water that originates from a surface source.

The two showed a strong correlation, giving us confidence in the validity of the wastewater survey estimates. To maintain consistency with several other aspects of the analysis, we chose to utilize the ACS data when available and the wastewater survey data to supplement.

We also compared these estimates to estimates of the number of service connections by pipe size across California provided by an independent consultant.

## Socioeconomic Status Data

Data on the socioeconomic status of the state's residents were obtained from the 2010-2014 ACS and the 2015 American Housing Survey, both products published by the U.S. Census Bureau and accessible for analysis by the general public. The ACS, while not a true census of the population, is by far the most contemporary and comprehensive survey of socioeconomic characteristics available for characterizing communities after changes were made to shorten the decennial census beginning in 2010. This dataset is available throughout the state and is based on characteristics collected during the decennial census.

We collected ACS data at the scale of the block group, of which there are 23,212 in California. This is the smallest geographical scale available, which allowed us to collect the full range of socioeconomic characteristics considered in the analysis. Some of the variables we collected at the block group scale included the population (density), bracketed household income distributions, median household income, poverty status, race/ethnicity, as well as housing unit structure type, age, and tenure status of each block group.

Unlike the ACS, the 2015 American Housing Survey (AHS) data allows us to calculate the number of eligible households for each component of the program at the state level. It provides the best estimate of the number of direct water bill-paying households by housing type and income based on a representative sample of the California housing stock. AHS data however, as noted below, is not made publicly- available below the state level, and even the special access version would not allow for reliable estimates at the system level due to sample size limitations. Given the lack of complete data on direct bill-paying by income which can be matched to the water system level, we layer the statewide estimates of direct bill payers by housing type onto our household income data (from the U.S. census) at the system level.<sup>25</sup>

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<sup>25</sup> As an alternative approach, we also performed our calculations of eligibility by starting with account type or housing type data imputed at the system level from the ACS, and then layering state-wide income by housing types estimates at the system level. This method leads to 5% more households being counted as low-income and a 4% higher total program cost, but we ultimately find it to be less reliable. We also considered performing calculations using the account type data from the Water Board and the Department of Water Resources, but these data were clearly incomplete and appeared to have erroneous entries in some cases. Thus, we did not perform estimates using these data sources.

## **Determining Alternative Poverty Status Thresholds**

Block group data from the U.S. Census Bureau’s ACS does not allow us to independently calculate the percent of households below the California Department of Human Health and Services federal poverty guideline<sup>26</sup> based on a cross-tabulation of their income level and household size. Instead, we must rely on a calculation by the ACS itself of the percent of households below various cut points— 100% and 200% of the federal poverty level (FPL)— across the entire state.<sup>27</sup> The ACS does provide a direct estimate of the persons below each of these thresholds, which we apply as a ratio to the total number of households in each system to find the proportion of household within each threshold. In order to alternatively estimate the households below 150% of the FPL in each system, we take the known number of persons<sup>28</sup> between 100% and 200% of the FPL and linearly interpolate between the two.<sup>29</sup>

## **Retail Drinking Water Expenditure Data**

The Board obtained retail pricing data obtained directly from large community water systems via an electronic survey embedded in their annual reports to the Division of Drinking Water in 2015. A total of 705 systems participated in the survey and answered a range of questions regarding their billing cycles, retail pricing levels for different customer classes, retail pricing structures, expenditure data at three residential consumption levels (6, 12, and 24 CCF), low-income assistance offerings, aggregate water deliveries, and conservation efforts.

For our analysis, we used the system-level data on rate structure for the single-family residential customer class, expenditure levels for consumption (particularly the average expenditure for the 6 CCF level of consumption) and the offering of low-income assistance. However, only 478 systems reported full, useable data. These systems served approximately 80% of the state’s total population in 2015. The consistency of the Board’s rate data was compared for consistency to other rate data collected and analyzed for all available systems in Los Angeles County in 2014-

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<sup>26</sup> For instance, see Federal Register (2016). “Annual Update of the HHS Poverty Guidelines.” Volume 81, No. 15.

<sup>27</sup> The ACS calculation of the FPL is slightly different than the DHHS poverty line estimate, as it also accounts for age of householder if the household size is two or less, and for the number of children under the age of 18 within a household (U.S. Census, 2015). However, the result of the two calculations is practically identical.

<sup>28</sup> Converting persons to households directly (via the average household size per system) for each system does not lead to as reliable of an estimate of the percent of households in poverty as the method we employ.

<sup>29</sup> We are confident in this method for at least two reasons. First, the estimates of households below the poverty line between 100-200% of the FPL are nearly identical to the percentages of California’s households under these two thresholds as reported in the 2011 American Housing Survey, which has by far the largest sample (n=26,919) of households for which we can calculate poverty status outside of the ACS itself. Moreover, the within-system correlation between our household estimates and the ACS person estimates for each of these thresholds is nearly unity ( $R^2=0.999$ ), so any small discrepancy between our estimates and the real system averages is consistent across systems.

2015,<sup>30</sup> a sample of small system rate data across the state, and a proprietary database of 2015 retail rates for over 900 systems. Contrary to expectations and those of other experts surveyed, variation in system size was not shown to correlate to variation in expenditures and was not observed to have a clear trend in other independent rate data we examined. Consequently, in the interest of parsimony, system size was not included in subsequent estimation models.

In order to model both potential eligibility criteria (affordability) and benefit designs (subsidizing the percentage of cost) for all low-income households, we used the data from the 478 systems to model expenditures for the remaining CWS, which serve the other 20% of the state's population. Using these rate estimates,<sup>31</sup> total program cost estimates were developed. As described further below, the statistical models suggest that the estimates are reasonable.

### ***System Expenditure Data: Comparison of Three Estimation Methods***

To assess the best fit, three expenditure imputation models were built and the results were compared: an unrestricted least absolute shrinkage and selection operator (LASSO) model, a restricted LASSO, and a reduced form model based on previous research. Construction of the reduced form model relied on the factors (independent variables) found to be significant in the few previous studies which explain price variation across drinking water systems in the U.S. and internationally. The result of similar average expenditures derived from each of the models lend confidence that the results are relatively robust. The restricted LASSO yields reasonable average expenditure estimates and addresses the problem of negative expenditure predictions and predictions of decreasing expenditure trends<sup>32</sup> as consumption increases. However, Table 3 suggests that the range of predictions yielded by the restricted LASSO model is insufficiently narrow compared to the range of expenditures observed across actual systems.

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<sup>30</sup> In a separate research effort.

<sup>31</sup> Depending on the source, between 92-94% of the state's population.

<sup>32</sup> No negative estimates are observed in any approach at the 6 CCF consumption level.

**Table 3. Comparison of Expenditure Data Per Residential Connection to Estimates**

Modeling Approach	Average 6 CCF Expenditure (Std. Dev.)	Average 12 CCF Expenditure (Std. Dev.)	Average 24 CCF Expenditure (Std. Dev.)
Board data (self-reported)	\$37.67 (\$20.32)	\$54.95 (\$30.06)	\$95.20 (\$59.81)
Reduced form	\$38.02 (\$8.33)	\$55.32 (\$16.09)	\$95.33 (\$34.88)
Unrestricted LASSO	\$34.68 (\$8.16)	\$52.52 (\$14.81)	\$94.67 (\$31.76)
Restricted LASSO	\$37.34 (\$2.02)	\$55.29 (\$2.05)	\$93.67 (\$2.89)

Between the unrestricted LASSO and the reduced form model, the results of the reduced form model were chosen due to its mild advantages over the unrestricted LASSO in average expenditure and range prediction levels, and due to its outsized advantages in parsimony and readability among a range of audiences.

### Modeling Factors and Outcomes

**Table 4. Reduced form, ordinary least squares regression (OLS) model expenditure results at three consumption levels**

VARIABLES	(1) Bill 6 CCF	(2) Bill 12 CCF	(3) Bill 24 CCF
0.governancetype	Omitted	Omitted	Omitted
1.governancetype	13.07*** (3.089)	21.88*** (4.484)	40.55*** (8.190)
2.governancetype	2.802 (2.007)	2.587 (2.711)	2.444 (5.182)
3.governancetype	2.399 (3.106)	3.151 (4.154)	-1.854 (7.601)
4.governancetype	-8.245 (13.69)	13.99 (33.97)	38.08 (63.47)
Median household income ('000s)	-0.256*** (0.0626)	-0.378*** (0.0947)	-0.676*** (0.194)
Median home value ( '000s)	0.0399*** (0.00815)	0.0683*** (0.0117)	0.130*** (0.0231)
Population density	-0.000766** (0.000319)	-0.00120*** (0.000408)	-0.00221*** (0.000689)
Watsource=GU	0.762 (3.350)	0.671 (4.318)	-3.495 (7.797)
Watsource=GW	-1.178 (2.117)	-4.500 (2.859)	-8.638 (5.724)
Watsource=GWP	-1.721 (7.276)	-1.152 (5.484)	-4.623 (12.97)
Watsource=SW	6.546** (2.767)	10.36** (4.165)	15.28* (7.945)
Watsource=SWP	Omitted	Omitted	Omitted
Latitude	-1.851 (1.151)	-6.763*** (1.629)	-19.71*** (3.309)
Longitude	-2.661** (1.171)	-8.081*** (1.617)	-22.75*** (3.437)

Constant	-211.9** (102.5)	-667.8*** (141.1)	-1,918*** (302.8)
Observations	483	482	476
R-squared	0.161	0.274	0.339

Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 4 shows the results of theoretically derived, reduced form ordinary least squares regression (OLS) models of self-reported expenditures to consume different levels of drinking water per month: 6, 12, and 24 CCF. The model results suggest that, all else equal, the geographic location of the system within the state (further south and west), private governance of the system, dependence on surface water, higher population density, lower median income, and higher median home value all have a positive, statistically significant relationship with a higher expenditure level for 12 CCF of drinking water in a month. Around 27% of the total variation in expenditure at 12 CCF is explained by the reduced form modeling. Table 5 shows the estimated expenditure levels for all systems (n=2,154) that have a valid address or shapefile.

**Table 5. Actual and Estimated Expenditure Levels Per Residential Connection**

Consumption Level	6 CCF	12 CCF	24 CCF
Estimated expenditure (n=2,154)	\$41.44	\$60.12	\$102.75

Note: Estimates were only made for residential drinking water systems which have a valid address or a shapefile.

## Spatial Data Merging

Data merging from the ACS block groups to the system shapefile was performed using an aerial-apportioned, population weighted spatial join technique in ArcGIS and Microsoft Access.<sup>33</sup> Data merging from the ACS block groups to systems without boundaries in the shapefile was performed using simple spatial joining techniques based on the geocoded address of the system provided. Data merging from the retail pricing database to the water system shapefile was performed by a simple attribute join based on the system identification number. We subsequently performed quality checks on the joined data and found no anomalies.

<sup>33</sup> Full technical details of the data joining procedure are available upon request. During this join, 38 systems were found to be void either due to errors in their boundary drawings or missing data from the ACS. Most of these systems were very small.

## Estimation Methods of Eligibility and Cost for the Three Program Components

For each component of the program, *eligibility* is defined as the number of component-qualifying households based on socioeconomic and monthly water expenditure criteria. The *benefit for each component* is the type and dollar amount of annual financial assistance received by an eligible household. *Estimated annual component cost* is equal to the number of eligible households multiplied by the benefit per household and adjusted for expected enrollment (which decreases total costs) and administrative costs (which increases total costs). Table 6 below shows a basic example component scenario cost calculation incorporating each of these three design elements and an expected administrative or overhead cost. This example uses an expected enrollment rate derived from the CARE program, which is the most similar program to the proposed water affordability program outlined here.

**Table 6. Example W-LIRA Component Scenario Calculation**

Eligibility	Estimated Number of Eligible Households	1,000
Benefit	Theoretical Benefit per Household	\$100
	Maximum Total Benefits to be Distributed	\$100,000
Annual Cost	Accounting for Expected Enrollment Level*	\$84,000
	<b>Estimated Annual Component Operating Cost**</b>	<b>\$92,400</b>

\*This enrollment value mirrors the California Alternative Rates for Energy (CARE) program’s enrollment level of 84%

\*\* Assuming 10% administrative cost adjustment to operate the component

The actual component cost estimates are adjusted upward in each estimate to account for California households which are not able to be captured in available datasets. These include those 2% of households served by CWS but not captured by the Board’s 2015 rate data (2% of state’s households) and all households not served by CWS (up to 6% of the state’s households).<sup>34</sup> The total initial annual program cost estimate of \$606.4 million is a simple arithmetic function of adding the three discrete component costs together.

## Direct Bill Credit Component Calculation

The first component of the program scenario would offer a three-tiered direct bill credit to all eligible residential households (those with incomes under 200% of the FPL) in the state.<sup>35</sup> Using data from the 2015 American Housing Survey, we estimate that, among households with incomes under 200% federal poverty level (FPL) in California, about 40% (or 1.8 million

<sup>34</sup> In the main report, these upward estimates are reflected in the rows labeled “Estimated # of Eligible HH” in Tables 5 and 9.

<sup>35</sup> The Federal Poverty Level is based on household size, so larger households would qualify with higher incomes than smaller households.

households) directly receive a water bill and thus would be eligible for the credit outlined in Chapter 2. This component would provide a benefit equivalent to the tiers described fully in Chapter 2. The monetary value of the on-bill credits provided to customers in each tier would be based on the expenditure necessary for a monthly consumption level of 6 CCF for each of the 2,900 CWS, rather than each household’s actual amount of water consumed (and corresponding bill level), as explained in Chapter 2.

The calculation of the total annual component cost (estimated at \$141.2 million) is shown in Table 7 below (replicated from Table 5 in the main report). This calculation is an arithmetic function of the number of households eligible for the benefit in each of the three tiers multiplied by the benefit each household receives. This cost is then adjusted downward for an expected enrollment rate of 84% of eligible households as well as upward for an expected administrative cost of 10%, and upward for those 8% of households not captured in the Board’s data.

**Table 7. Direct Bill Credit Scenario Breakdown of Eligibility and Cost**

	<b>Benefits Afforded to Directly Billed Customers (Millions of Dollars)</b>			
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Total</b>
Estimated # of Eligible HH	1,712,467	42,811	10,970	1,766,248
Maximum Benefits	\$ 134.1	\$ 12.6	\$ 6.2	\$ 152.9
Accounting for 84% Enrollment	\$ 112.6	\$ 10.6	\$ 5.2	\$ 128.4
Accounting for Program Operating Costs (10%)	\$ 123.9	\$ 11.6	\$ 5.7	\$ 141.2

## Renter’s Water Credit Component

The second component of the program would deliver a credit via the state income tax system equivalent in monetary value to Tier 1 of component 1 (fully explained in Chapter 3 of the main report) to low-income households who receive water from a CWS but are not directly billed for water service. Using data from the 2015 American Housing Survey, we estimate that, among households with incomes under 200% federal poverty level (FPL) in California, about 60% (or 2.6 million households) do not directly receive a water bill and thus would be eligible for the credit outlined in Chapter 3. The benefit for households in each tier would be a flat dollar value credit of \$8.20 per month (or 20% of the state average expenditure for 6 CCF, which is about \$41).

The calculation of the total annual component cost (estimated at \$237.1 million) is shown in Table 8 below (replicated from Table 9 in the main report). This calculation is an arithmetic

function of the number of households eligible for the benefit multiplied by the flat benefit each household receives. This cost is then adjusted downward for an expected enrollment rate of 84% of eligible households as well as upward for an expected administrative cost of 10%, and upward for those 8% of households not captured in the Board’s data.

**Table 8. Renter’s Water Credit Scenario Breakdown of Eligibility and Cost**

	<b>Benefits Afforded to Indirectly-Billed Customers (Renter's Credit Benefit) (Millions of Dollars)</b>			
	<b>Tier 1</b>	<b>Tier 2</b>	<b>Tier 3</b>	<b>Total</b>
Estimated # of Eligible HH	2,504,734	62,617	16,045	2,583,397
Maximum Benefits	\$ 248.8	\$ 6.2	\$ 1.6	\$ 256.6
Accounting for 84% Enrollment	\$ 209.0	\$ 5.2	\$ 1.3	\$ 215.5
Accounting for Program Operating Costs (10%)	\$ <b>229.9</b>	\$ <b>5.7</b>	\$ <b>1.5</b>	\$ <b>237.1</b>

### Water Crisis Assistance Component Calculation

The third component of the program would provide crisis assistance to help prevent drinking water service shutoffs for low-income households with past due bills. The crisis assistance component (component 3) is based on the energy crisis assistance program administered under the Low-Income Heating and Energy Assistance Program (LIHEAP). Unlike with components 1 and 2, this component was designed with a set total annual cost first; eligibility and benefit levels were then proposed to meet the set budget. We set a total annual budget of approximately \$185 million for the water crisis assistance component of the W-LIRA program. Our recommended water crisis assistance component design is shown in Table 9 below (replicated from Table 10 of Chapter 4 in the main report).

We have estimated that, as shown in Table 9, between 20% and 50% of directly billed low income households might need support, with higher proportions of need corresponding to systems with very high bills relative to the state average. Based on estimated one-time levels of need derived from past pilot programs, and accounting for the likelihood that households with lower incomes and higher drinking water costs may need assistance more often, we propose maximum annual benefits of between \$400-800 annually. Maximum annual benefits for each household fall into five tiers depending on their system’s bill amount for 6 CCF consumption per month, relative to the state average. Given the administrative complexity of this component, we include an estimated administrative cost of 20%. See Table 9 on the next page.

**Table 9. Proposed Water Crisis Assistance Component Design**

<b>Program Characteristics by Household Category (Bill Amount Relative to State Average)</b>					
<b>Eligibility Criteria- Households below 200%FPL</b>	<b>&lt;100%</b>	<b>&gt;100%</b>	<b>&gt;150%</b>	<b>&gt;200%</b>	<b>&gt;250%</b>
Benefit Amount (\$/household/year)	\$400	\$500	\$600	\$700	\$800
Households Eligible within Category	1,176,511	398,958	39,386	8,415	1,678
Estimated Need	20%	25%	30%	40%	50%
Estimated Households in Need	235,302	99,740	11,816	3,366	839
Maximum Benefit Cost (Millions of dollars)	\$94.1	\$49.9	\$7.1	\$2.4	\$0.6
<b>Total Program Costs Accounting Including Administrative Costs at 20% (Millions of dollars)</b>			<b>\$184.9</b>		

The calculation of the total annual component cost (estimated at \$184.9 million) is shown in Table 9 above (Table 10 in the main report). This calculation is an arithmetic function of the number of households estimated in need in each of the five tiers multiplied by the benefit each household receives. This cost is then adjusted upward for an expected administrative cost of 20%.

### **Analysis of Other Program Scenarios**

This appendix discusses the advantages and disadvantages of several program scenarios which were fully considered in the process of plan development and stakeholder engagement. These scenarios represent a small snapshot of the more than 70 program scenarios which the State Water Resources Control Board (Board) evaluated over the past three years. **These scenarios do not incorporate a shutoff prevention component.**

#### **Three-Tiered Benefit Level for 12 CCF**

The first alternative we discuss is the three-tiered benefit program to all eligible residential households (those with income under 200% of the FPL) in the state to assist with the affordability of 12 CCF consumption per month. The program would provide a benefit equivalent to the tiers below. The monetary value of the discounts provided in each tier would be

based on a consumption level of 12 CCF each month for each of the 3,000 community water systems.

*Tier 1: 20% discount to all households that have incomes below 200% of the federal poverty level (FPL) in water systems where monthly water expenditures (at 12 CCF) are below \$90,*

*Tier 2: 35% discount to all households that have incomes below 200% of the FPL in water systems where monthly water expenditures (at 12 CCF) are between \$90 and \$120, and*

*Tier 3: 50% discount to all households that have incomes below 200% of the FPL in water systems where monthly water costs (at 12 CCF) are above \$120.*

The estimated total annual cost of this sub-component of the program, and thus the annual revenue target for program operation, in its first year is \$606.4 million. The Board decided not to recommend this scenario due to stakeholder concerns that it would potentially subsidize too high a level of household consumption and that it did not incorporate a shutoff prevention component.

**Table 10. Scenario Breakdown of Eligibility and Cost by Tier**

<b>Tier Criterion (Cumulative) 200% FPL</b>	<b>Tier 1 Paying up to \$90</b>	<b>Tier 2 Paying at \$90- \$120</b>	<b>Tier 3 Paying Above \$120</b>	<b>Total</b>
Estimated Number of Eligible Households*	4,045,564	198,040	106,041	4,349,645
Benefit Level per Household	20% of Water Bill	35% of Water Bill	50% of Water Bill	
Maximum Total Benefits to be Distributed	\$ 493.9	\$82.6	\$79.8	\$656.3
Accounting for an Expected Enrollment of 84%**	\$414.9	\$69.4	\$67.0	\$551.3
Total Program Operating Costs (in millions)***	\$456.40	\$76.3	\$73.7	\$606.4

\*Accounting for all households in the state ((including those not captured by the Board’s 2015 rate data (2%) and those not served by CWS (6%)).

\*\*This enrollment value reflects of CARE’s enrollment estimation of 84%.

\*\*\* Assuming 10% administrative costs to operate this program.

## Split Distributor-Program Scenarios

The second alternative program scenarios considered were split distributor-program approaches which otherwise mirror the recommended scenario. A split distributor-program scenario would allow certain systems to offer their own rate assistance programs while other systems would be aggregated under a separately operated W-LIRA program. As described earlier in the report and in Appendix C, many individual water systems in California practically cannot support a rate

assistance program on their own. Accordingly, the Board explored two approach options which would allow certain systems to continue to operate their rate assistance programs, but would create a unified W-LIRA program for all eligible households not served by those systems. The Board does not recommend this scenario because it would result in significant inequities of benefits for low-income households.

The first alternative approach would create a unified W-LIRA program for all eligible households that are not served by a California Public Utilities Commission (CPUC)-regulated water system. The CPUC would be responsible for ensuring rate assistance coverage for eligible households served by the systems which it regulates. The second alternative approach would create a unified W-LIRA program for all eligible households which are not served by a water system currently offering a sufficient rate assistance program. The standard of sufficiency would be further established based on the enrollment, assistance levels established in the unified program. In these scenarios, systems currently offering a robust rate assistance program would be responsible for maintaining benefit coverage for the eligible households which they serve.

For both approaches, the unified W-LIRA program would offer the same three-tiered benefit program as detailed above. At the same time, the CPUC-regulated systems or other systems not included in the state program would need to offer equivalent or more generous eligibility and benefit levels than the state program, while maintaining comparable enrollment levels. To ensure comparable benefits across the programs, data would be collected on both the state and standalone programs on an annual basis. Thus, each of these scenarios would be designed to ensure that every income-eligible household in California would be offered drinking water affordability assistance. Table 11 shows the coverage, eligibility and cost differences between the W-LIRA program and system-governed rate assistance programs.

**Table 11. Coverage, Eligibility and Cost of Split-state Scenarios**

<b>Program Scenario</b>	<b>% of state's households covered by new state program</b>	<b>% of households eligible within coverage area</b>	<b>Estimated annual new program cost for the state (\$ Millions)</b>	<b>Estimated annual program cost for the CPUC or individual systems (\$ Millions)</b>
Unified state program excluding CPUC-regulated systems	86%	34%	\$514.0	\$92.4
Unified state program excluding all systems with any existing rate assistance programs	54%	33%	\$247.2	\$357.2

In the first alternative scenario, all households in CPUC-regulated systems (around 14% of the state's households), would be excluded from both the revenue collection and benefits of the newly-created W-LIRA program. All large (Class A) CPUC-regulated CWS currently offer rate assistance programs, but to the best of our knowledge only one Class B-D CWS<sup>36</sup> offers a drinking rate assistance program, a disparity for which the CPUC is actively evaluating solutions in an ongoing quasi-regulatory proceeding.<sup>37</sup> CPUC-regulated systems rate assistance programs would thus need to be formed and/or brought into compliance with uniform state standards in a separate effort. The upsides of this approach include: 1) allowing Class A CPUC-regulated systems to build on their experience of administering existing rate assistance programs; 2) realizing potential synergies with California Alternative Rates for Energy (CARE) program administration; and 3) benefiting from past CPUC-wide studies rate assistance program cross-subsidization.<sup>38</sup>

Several possible disadvantages, however, also emerge from this approach. Most fundamentally, two different governance bodies would split the administration of rate assistance programs. One of the other main disadvantages of this program scenario is that the base of financial support (and cross-subsidization) would be \$92 million lower than in the scenario where a statewide program served all households. The financial and administrative costs of CPUC Class-A programs not only deviate from each other, but also from the envisioned state program standards and from each other in terms of eligibility criteria, benefit level and enrollment.<sup>39</sup> While Class A utility systems have standardized eligibility, they provide lower benefits than envisioned for the state program and have enrollment rates substantially lower than targeted enrollment across the state. If compliance among CPUC systems was funded by higher retail water rates paid by ineligible households within these systems, this might lead to different household-level cost burden impacts, as compared to the rest of the state's households served by a separate program. The plan estimates that full enrollment in this separate program scenario would require funds of approximately \$514 million annually.

In the second alternative scenario, all water systems which currently offer robust rate assistance programs would be excluded from the newly-created W-LIRA program. The plan estimates that

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<sup>36</sup> Class B-D systems only represent about 5% of the total households served by systems regulated by the CPUC.

<sup>37</sup> See the active CPUC Proceeding R1706024, "Order Instituting Rulemaking Evaluating the Commission's 2010 Water Action Plan Objective of Achieving Consistency between Class A Water Utilities' Low-Income Rate Assistance Programs, Providing Rate Assistance to All Low – Income Customers of Investor-Owned Water Utilities, and Affordability." See <http://www.cpuc.ca.gov/General.aspx?id=6442454183>.

<sup>38</sup> Wilson, S. October 2007. "Assessment of Water Utility Low-Income Assistance Programs." California Public Utilities Commission: Division of Water and Audits. See [ftp://ftp.cpuc.ca.gov/PUC/water/dwa\\_low-income\\_research\\_paper\\_112507.pdf](ftp://ftp.cpuc.ca.gov/PUC/water/dwa_low-income_research_paper_112507.pdf).

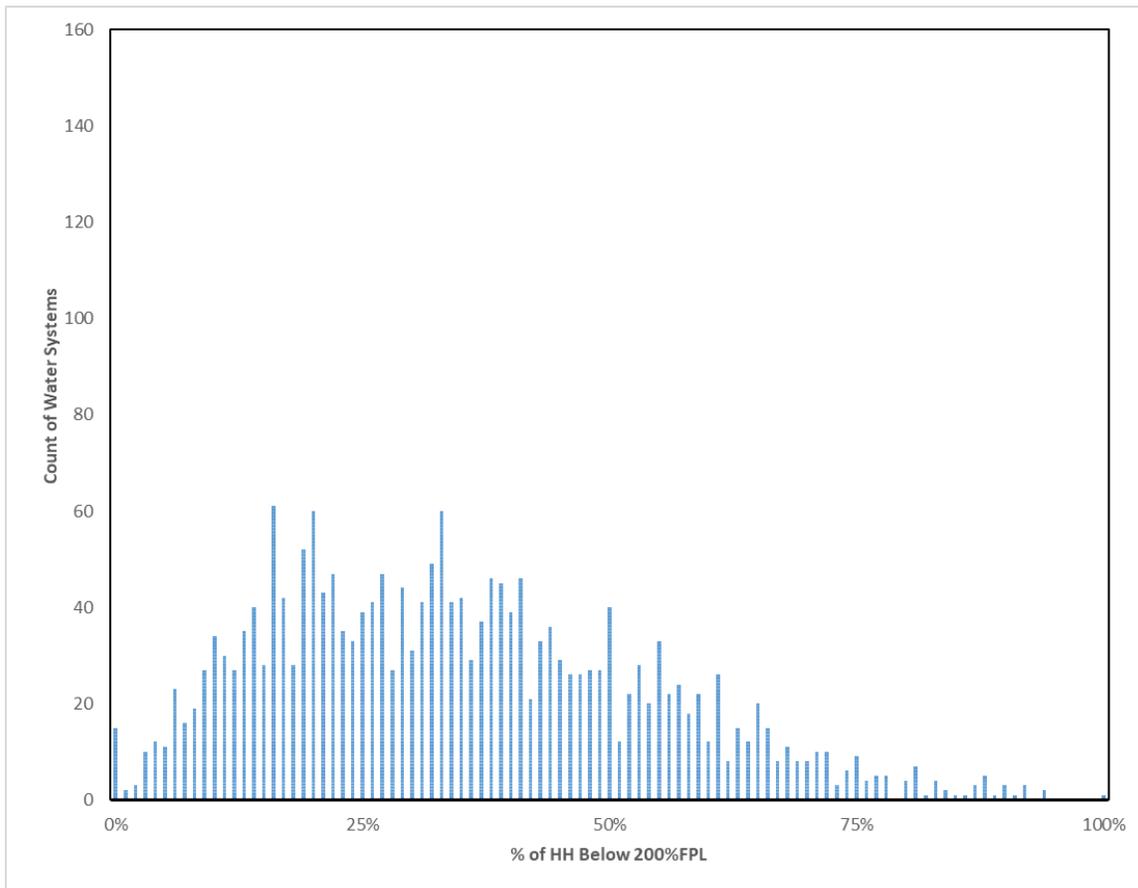
<sup>39</sup> Again, consistency between programs may be achieved as a result of the active CPUC proceeding R1706024.

a maximum of 46% of the state's households are currently served by systems offering rate assistance programs. Assuming that all of these systems' programs were brought into compliance with uniform state standards, the Board estimates that the cost of operating a W-LIRA program for the remaining households would be \$247.2 million annually. Some upsides of this scenario include a lower overall cost of the program to the state, a lower continued local administrative cost, and the opportunity to allow well-functioning existing rate assistance programs to continue operations while building on their operational experience. One of the main disadvantages of this scenario is that the base of financial support (and cross-subsidization) would be \$357.2 million lower than for the primary program scenario. Additionally, many systems with existing rate assistance programs substantially deviate from the envisioned minimum state program standards in terms of eligibility criteria, benefit level, and enrollment. To bring these rate assistance programs into compliance, these system-level programs would likely bear substantial financial and administrative costs, making their standalone operation less appealing.

Moreover, it is unlikely that community water systems (CWS) with existing rate assistance programs can self-finance programs to maintain or enhance enrollment rates without raising retail water rates to ineligible households and risking non-compliance with Propositions 218 and 26. Even assuming the restructuring of Proposition 218, cross-subsidization within systems presents challenges for systems with large proportions of low-income households.

As Figure 1 shows, across the state, CWS are comprised of vastly-different proportions of low-income households, as low as 0% and up to 94% with an average of 37% (with a median of 34%).

**Figure 1. Proportion of Low-Income Households Among Water Systems' Customer Bases**



High proportions of low-income households would make a LIRA program supported by customer cross-subsidy impossible to fund. For instance, Table 12 shows the number and proportion of systems (and households) with cross-subsidy burdens above 33% and 50%, respectively.

**Table 12. Water systems and households above with high-cross subsidy burdens**

	<b>Systems in Dataset</b>	<b>Systems with &gt;33% of HHs below 200%FPL</b>		<b>Systems with &gt;50% of HHs below 200%FPL</b>	
	<b>Number</b>	<b>Number</b>	<b>Proportion</b>	<b>Number</b>	<b>Proportion</b>
<b>System Count</b>	2,137	1,059	49.56%	453	21.20%
<b>Household Count</b>	11,645,320	2,609,590	22.41%	594,642	5.11%

## Analysis of Program Scenarios with Alternative Benefit or Eligibility Parameters

Using water rate data and census data, more than 70 program scenarios were evaluated which either followed the form of existing rate assistance programs or were proposed by stakeholders. Among these, several additional program alternatives were specifically evaluated as alternatives to the statewide components explained in the report. The estimated total annual program costs and pros and cons of these alternative approaches are discussed below. The plan briefly describes these alternative approaches according to their emphasis on different eligibility or benefit definition from the primary scenario. Table 13 also summarizes the estimated annual program costs of each of these approaches, using the same assumptions about enrollment and overhead cost as used for the recommended scenario.

**Table 13. Annual Cost of 12 CCF Secondary Program Scenarios**

<b>Program Name</b>	<b>Estimated Annual Cost (Millions)</b>
Alternative A	\$636.7
Alternative B	\$483.1
Alternative C	\$542.5
Alternative D	\$596.0
Alternative E	\$177.1-\$895.1
Alternative F	\$1,224.9
Alternative G	\$1.3

## Alternative Eligibility Approaches

### ***Alternative A: Households Served by Systems with Below-Disadvantaged Community Income Level***

In this scenario, all state households with incomes below the income level used for the disadvantaged community (DAC) designation, equivalent to 80% of state median household income,<sup>40</sup> a standard which is employed by the Board in some funding decisions to local entities, would be eligible for the W-LIRA program. The Board’s DAC designation in 2015 (\$49,454) was nearly identical to the maximum income level of a 4-person household under 200% of the federal poverty level (FPL) in 2015 (\$48,600). The benefit in this scenario would be a discount equivalent to the first tier of the primary scenario outlined in the January 2019 Draft Plan, 20% of a household’s water bill for 12 CCF. The total estimated annual program cost for this approach would be \$636.7 million.

One advantage of this approach is that using the DAC designation for eligibility is California-specific, as opposed to the national level federal poverty statistics. This metric is already widely used by other community-based programs in the public sector, which may lend itself to ease of

<sup>40</sup> Health & Saf. Code, § 116275, subd. (aa).

use. However, the similarity between the DAC line and a 4-person household under 200% of the FPL suggests that using the DAC designation does not actually yield a substantial difference from using the FPL at this time. Moreover, the DAC line does not allow for flexible eligibility which adjusts to household size as the FPL does. Additionally, many other public benefit programs provide assistance based on the 200% of FPL level, and conforming to that level allows easier outreach and better integration of public benefits. Finally, using a community-based designation to define household eligibility is less desirable than using an established household level measure of need.

### ***Alternative B: Households Served by Systems in Severely Disadvantaged Communities***

In this scenario, all state households with incomes below the income level used for severely disadvantaged community (SDAC) designation employed by the Board, equivalent to 60% of the state median household income (in 2015, \$37,091), would be eligible for the W-LIRA program. The benefit in this scenario would be a discount equivalent to the first tier of the primary scenario outlined in the January 2019 Draft Plan, 20% of a household's water bill for 12 CCF. The total estimated annual program cost for this approach would be \$483.1 million.

One advantage of this approach is that using the SDAC designation for eligibility reduces overall costs by focusing the program on the most income-poor households in the state, ensuring that those most in need receive some benefit. However, the downsides are similar to the DAC approach. Using the SDAC line does not allow for flexible eligibility which adjusts to household size as the FPL does. As opposed to the primary scenario which accounts for both income and necessary drinking water expenditure, the SDAC approach only accounts for income in determining eligibility and benefit. Additionally, many other public benefit programs provide assistance based on the 200% of FPL level, and conforming to that level allows for easier outreach and better integration of public benefits. Finally, using a community-based designation to define household eligibility is less desirable than using an established household level measure of need.

## **Alternative Benefit Approaches**

### ***Alternative C: Single Eligibility and Benefit Level***

In this scenario, all state households with incomes below 200% of the FPL would be eligible for the W-LIRA program. The benefit in this scenario would be a discount equivalent to the first tier of the primary scenario outlined in the January 2019 Draft Plan, 20% of a household's water bill for 12 CCF. The total estimated annual program cost for this approach would be \$542.5 million.

The advantage of this approach is its simplicity in using a single eligibility criterion and a single tier of benefit. The simplicity of this program scenario makes it easier to implement than others, and thus also lowers its administration costs. As other utility affordability programs already utilize the 200% of FPL metric for eligibility, there is some opportunity for cross-enrollment to

ensure that the W-LIRA program is meeting the needs of the public. On the other hand, as compared to the primary scenario, this approach has the shortcoming of not accounting for necessary monthly expenditures by households served by systems which charge very high amounts for 12 CCF of water.

### ***Alternative D: Providing Higher Percentage Discount for 6 CCF of Consumption***

Alternative scenario D places its primary emphasis on supporting necessary drinking water expenditure at lower levels of consumption than in other alternative scenarios. In this alternative, households below 200% of the FPL are considered eligible for assistance on volumes up to 6 CCF. Additionally, those who spend an excessive amount on their water bill compared to the state average for 6 CCF (about \$40) would receive greater benefits. The scenario would offer a three-tiered benefit to all eligible residential households in the state. The total estimated annual program cost for this approach would be \$596 million.

The program would provide a benefit equivalent to a:

Tier 1: 35% discount to all households that have incomes below 200% of the FPL with monthly water costs (at 6 CCF) below \$41,

Tier 2: 50% discount to all households that have incomes below 200% of the FPL with monthly water costs (at 6 CCF) between \$62 (about 150% of the state average) and \$83 (about 200% of the state average), and

Tier 3: 75% discount to all households that have incomes below 200% of the FPL with monthly water costs (at 6 CCF) above \$83.

This is the program scenario which comes closest to ensuring a “lifeline rate” approach as discussed in Appendix E. The primary downsides of this approach is that it does not provide benefits to low-income households that are not ratepayers (e.g., renters), and does not include a shutoff prevention component.

### ***Alternative E: Capping Percentage of Household Income Spent on Drinking Water***

In alternative scenario E, households who spend over a certain percentage of their monthly income to obtain 12 CCF of service from their drinking water system would be considered eligible. This eligibility designation was considered for households estimated to spend between 1-5% of their annual income on water.<sup>41</sup> The benefit in this scenario would be a discount equivalent to the first tier of the primary scenario outlined in the January 2019 Draft Plan, 20% of a household’s water bill for 12 CCF. The total estimated annual program cost for this approach would be between \$177.1 million, for a scenario which only subsidizes households

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<sup>41</sup> ACS household income data are only provided in bracketed increments. Accordingly, the midpoint of each bracket was used for this analysis.

paying more than 5% of their income for 12 CCF of service, and \$895.1 million, for a scenario which subsidizes all households paying more than 1% of their income for 12 CCF of service.

This is the program scenario which comes closest to operationalizing the commonly-discussed metric of “affordability” used by the press, some government agencies, and scholars.<sup>42</sup> To the best of our knowledge to date, the use of percentage of income spent on drinking water as an eligibility standard has only been employed once—in one new household-level W-LIRA program operated in Philadelphia. The primary disadvantage to this approach in the context of a statewide program is the necessary verification (and its considerable associated cost) of exact household incomes for all potentially eligible households in the state, and the subsequent need for individualized household-level calculations of eligibility.

### ***Alternative F: Capping Total Drinking Water Costs***

Another alternative scenario caps the total dollar amount spent on 12 CCF of water by all households with incomes below 200% of FPL. Households below 200% of FPL would pay a maximum monthly amount for 12 CCF of drinking water service of \$30.32, which is 1.5% of the monthly FPL income for a household of four. The W-LIRA program would then pay or subsidize any amount above \$30.32 which the drinking water system charges an eligible household for 12 CCF of service in a given month. The total estimated annual program cost for this approach would be \$1.225 billion.

This approach has the advantage of guaranteeing that low-income households in California do not bear an outsized, or even equal, burden of the cost of water as compared to higher-income households. In fact, low-income households would effectively be guaranteed to pay no more than 50% of the state average cost of 12 CCF. This scenario would also be relatively easy to administer as it would only require that CWS inform the W-LIRA program operators of the total costs incurred by eligible households. This cost could be reimbursed directly to the CWS without affecting cash flow for households while also having a relatively low administrative cost due to the reduced coordination needs to communicate with water systems, when compared to the household level communication required in the primary scenario.

One of the downsides of this approach is its high annual total program cost, about double the cost of the primary scenario. Moreover, this approach does not incentivize water systems to maintain low drinking water retail prices. In fact, this scenario may wind up effectively subsidizing or incentivizing the continued operation of inefficient and/or high-profit water systems, rather than the lowering of rates at the system level.

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<sup>42</sup> For instance, see Pacific Institute, Water Rates: Water Affordability (n.d.): <http://pacinst.org/wp-content/uploads/2013/01/water-rates-affordability.pdf>; Guy Hutton (2012), “Monitoring “Affordability” of water and sanitation services after 2015: Review of global indicator options,” A paper submitted to the United Nations Office of the High Commission for Human Rights.

### ***Alternative G: Households Served by Small Systems***

In this final scenario, only state households with incomes below 200% of the FPL who are also served by water systems with fewer than 200 people would be eligible for the W-LIRA program. The benefit in this scenario would be a discount equivalent to the first tier of the primary scenario outlined in the January 2019 Draft Plan, 20% of a household's water bill for 12 CCF. The total estimated annual program cost for this approach would be \$1.3 million.

This program scenario targets households in smaller CWS, recognizing (as do many of the Board's financial assistance programs) that small systems face the greatest cost-operational challenges and that customers served by these systems face greater difficulties in accessing public assistance programs. However, the State is focusing on other, more sustainable and less costly approaches to reduce these cost-operational challenges, such as consolidation of small systems. Furthermore, the exclusivity of this approach to eligibility is inappropriate for accomplishing the goals and intentions of Assembly Bill 401 as it excludes the vast majority of low-income households and households with high drinking water expenditures simply because they are served by larger systems.

## Appendix E: Direct Monetary Benefit Options

This Appendix discusses the advantages and disadvantages of different benefit delivery methods for the proposed direct benefit components. An essential component of the State Water Resources Control Board's (Board) plan focuses on the potential means by which the W-LIRA program benefit (discussed in Chapter 2) would be delivered to eligible households, since there is no existing statewide program infrastructure which delivers a drinking rate assistance benefit.

Among a range of options, the Board considered delivering the benefit by providing monetary credits for eligible households: (1) on community water systems' (CWS) drinking water bills; (2) on income tax returns; (3) through existing electric or gas utility affordability programs (when collectively discussed hereafter, energy utilities); and (4) through the Electronic Benefits Transfer (EBT) cards that are used by CalFresh and other programs. Additionally, non-bill delivery benefits were considered and are discussed in Appendix F. The Board recommends and focuses on the delivery of the benefit through community water systems (Component 1) and— for master-metered low-income households— through an income tax credit (Component 2). Additional discussion on this topic which informed the recommendations of the Board's plan can also be found in the video transcript of the Board's April 2018 Water Affordability Symposium.

### Methods of Distribution – Proposed Options

#### *Component 1: Water Bill Credit*

As the recommended benefit delivery option, the State Water Resources Control Board (Board) explored the administrative advantages and disadvantages apparent in delivering a monetary benefit to eligible low-income households in California to assist with drinking water affordability through California's community water systems (CWS).

#### *Broad Advantages of a Water System Option*

Delivering a drinking water affordability benefit to households through CWS is intuitively appealing. If a benefit for drinking water affordability is delivered as a monetary credit on water bills, recipient households will most easily recognize the benefit as offsetting drinking water expenditures. The association or crediting by recipients of the benefit to the water sector will also help raise the profile of the state's and water systems' efforts to enhance affordability among recipient households. It also would open up the possibility of a more tailored rebate. Similar to the California Alternative Rates for Energy (CARE) program's percentage discount off each month's actual electric/gas utility bill, it could provide a percent discount on each customer's water bill.

Furthermore, this is the only rate-customized benefit delivery option that does not require information on water system boundaries and associated benefit levels to be transferred, shared, and continuously maintained with an outside entity. In cases where eligible households' water bills are exceedingly high or they are past due on payments, on-water bill crediting will directly

assuage cash flow or liquidity problems for customers that might otherwise induce bill payment delays or delinquency. Administratively, delivering the benefit through a CWS would not require the transfer of system boundary or rate data to benefit distributors who are largely unfamiliar with CWS boundaries or rate setting.

### ***Broad Disadvantages of Water System Option***

A major drawback of CWS administering the benefit stems from the fact that many low-income residents pay for water through rent and do not hold a direct account with the water system, preventing them from accessing a direct benefit through a water bill credit. This drawback of Component 1 necessitated the proposed Component 2, discussed below. Discussion of additional options to address the problem are contained in Appendix J.

Another downside of CWS administering the benefit is that most if not all CWS administering the benefit to households would need to make billing system modifications. Using data from CWS electronic annual reports (“EAR” data) which were submitted to the Board’s Division of Drinking Water in 2015,<sup>43</sup> Table 16 shows that around 8% of systems only levy fixed charges and 6% did not indicate a rate structure. Given that the data is largely drawn from large systems, the percentage of the state’s systems which would require the creation or substantial modification of billing systems may be even larger than indicated here.

Offering a Low-Income Water Rate Assistance Program (W-LIRA) benefit through CWS could also introduce new and substantial privacy concerns. Although CARE, CalFresh, and the Franchise Tax Board (FTB) all have privacy protections in place for household income data used to determine program eligibility, this would be new to many CWS. They would each have to adopt robust privacy protection measures.

The Water System option (Component 1) would require the State to reimburse over \$100 million taxpayer dollars to approximately 2,900 CWS. There are several categories of CWS, and each category would need to become accountable for their use of reimbursed State funds to administer benefits on behalf of the State. The first category is the publicly-owned systems such as municipal water systems. Although these systems already have some accountability in their budgeting and spending, they do not currently provide public benefits on behalf of the State. This would necessitate additional oversight. The second category is the large, Class A, investor-owned utilities. Although Class A water companies are already regulated by the CPUC and already administer public benefits (in the form of low-income rate assistance), they do so with their ratepayer funds. Were they to begin receiving State funding reimbursements, they would need to implement new controls and be subject to additional auditing. The third category is the many small water systems that are for-profit business enterprises not under significant – or any -- oversight by the CPUC. State financial oversight would largely be a new function for this

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<sup>43</sup> See <https://drinc.ca.gov/ear/>.

category. The fourth category is mutual water companies; they too would need to be newly accountable for distributing taxpayer funds on behalf of the State. In summary, for all these categories of CWS, the distribution of benefits would require the imposition of new, significant oversight and control mechanisms that attend to State funding reimbursements. New mechanisms would need to be created to ensure that water systems receive proper reimbursements of State funds to avoid the risk of fraud, waste, and abuse. The water systems would need to account for all monies received and remitted to beneficiaries. All these processes would have to be tracked and audited for compliance with State financial requirements.

### ***Additional Considerations for Discussion***

Several additional statewide considerations would need to be fully vetted to ensure consistency in the administration of a water affordability benefit through CWS. These include but are not limited to: (a.) determining how and when water systems would be reimbursed for their W-LIRA credits from the state revenue collection and fund management agency; (b.) determining how a credit would be provided to households whose water bill is zero or near zero; (c.) potential ratemaking considerations associated with increased costs due to billing system modifications and customer assistance demands; (d.) how the marketing, education, and outreach component of water systems would be modified if a water credit was included and whether some of these tasks should be sub-contracted to non-governmental organizations; and (e.) what (phased) standards for advertising and enrollment would be appropriate for smaller systems.

### ***Estimate of State Administrative Costs for Water Bill Credit (Component 1)<sup>44</sup>***

#### **Assumptions:**

1. Approximately 2,900 invoices for the program would need to be reviewed and paid on a regular basis<sup>45</sup>.
2. Water systems would be responsible for: 1) determining which of their customers are eligible for the assistance program; 2) distributing revenues to their low-income customers according to the rate assistance level associated with each customer's community water system (CWS); 3) invoicing the Board each month to recover their costs via reimbursement of actual costs incurred; and 4) complying with all appropriate financial control mechanisms and audits.

#### **State Water Board Tasks:**

1. Program administration:
  - a. Set up the program
    - i. Work with tax collection agencies to set up revenue stream and money transfer mechanisms to get funding to the Board

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<sup>44</sup> Estimates of State implementation costs for Components 2 and 3 are under development as of this writing.

<sup>45</sup> Some systems bill bi-monthly, so reimbursement for all 2,900 systems would not occur on a monthly basis.

- ii. Set up program guidelines/rules:
    1. Determine eligible administrative costs
    2. Collect and ensure accuracy of water rate data from all community water systems
    3. Determine the needed revenue for required public benefits from both Franchise Tax Board (FTB) and California Department of Tax and Fee Administration (CDTFA) and notify each agency of needed revenue amount.
    4. Set rules for which W-LIRA program data the water systems must provide to the Board.
    5. Set up invoice review/approval and payment guidelines.
    6. Set up review guidelines for applicable level/detail.
    7. Set up fraud, waste and abuse prevention program, including measures to include in invoice reviews to prevent these issues.
  - b. On-going program administration:
    - i. Act as Fund Manager
    - ii. Review monthly invoices for accuracy, compliance with guidelines and rules, and appropriateness.
    - iii. Approve invoices for payment.
    - iv. Resolve any issues with inadequate or incorrect invoices.
    - v. Reimburse water systems (both investor-owned utilities (IOUs) and other types) for public benefit distribution;
    - vi. Provide oversight of non-CPUC regulated systems' benefit distribution program to ensure effectiveness and prevent fraud, waste, and abuse
    - vii. Develop and publish performance metrics, including but not limited to enrollment levels, total shutoffs for inability to pay, and on-time payment levels
    - viii. Coordinate with water systems to ensure that they provide updated water rates to the Board.
    - ix. Oversee overall program and ensure continued coordination among state agencies.
    - x. Coordinate with various stakeholders on the program implementation, including periodic stakeholder meetings to solicit feedback for program improvements
    - xi. Internally, work with accounting and drinking water program staff to ensure that:
      1. Auditors evaluate financial transactions as appropriate
      2. Program effectiveness is evaluated periodically
    - xii. Prepare and provide to the Legislature and to the public periodic reports on the effectiveness and efficiency of the program
2. Drinking water program support:

- a. Provide support and assistance to the Fund Manager and the Administrative Unit in implementing the program, such as providing assistance on technical program issues.
3. Accounting:
    - a. Manage revenues from tax collection agencies and deposit into separate fund.
    - b. Institute and manage on an ongoing basis a means of transferring state funds to each water system for the program and institute controls to prevent fraud, waste, and abuse.
    - c. Issue reimbursements to water systems
    - d. Manage funds and maintain fund balances as specified by statute, in conjunction with the State Controller's Office, State Treasurer's Office, and State Auditor's Office, as well as control agencies such as the Department of Finance.
    - e. Ensure that financial audits of the program are conducted.
    - f. Assist the Administrative Unit with appropriate program effectiveness audits or evaluations.
  4. Legal Support:
    - a. Legal support in the setting up of the program, including any necessary rulemaking.
    - b. Ongoing legal support for the implementation of the program.
  5. IT Support:
    - a. Assist with necessary IT requirements for funding transfers and tracking.
    - b. Assist with various on-going IT requirements to implement the program.

Staffing needs and implementation cost estimates for other responsible agencies (CPUC, CDTFA, FTB) will need to be developed.

## **Component 2: Income Tax Water Credit**

As the second component of the statewide program, the Board also recommends delivering a monetary benefit to the 2.3 million master-metered, low-income households through a state income tax credit. An income tax credit would function similarly to the current Renter's Credit.<sup>46</sup> For administrative simplicity, the income tax water credit would be a single dollar amount and would not be customized to take into account either local water rates or consumption levels, avoiding the need for the FTB to track water system boundaries in order to administer customized monetary benefits.

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<sup>46</sup> See <https://www.ftb.ca.gov/tax-pros/law/legislation/2017-2018/ab1100-021717.pdf>. Current state law allows a nonrefundable credit for qualified renters in the following amounts for tax year 2016: \$120 for spouses filing joint returns, heads of household, and surviving spouses, with an adjusted gross income (AGI) of \$78,125 or less. \$60 for all other individuals with an AGI of \$39,062 or less.

### ***Broad Advantages of Income Tax Credit***

The major advantage of this approach is that it capitalizes on an existing (and successful) state-level fund management and credit program, the Renter's Credit. It would be the simplest benefit distribution option of those considered to implement, although it would still require the establishment of a special fund (like FTB's voluntary contribution funds)<sup>47</sup> to avoid reliance on the General Fund and accompanying Proposition 98 requirements.

Another major advantage of this approach is that the FTB can readily determine eligibility since it already possesses household income information. In addition, the FTB already possesses household size information, making it relatively easy to provide differing benefit levels based on household size if desired by the Legislature. Finally, the FTB already successfully complies with fiscal tracking and accountability systems since it accepts and administers State taxpayer funds, thus avoiding any new risks of financial malfeasance.

### ***Broad Disadvantages of Income Tax Credit***

A major disadvantage of this approach is that not all master-metered, low-income California households (especially undocumented households) pay income tax. These households would have to file taxes to receive benefits and might be hesitant to do so. Equally important, the benefit in an income tax credit approach would only arrive annually, making it less useful especially to those struggling with ongoing cash flow.

## **Methods of Distribution – Options Not Proposed**

### ***California Alternative Rates for Energy***

The California Alternate Rates for Energy (CARE) program provides financial relief to the vast majority of the state's households which are served by California Public Utilities Commission (CPUC)-regulated large investor-owned utilities (IOUs) to be able to afford natural gas and electricity.<sup>48</sup> CARE offers a 20% discount on natural gas bills, and a 30-35% discount on electricity bills to households with income levels below 200% of the federal poverty level (FPL), with consumption caps on discounts set high above average consumption. These discounts are applied to customers' actual bill amounts and are credited directly on the bill, making the payments individually tailored, and clearly identifiable as energy benefits.

As Table 14 shows, in 2013-14, 84% of eligible households (4,536,290) were enrolled in CARE, the highest percentage among state programs analyzed. Compared to other programs, CARE had

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<sup>47</sup> See <https://www.ftb.ca.gov/file/personal/voluntary-contribution-funds/index.html>.

<sup>48</sup> Smaller multi-jurisdictional utilities regulated by the CPUC also provide a 20% CARE discount for electric and gas services.

the lowest percent (3%) of programs costs allocated to administration as a proportion of its total budget.<sup>49</sup>

**Table 14. Overview of CARE Program Eligibility, Enrollment, and Costs**

Eligibility		Eligible Enrolled	Direct Program Benefits Disbursed	Current Administrative Costs
<b>Persons in Households</b>	<b>Total Gross Annual Household Income*</b>	84% (Total Households in 2013: 4,536,290)	\$1.3 Billion	2015 Budget: \$31 million \$42 million <sup>50</sup>  2015 Actual: \$31 million <sup>3</sup> *
1-2	\$32,480 or less			
3	\$40,840 or less			
4	\$49,200 or less			
5	\$57,560 or less			
6	\$65,920 or less			
7	\$74,280 or less			
8	\$82,640 or less			
9	\$91,000 or less			
10	\$99,360 or less			
11+	Add \$8,360 per person			

\*Before taxes based on current income sources (as of May 2018).

Source: "CARE/FERA Programs." (2017). CA.GOV-CPUC.

Electricity Low-Income Rate Assistance (LIRA) programs run by publicly-owned utilities (POUs), as well as the eligibility criteria and enrollment levels in those programs, are more variable than for investor-owned utilities (IOUs), and there is no central source for this information across POU. Among large POU which operate household-level affordability programs, rates of household enrollment are significantly lower than for CARE. About 44% of eligible households were enrolled in the Sacramento Municipal Utility District’s (SMUD) program, and less than 40% of eligible households were enrolled in the Los Angeles Department of Water and Power’s (LADWP) affordability program. Lower levels of enrollment in POU programs are likely attributable to similar factors influencing low levels of enrollment in publicly-owned water system programs. POU also do not uniformly use 200% of FPL as their eligibility criteria and therefore the Legislature would need to mandate them to modify the eligibility criteria or some households would not be able to receive the rate assistance benefit.

<sup>49</sup> Actual expenses for fiscal years were commonly lower than approved budgets. In 2015, the CPUC authorized 37 million dollars for CARE, but only 31 million dollars was used.

<sup>50</sup> "Decision 16-11-022." (2016). Public Utilities Commission of the State of California, Pg. 344.

\*Note: In 2015, the authorized budget was roughly \$37 million.

Despite the need for change in enabling regulation and program offerings to allow households served by POU's to have the same access to rate assistance benefits as those served by IOUs, it is a smaller gap in coverage than either presented by CalFresh or by water systems' existing affordability programs. Administrators of the W-LIRA program could more feasibly work with the small number of large POU's and see a boost in enrollment induced by the new program benefit, whereas the addition of a water benefit to the existing CalFresh benefit is unlikely to incentivize much more enrollment, as described further below.

### ***Broad Advantages of Energy Utility Option***

There are several broad advantages of distributing a water affordability benefit to households through energy utilities' existing affordability programs. First, there are far fewer regulated energy utilities than regulated drinking water systems in California. Whereas California has no more than 65 electric utilities<sup>51</sup> and no more than 35 natural gas utilities (four of which cover almost all of California) which provide direct service to residential customers, there are approximately 3,000 CWS providing direct service to residential customers. Distribution of funds through less than 100 entities as opposed to several thousand is likely to be more efficient.

Second, there is far less master-metering of residential accounts in either the electricity or natural gas industry than in the drinking water sector. Master-metering of residential accounts refers to when a single multi-dwelling building or development utility account is held by the property owner or landlord, and thus individual households within that development do not hold their own direct account with the utility. Sub-metering refers to individual residential units, whether rented or owned, have their utility usage measured and directly paying for their usage. Estimates of master-metering in each sector vary as there is no perfect source for this information, but at least 29% to as much as 46% of households in the state do not pay their water bill directly, or are master-metered.<sup>52</sup> On the other hand, between 5-13.5% of households in the state do not pay their energy bill directly, or are master-metered.<sup>53</sup> To make a direct comparison from the same source, the 2015 American Housing Survey, Table 15 shows the percentages of Californian

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<sup>51</sup> A rise in the popularity of community choice aggregators does not currently and is not expected to affect the direct billing relationship or the number of electrical providers which serve residential customers.

<sup>52</sup> Varying estimates derived from 2015 Census American Community Survey (IPUMS) data for California, the Water Research Foundation's national 2017 report *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers* and from the 2015 American Housing Survey to refine our assumptions of the number of master-metered accounts and the number of households each account serves.

<sup>53</sup> Varying estimates derived from 2015 American Housing Survey sub-sample for California; Residential Energy and Water Intelligence Software, "Task 4 Summary Documentation: Parcel and Electricity Account Aggregation" (2016); and Hal Nelson, Sean Bjurstrom, Wenjie Zhang (2016), "Multi-Family Residential Natural Gas Monitoring and Analysis Software (MFR-MAS) Project," Energy Innovations Small Grant Program Final Report.

households reporting that they do not pay a direct bill for the three utility services of interest. This comparison clearly shows that households are much less likely to pay their water bill, as opposed to their energy bills, directly.

**Table 15. Californian Households Reporting That They Do Not Pay a Direct Bill for Utility Service**

Bill/ Service Type	Prevalence
Water	44%
Natural Gas	13%
Electricity	5%

Source: 2015 American Housing Survey data on California sub-sample.

In the water sector, master-metering has effectively meant that no affordability benefit has been delivered to otherwise eligible households.<sup>54</sup> On the other hand, IOUs have developed effective mechanisms to directly contact sub-metered CARE eligible households to expedite their enrollment in the program, and have enrolled substantial percentages of these households in the program.<sup>55</sup>

Master-metering is particularly problematic for energy or water affordability programs because low-income households eligible for such programs are much more likely to live in multi-unit dwellings. However, while the master-metering challenge still exists for electric utilities, the extent of the challenge is far less than for CWS and a partial solution has been identified.

Offering the rate assistance benefit through the CARE (and POU) programs would build on existing oversight and regulatory authority. Households already enrolled in these affordability programs would automatically receive a rate assistance benefit, so the only costs associated with W-LIRA program enrollment would be for households not already enrolled in an energy assistance program. Automatic enrollment also avoids new privacy concerns since electric utilities already implement an income-based program and have rules for safeguarding customer data. An additional advantage of offering the W-LIRA benefits through energy utility programs,

<sup>54</sup> While some drinking water systems maintain in their official documents that they allow income eligible master-metered households to apply for drinking water affordability programs in conjunction with landlords, we have yet to identify a system which actually delivered a benefit to a non-metered customer.

<sup>55</sup> For instance, SoCal Edison estimates that among 4,469 CARE eligible master-metered tenants in its service area, it enrolled 1,390 customers (31%) in CARE at the end of 2015 (see SoCal Edison (2016) Annual Report of Energy Savings Assistance and Alternate Rates for Energy Programs). Similarly, PG&E estimates that among 54,252 CARE eligible master-metered tenants in its service area, it enrolled 28,885 customers (53%) in 2015 (see PG&E (2016) 2015 Annual Report of Energy Savings Assistance and Alternate Rates for Energy Programs). Moreover, SDG&E estimates that among 22,456 CARE eligible master-metered tenants in its service area, it enrolled 68% at the end of 2015 (see SDG&E (2016) Annual Report on Low Income Assistance Programs for 2015).

as compared to CalFresh, is that identifying the legal status of the benefit recipient is not necessary for enrollment in these programs.

Finally, energy utilities have an inherent advantage over water systems because they have operated well-regarded household-level affordability programs for several decades. The distribution of a water affordability benefit through CARE would require adaptation of the existing IOU marketing materials, which currently address CARE and other energy assistance programs, and the comparable marketing materials maintained by POUs. A portion of the W-LIRA revenue would need to cover the expense of these adaptations.

### ***Broad Disadvantages of Energy Utility Option***

A broad disadvantage presented by energy utilities administering a monetary benefit to eligible low-income households to assist with drinking water is that recipient households may not recognize the benefit as offsetting or being related to drinking water expenditures. Low-income households which receive water bills may still struggle to pay those bills, and the general public perception may be that the program supports energy affordability rather than water affordability.

Also, in cases where eligible households' drinking water bills are exceedingly high, they are past due on payments, or their water and energy billing cycles do not align, the lack of on-water bill crediting may create a cash flow or liquidity problem for customers that might induce further bill payment delays or delinquency.<sup>56</sup>

As the W-LIRA program would be authorized by the Legislature, it would likely entail more legislative engagement in the design of both CARE and public energy assistance programs. In addition, the administrative costs of the current CARE programs would be substantially increased for implementation of a W-LIRA program. The CARE programs are relatively simple because all eligible customers receive a percentage discount on the amount of the bill charged by the utility itself. In contrast, administering a W-LIRA would require water system data to be transferred, shared, and continuously maintained with the electric utilities.

In addition, unlike the CARE program, for a W-LIRA program, the energy utilities would need to reconcile multiple water system boundaries within the electric/gas service area in order to determine the dollar amount of the water credit on the bills of eligible customers. That is, each utility would need to superimpose water system boundaries over their service areas and work with the Board on the appropriate benefit level to be provided, since it is linked to the water system's rates at a given level of usage. The energy utilities would also need to adjust benefit levels when eligible customers relocate into different water systems.

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<sup>56</sup> While carryover balances from CARE and California climate credits, IOU energy bill customers may be paid out upon request, the default is a carryover balance of the credit being applied to the next billing cycle. In other words, the credit is illiquid in the short-term but may be more liquid in the medium-term if the household takes action.

As the CPUC has not previously evaluated the prospect of distributing non-energy benefits through CARE, the administrative cost burden for the IOUs and the CPUC is difficult to estimate. A CPUC proceeding (or deliberations within each utility’s General Rate Case proceeding)<sup>57</sup> would be necessary to establish program rules and determine reasonable administrative costs and appropriate ratemaking treatment for costs such as billing system upgrades, modifications to marketing materials, data privacy, and adjustment of W-LIRA benefits for low-income households that move from one water system service territory to another.<sup>58</sup>

Similarly, the administrative cost burden for POUs is unknown but can be expected to be significant. For example, SMUD has more than 20 water systems within its boundaries and would have to administer benefits to customers that correspond to each.

Finally, the energy utilities maintain their own funding under CARE and do not receive funds from the State for CARE purposes. In contrast, this W-LIRA option would require the State to transfer hundreds of millions of tax-payer dollars to energy utilities, some of which are for-profit, publicly-traded businesses. Significant oversight and control mechanisms that attend to State funding would be newly imposed on the utilities, and new mechanisms may have to be created to ensure that the utilities use the taxpayer funds properly and efficiently to avoid the risk of fraud, waste, and abuse. In particular, there is a history of energy utility bankruptcy in California, which may recur given the electric utilities’ potential liability from recent “megafires.” Continuation of the program during bankruptcies would have to be assured for uninterrupted water benefits. The utilities would need to continually demonstrate fiscal responsibility and account for all monies received, transferred, and remitted to beneficiaries. Any excess collections would need to be remitted back to the State. All these processes would have to be tracked and audited.

### ***Comparing Advantages and Disadvantages of Electric v. Natural Gas Utility Option***

There are also differences in the potential administration of a water affordability benefit between electric and natural gas utilities. The first consideration is that there are roughly double the

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<sup>57</sup> Per a 2018 electronic communication between CPUC staff and the Board, “A proceeding would be required to establish program rules and determine reasonable administrative costs and appropriate ratemaking treatment. Since GRC proceedings are staggered across the utilities, this could take many years to fully implement. It may be possible to consolidate the issues into a single proceeding, but given the fact that each utility has different billing and back office systems and have a standalone proceeding on this issue would require additional, administrative law judge, legal, audit, and GRC staff/resources it may not be possible to litigate the issues.”

<sup>58</sup> San Diego Gas and Electric Company, et al. (2019). “Comment Letter- Options for Implementation of a Statewide Low-Income Water Rate Assistance Program”. Available at: [https://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/assistance/docs/comments\\_20190201/tim\\_carmichael.pdf](https://www.waterboards.ca.gov/water_issues/programs/conservation_portal/assistance/docs/comments_20190201/tim_carmichael.pdf).

number of electric (n=65)<sup>59</sup> than natural gas utilities (n=30), and nearly all households with natural gas service in the state are covered by four utility companies. The number of energy utilities matters because if a water benefit is to be delivered on either a gas or an electric bill, matching of water system boundaries (and associated benefit levels) to energy utility provider boundaries<sup>60</sup> and transfer of this information to either type of provider is necessary. It is logistically easier to match boundaries and transfer eligibility information when fewer parties are involved, although again the disparity between numbers of different energy utility types pales in comparison to the disparities that would be faced in the water sector.<sup>61</sup>

In other respects, working with electric utilities to distribute the benefit appears advantageous. First, according to the 2015 American Housing Survey conducted by the U.S. Census Bureau, fewer households in California have natural gas service (93.9%)<sup>62</sup> than electricity service (99.7%). Further, at least five large electric utilities (including LADWP, serving 10% of the state) are combined municipal electric and water utilities, which makes matching boundaries between a substantial proportion of the state's population served by these utilities very simple. Additionally, household water use is tied to electricity use (efficient fixtures and appliances use less water and electricity), and therefore low-income households and the public may see a plausible connection for delivering water benefits through an electric bill.

### **Summary**

Despite its appeal—given these programs sustained success in achieving high enrollment with low administrative costs—after receiving extensive stakeholder input, the Board is not recommending the delivery of a drinking water affordability benefit alongside the energy benefit already delivered through energy utility affordability programs. There remain shortcomings in universal coverage, likely regulatory hurdles, and significant increased administrative costs. Moreover, this form of benefit distribution does not guarantee access to affordable tap water. The Board instead recommends the W-LIRA with three components for reasons outlined in the report and above.

### **CalFresh**

CalFresh is the California version of the federal Supplemental Nutrition Assistance Program (formerly known as Food Stamps), which offers households monthly financial assistance to purchase food. Outreach and enrollment efforts for CalFresh are run with considerable levels of discretion by individual counties in California, which in turn contract out work to non-profits. Accordingly, details from a case study of the operations of the CalFresh program in Los Angeles

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<sup>59</sup> See list at: [http://www.energy.ca.gov/almanac/electricity\\_data/utilities.html](http://www.energy.ca.gov/almanac/electricity_data/utilities.html)

<sup>60</sup> Obtainable here: <http://www.energy.ca.gov/maps/>.

<sup>61</sup> The CPUC already facilitates an automatic transfer of enrollment between CARE and low-income water affordability programs offered by IOUs (CARW).

<sup>62</sup> See [http://www.energy.ca.gov/maps/serviceareas/naturalgas\\_service\\_areas.html](http://www.energy.ca.gov/maps/serviceareas/naturalgas_service_areas.html) for a map of natural gas service providers.

County are used to illustrate the opportunities and challenges presented by delivering a water benefit through local CalFresh programs.

### ***Broad Advantages of CalFresh Option***

Delivering a drinking water affordability benefit to households through the CalFresh program is intuitively appealing given that the program is long-standing and helps low-income households to afford food, which is a basic need similar in importance to drinking water. Moreover, the CalFresh program maintains the same basic (gross) income eligibility criteria— 200% of the federal poverty level (FPL)—the State Water Resources Control Board (Board) was directed to consider in Assembly Bill 401).

CalFresh benefit distribution relies upon an established administrative structure in each of the state’s 58 counties to deliver funds to low-income households across California to purchase food via electronic benefit transfer (EBT) cards. Once households have enrolled in CalFresh and have an operating EBT card, they can use the monetary benefit on the card for any eligible food or beverage purchase at any EBT-participating locations in California. The delivery of a drinking water affordability benefit through CalFresh would thus not be constrained or limited to households that directly pay water bills. In addition, CalFresh is in the process of rolling out the Safe Drinking Water Supplemental Benefit Pilot Program to deliver bottled water benefits to communities that have unsafe tap water,<sup>63</sup> creating a limited but direct relationship between CalFresh and drinking water.<sup>64</sup>

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<sup>63</sup> Welf. & Inst. Code, § 18901.25.

<sup>64</sup> *Welfare and Institutions Code section 18901.25 provides:*

- (a) There is hereby created the Safe Drinking Water Supplemental Benefit Pilot Program, a state-funded program to provide additional CalFresh nutrition benefits for interim assistance to purchase safe drinking water in areas where it is necessary.
- (b) The State Department of Social Services shall use moneys allocated for this program to provide time-limited additional state-funded nutrition benefits to residents of prioritized disadvantaged communities that are served by public water systems that consistently fail to meet primary drinking water standards, as defined in Section 116275 of the Health and Safety Code. Benefits shall be in addition to benefits provided for pursuant to Article 6 (commencing with Section 11450) of Chapter 2 of Part 3, and shall not be considered as income for any program established in this code.
- (c) The department may use its own existing databases and databases from the State Water Resources Control Board to determine which CalFresh households are eligible to receive benefits pursuant to this section. The following households shall receive priority:
  - (1) CalFresh recipients served by persistently noncompliant public water systems in disadvantaged communities, as defined in Section 79505.5 of the Water Code, as determined by the location of the recipient’s residence.
  - (2) CalFresh recipients in communities deemed eligible for interim emergency drinking water benefits by the State Water Resources Control Board, as determined by the recipient’s residence.
- (d) Benefits granted pursuant to this section shall be delivered through the electronic benefits transfer (EBT) system created pursuant to Sections 10072 and 10072.2.

Furthermore, CalFresh is an established program that provides government benefits and thus already has appropriate fiscal tracking and accountability systems in place for counties to accept and administer government funds.

Finally, providing a drinking water benefit through CalFresh would promote the integration of public benefits for essential needs, such as water and food affordability. Furthermore, the program would have statewide reach since it would provide benefits regardless of whether recipients have gas, electric, or water meters.

### ***Broad Disadvantages of CalFresh Option***

At the state level, the CalFresh program exhibits lower enrollment of income-eligible persons (72%)<sup>65</sup> compared to other assistance programs, such as the California Alternative Rates for Energy program (CARE, 84% of households).<sup>66</sup> Using slightly older geographically-specific data, the percentage of eligible households enrolled also varies widely at the county level across California, from 39% in Marin County to 93% in Del Norte County. CalFresh also only allows U.S. citizens to enroll, which may limit potential enrollment. Other major likely reasons for low enrollment levels at the state level are the intensive application and verification procedures required for enrollment, and the limitations or hesitancy of otherwise eligible households to participate due to immigration status or fear of deportation. While California also maintains the California Food Assistance Program (CFAP) for applicants who cannot receive CalFresh due to their immigration status, these applicants must still demonstrate their legal permanent residency status. As of April 2017, only 19,554 households across the State receive CFAP.<sup>67</sup> Accordingly,

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(e) The benefits authorized pursuant to this section are not entitlement benefits. A county is required to comply with the provisions of this section only to the extent funding for this purpose is appropriated in the annual Budget Act and available to the county. A county shall not be required to expend county funds for the provision of benefits authorized under this section.

(f) This section shall become inoperative on July 1, 2020, and, as of January 1, 2021, is repealed. (*Added by Stats. 2017, Ch. 24, Sec. 53. (SB 89) Effective June 27, 2017. Inoperative July 1, 2020. Repealed as of January 1, 2021, by its own provisions.*)

<sup>65</sup> This percentage has increased notably from 57% in state fiscal year 2012/2013 to 72% in 2016/2017, see <http://www.cdss.ca.gov/Portals/9/CalFreshResourceCenter/CFPA2018.pdf?ver=2018-03-22-135717-117> or for the raw data, see: <http://www.cdss.ca.gov/inforesources/Data-Portal/Research-and-Data/CalFresh-Data-Dashboard>.

<sup>66</sup> Historically, CalFresh ranked last among state SNAP programs in enrollment levels, but enrollment levels have risen dramatically in the last four years. See U.S. Department of Agriculture, Food and Nutrition Services, Reaching Those in Need, December 2011.

<sup>67</sup> See “California Food Assistance Program.” (2017). California Department of Social Services Administration Division. See: <http://www.cdss.ca.gov/Portals/9/DSSDB/Trends/DFA256FS04.pdf?ver=2017-04-07-081926-823>; California CalFresh Outreach Plan.” (2016). California Department of Social Services Welfare to Work Division. See: [http://www.cdss.ca.gov/calfreshoutreach/res/California\\_SNAP\\_OutreachPlanFFY2017-FFY2018.pdf](http://www.cdss.ca.gov/calfreshoutreach/res/California_SNAP_OutreachPlanFFY2017-FFY2018.pdf).

while CalFresh's statewide benefit delivery system is theoretically superior in coverage and ease of funds transfer to all other options, its limited enrollment levels are a major practical limitation.

CalFresh also has a higher percentage of administrative costs as a percentage of total spending (24%) compared to all other California-wide affordability assistance programs studied. This high proportion of administrative costs is generally attributed to the intensive enrollment and verification processes undertaken for each applicant, as well as the number of public, private, and non-profit entities involved in administering the program. By contrast, CARE had the lowest percent of programs costs for administration at 3% of its total program budget, and the Energy Savings Assistance program reported overhead of only 5%. CalWORKs and the Low-Income Home Energy Assistance Program roughly had the same proportion (10%) of administrative cost as a share of their total program budgets.

Another broad disadvantage of administering a drinking water affordability benefit through CalFresh is that recipient households may not recognize the relation of the benefit to drinking water consumption. This potential lack of recognition may detract from state and water system efforts to enhance affordability and raise awareness of the importance of water. In cases where eligible households' water bills are exceedingly high or they are past due on payments, the lack of on-water bill crediting may create a cash flow or liquidity problem for customers that might induce further bill payment delays or delinquency.

Additionally, counties do not necessarily have access to drinking water system boundaries or rate information which are crucial for distributing water affordability benefits to the right households within their jurisdiction. A few water systems cross county lines, which would complicate determining the appropriate county jurisdiction. If an affordability benefit is to be delivered via EBT cards, information on water system boundaries and associated benefit levels would need to be transferred, shared, and continuously maintained with CalFresh county offices and their sub-contractors.<sup>68</sup> (The Safe Drinking Water pilot program will use zip codes as proxies for water system boundaries).

### ***CalFresh enrollment procedures, advertising efforts and administrative costs: Case Study in Los Angeles County***

The Case Study on the next page is presented to give readers additional context about the administrative components of the CalFresh program.

#### ***Enrollment Procedure and Verification***

To enroll in CalFresh, households must first pass a gross income test (income below 200% of the FPL needed), and then undergo a subsequent net income test. Additionally, heads of household (which are determined by the household)<sup>69</sup> must have lived in the U.S. in a qualified status for

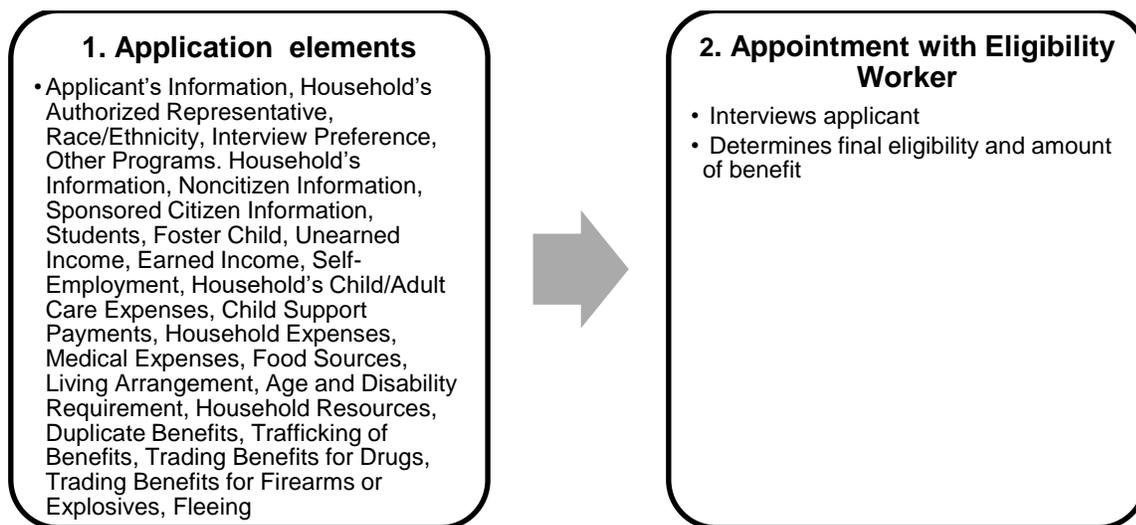
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<sup>68</sup> We could not find data on the exact number of CalFresh sub-contractors across the state.

<sup>69</sup> See <http://www.cdss.ca.gov/foodstamps/entres/getinfo/pdf/fsman4a.pdf>.

five years. Moreover, households must produce documented evidence on each of the elements shown in Figure 2 to finalize enrollment in the program.<sup>70</sup> In addition to extensive paperwork, applicants must be interviewed via telephone or in person.<sup>71</sup> The verification and enrollment process can last up to 30 days. Once enrolled, households must submit a Semi-Annual Report (SAR-7) if they experience a change in household income, composition, or living costs. After enrollment, applicants must comply with yearly redetermination by submitting a recertification application. After the recertification application is received, the enrollment procedure repeats itself.<sup>72</sup>

**Figure 2. CalFresh Application Elements and Procedure**



As noted above, low enrollment levels in CalFresh reflect the intensive application and verification procedures required, and the hesitancy of otherwise eligible households to participate due to concerns regarding immigration status. Using the latest available data in Los Angeles County, about 50% of income-eligible households were enrolled in the program.<sup>73</sup> Enrolling in the program can be done at a number of physical locations across the state. CalFresh operates over 100 district offices in California, including 31 in Los Angeles County. Other options for in-person enrollment are through outreach office sites—health clinics, food pantries, farmers’ markets, California Special Supplemental Nutrition Program for Women, Infants, and Children sites, churches, and schools. These office sites have eligibility workers that can assist in the

<sup>70</sup> This requires forms including but not limited to a birth certificate, driver’s license, paycheck, voter registration card, U.S. passport, social security number, utility bill, pay stub, and child support check.

<sup>71</sup> Except for elderly applicants (60+), who may have their interviews waived.

<sup>72</sup> See “How to Apply for CalFresh and the Process.” (2017) Los Angeles County Department of Public Social Services. See: <http://dpss.lacounty.gov/wps/portal/dpss/main/programs-and-services/calfresh/how-to-apply/>; “CalFresh Program.” (2017). California Food Stamps. See: <https://www.cdss.ca.gov>.

<sup>73</sup> See “Nutrition and Food Insecurity Profile.” (2012). California Food Policy Advocates: <http://cfpa.net/county-profiles>.

application process. There are about 75 outreach sites located throughout Los Angeles County.<sup>74</sup> Households can also apply for CalFresh via mail, telephone, fax, online, or at the County Welfare Department office.<sup>75</sup> Over 100,000 people across California apply to the program each year, with approximately 69,500 persons successfully enrolling across the state over the last four years.<sup>76</sup>

### **Ongoing Advertisement**

Recognizing historical low levels of enrollment, California’s Department of Social Services (CDSS) created an outreach plan. The statewide CalFresh program runs an outreach program,<sup>77</sup> wherein it directly contracts with seven non-profit groups to work with community-based organizations.<sup>78</sup> To bring awareness and boost enrollment, the statewide outreach program and its contractors run the CalFresh Awareness Month, which occurs each year.

Counties interested in voluntarily participating in the statewide outreach efforts can also do so at their discretion. In Los Angeles County, about 50 governmental and non-profit organizations are listed as collaborative partners for CalFresh Awareness Month. These events provide the community with relevant benefits like nutritional counseling, health information, and CalFresh application assistance. In addition, Los Angeles County Department of Public Social Services (DPSS) holds a community forum event during CalFresh Awareness Month where representatives from federal, state, and local government attend and answer questions about the program. During the event, community members also have access to the DPSS Health and Nutrition Mobile Unit where they can apply for CalFresh and other services. Other Los Angeles County advertising activities for CalFresh include a community bike ride and resource fair, and social media campaigns.<sup>79</sup>

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<sup>74</sup> See <http://dpss.lacounty.gov/wps/portal/dpss/main/programs-and-services/calfresh>.

<sup>75</sup> See “How to Apply for CalFresh and the Process.” (2017) Los Angeles County Department of Public Social Services: <http://dpss.lacounty.gov/wps/portal/dpss/main/programs-and-services/calfresh/how-to-apply/>; “CalFresh Program.” (2017). California Food Stamps. See: <https://www.cdss.ca.gov/>.

<sup>76</sup> See <http://www.cdss.ca.gov/inforesources/Data-Portal/Research-and-Data/CalFresh-Data-Dashboard>.

<sup>77</sup> Adding to the complexity, the U.S. Department of Agriculture reimburses some of the expenses of outreach to the outreach program’s prime contractors, and the California Department of Public Health assists CDSS in some of its outreach efforts. See “Chapter One,” (2018), CalFresh Outreach Basics Handbook, California Department of Social Services.

<sup>78</sup> See [http://www.cdss.ca.gov/calfreshoutreach/res/Toolkit/Handbook-GeneralMarket/GeneralMarketHandbook\\_CH1\\_CaliforniasCalFreshOutreachProgram.pdf](http://www.cdss.ca.gov/calfreshoutreach/res/Toolkit/Handbook-GeneralMarket/GeneralMarketHandbook_CH1_CaliforniasCalFreshOutreachProgram.pdf).

<sup>79</sup> See “CalFresh Awareness Month.” (2017). California-Department of Social Services: <http://www.cdss.ca.gov/inforesources/CalFresh-Outreach/CalFresh-Awareness-Month>; “CalFresh Awareness Month.” (2017). Los Angeles County Department of Public Social Services. See: <http://dpss.lacounty.gov/wps/portal/dpss/main/programs-and-services/calfresh/awareness-month/>

## **Administrative Costs**

Direct CalFresh benefits provided to households are federally funded. CalFresh administrative costs are shared amongst federal, state, and county entities. In California, 15% of administrative costs are borne by the county, 35% by the state, and 50% by the federal government.<sup>80</sup> California first must spend its 35% share in order to receive its federal funds. Likewise, each county must spend all of its funds in order to receive its 35% state funds. The CalFresh program had a proposed budget of \$1.54 billion for the 2017-2018 period.

At the county level, the non-profit California's County Welfare Directors Association (CWDA) and CDSS disperse the 15% of funds to each of the state's 58 counties. Each county's budget is based on the previous year's allocated amount and caseload growth. CWDA also surveys counties mid-year to review budgets statuses. Reallocation of funds within counties can occur so that the CDSS reaches the percent listed above to receive the requisite federal funds.

## **Summary**

The delivery of a drinking water affordability benefit alongside the food benefit already delivered through CalFresh is intuitively appealing and has state-wide deployment capacity through an existing administrative structure in each county, which is not limited to households that directly pay water or energy bills. On the other hand, the intensive enrollment and verification process, low levels of enrollment, and high overhead costs associated make the delivery of a drinking water affordability benefit through the program less appealing than the current proposed W-LIRA program.

## **New Electronic Benefits Transfer (EBT) Program**

CalFresh is not the only assistance program that utilizes Electronic Benefits Transfer (EBT) cards.<sup>81</sup> If the Legislature created a new program, it could deliver the water benefit on eligible individuals' EBT cards without making it a part of CalFresh. Counties (or non-profit subcontractors) would administer the program just as they do for CalFresh. Revenue could either be delivered directly to the counties for distribution to existing EBT beneficiaries, or revenue could first be disbursed to a State department, which would reimburse the counties for benefits provided. Direct funding of the counties would reduce administrative costs. However, channeling of funds through the State would provide a greater degree of program oversight. In 2017, the Legislature provided funding for a pilot project to augment EBT CalFresh assistance for those beneficiaries whose tap water is not safe to drink. The additional EBT benefits are available to these recipients for the purchase of bottled water. The Department of Social Services is currently working with the State Water Resources Control Board (Board) and with

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<sup>80</sup> See Teclé and et al. "CalFresh and CalWORKS in South LA." (2011). University of Southern California's School of Policy, Planning, and Development.

<sup>81</sup> See <https://www.fns.usda.gov/ebt/state-ebt-websites>, for a list of benefits provided by EBT by different states.

stakeholders to implement the pilot program. A new affordable drinking water program implemented through EBT could capitalize on the existing pilot project for safe drinking water.

### ***Broad Advantages of a New EBT Program***

As a program funded solely by the state, a new EBT program would avoid the federal linkage of CalFresh, which is the source of administrative hurdles, including the citizenship requirement which in turn is a cause of low enrollment. It would also promote the integration and marketing of public benefits, as water and food affordability are interrelated issues, and EBT cards are already used for other benefits such as CalFresh, CalWORKs, and other programs. Notably, EBT benefits from at least one existing EBT program, Disaster CalFresh, does not require legal immigration status for receipt of benefits; a new EBT program could similarly be designed to provide benefits via EBT cards for these residents.

Furthermore, a new EBT program would be readily identified by recipients as assisting with water affordability, unlike the other options. Existing CalFresh recipients could be automatically enrolled in the new water EBT program. In addition, the program would have statewide reach since it would provide benefits regardless of whether recipients have gas, electric, or water meters.

Finally, although the program would be new, it could build on the appropriate fiscal tracking and accountability systems for accepting and administering government funds that are already in place for other EBT programs such as CalFresh, reducing the risk of fraud, waste, and abuse.

### ***Broad Disadvantages of a New EBT Program***

A separate program would also entail new and separate administrative costs. The new program would need to be designed to minimize eligibility hurdles, in order to promote enrollment beyond the existing low levels of CalFresh. As for most of the other benefit delivery options, aggressive marketing would be needed to ensure widespread enrollment, raising administrative costs. Also, while many thousands of retailers statewide accept EBT as payment, the feasibility of water systems accepting EBT is unknown. Water systems could change their practices if W-LIRA via EBT were adopted. Alternatively, recipient households could use the EBT benefits to indirectly offset their water bills, as is contemplated for the electric utility and CalFresh options.

Furthermore, a new EBT program would present interface and data management challenges to track recipients and benefits while maintaining privacy protections. Finally, if an affordability benefit is to be delivered via EBT cards, information on water system boundaries and associated benefit levels would need to be transferred, shared, and continuously maintained with CalFresh county offices and their sub-contractors.

### ***Summary***

The creation of a new EBT program could eliminate some of the drawbacks associated with the CalFresh program. However, it would face significant start-up and operational challenges, along

with a smaller initial enrollment than an energy benefit program. Furthermore, this form of benefit distribution doesn't guarantee access to affordable tap water.

## Appendix F: Indirect Affordability Assistance Options

### Component 3: Water Crisis Assistance Program – Proposed Option

#### Consolidation of Water Systems – Ongoing

##### *Consolidation of Unsustainable Systems*

Consolidations are increasingly seen as an important tool to improve the Human Right to Water in small communities where water system operators may not have the technical, managerial, or financial capacity to sustainably operate the system. The Board identified consolidations as a key element in its Safe Drinking Water Plan<sup>82</sup> and recent legislation, including Senate Bill (SB) 88 (2015), SB 552 (2016), AB 2501 (2018), and SB 200 (2019) has given the Board additional authority and funding to facilitate and mandate consolidations under certain circumstances. Since 2017, the Board has completed 111 physical consolidations and 6 managerial consolidations.<sup>83</sup> Recent reports have illuminated the potential for increasing consolidations in California.<sup>84</sup> Consolidations can enhance affordability by spreading costs over a wider customer base and through operational efficiencies. However, consolidations can be time consuming, contentious, and costly, and do not necessarily bring affordability benefits.

The Board continues to aggressively pursue consolidations as appropriate, since it is a proven means of achieving economies of scale, thereby improving water affordability. Nevertheless, the potential for additional consolidations to have a statewide marginal benefit for affordability is limited, given that the vast majority of low-income households are served by large urban systems.

##### *Other Options – Not Proposed*

This report focuses on the provision of household-level assistance rather than community water system (CWS)-level assistance to make drinking water more affordable for low-income households. Community Water Systems are the fundamental building blocks of the water supply

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<sup>82</sup> See [https://www.waterboards.ca.gov/drinking\\_water/safedrinkingwaterplan/](https://www.waterboards.ca.gov/drinking_water/safedrinkingwaterplan/), accessed October 12, 2018.

<sup>83</sup> See [https://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/dashboard.html](https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/dashboard.html).

<sup>84</sup> Jonathan London, Amanda Fencl, Sara Watterson, Jennifer Jarin, Alfonso Aranda, Aaron King, Camille Pannu, Phoebe Seaton, Laurel Firestone, Mia Dawson, and Peter Nguyen. *The Struggle for Water Justice in California’s San Joaquin Valley: A Focus on Disadvantaged Unincorporated Communities* (February 2018); Gregory Pierce, Larry Lai and J.R. DeShazo (in press) “Identifying and Addressing Drinking Water System Sprawl, Its Consequences, and the Opportunity for Planners’ Intervention: Evidence from Los Angeles County.” *Journal of Environmental Planning and Management*; Larry Lai (2017). *Adopting County Policies Which Limit Public Water System Sprawl and Promote Small System Consolidation*. UCLA Luskin Center for Innovation; See [link](#).

network and provide water service to over 90% of households in California. The first component of the proposed plan focuses on residential customers and draws on a distinction between the financial capability of a water system, defined as the “ability of the utility [water system] to pay for the capital and operations costs associated with providing safe and reliable service” and household-level affordability, defined as “the ability of individual customers to pay for services that are adequate to meet their basic needs.”<sup>85</sup> While system-level financial capability is inextricably linked to household-level affordability, the proposed plan emphasizes targeting financial assistance to low-income households because it is the most direct, effective, and equitable way of reducing the affordability burden for all low-income customers. In cases where systems need state-level technical, managerial, and financial capability (TMF) assistance, receipt of such assistance may help the system deliver higher quality and more reliable water service but may have a neutral or negative effect on household-level affordability. More broadly, many water systems are not in need of system-level TMF assistance but still serve large numbers of low-income households that struggle to pay their water bills. Low-income households served by systems which are not candidates for state-level TMF assistance can best be supported in the affordability of their water bill by either progressive rate structures, water-saving technologies, or via direct monetary assistance.

The advantages and disadvantages of using alternatives to direct rate assistance to support drinking water affordability were fully considered in the process of the proposed plan preparation and findings are discussed here. The two alternative, indirect means of assistance analyzed are: 1) water use reduction strategies, such as conservation rebates or leak repair assistance; and 2) progressive rate structures to keep rates low for low-water using households.

## **Water Use Reduction Strategies**

### ***Advantages of water use reduction strategies as affordability assistance***

Three related indirect means of affordability considered in the context of statewide affordability assistance were the state-wide provision of conservation rebates, direct efficient fixture installation, and leak repair services to low-income households. Conservation rebates are financial incentives provided to customers to encourage them to use less water. Some drinking water systems (and wholesalers) offer rebates to households in exchange for the installation of efficient appliances and low flow plumbing devices, as well as outdoor strategies such as efficient sprinkler systems, soil moisture sensors, drought-resistant landscaping, or rain collection barrels.

The benefit of providing indirect affordability assistance through conservation rebates or leak repair services is that these enable low-income households to use substantially less water and further the state’s goal to promote conservation as a way of life, while also potentially

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<sup>85</sup> Jon P. Davis and Manuel P. Teodoro (2017). “Financial Capability and Affordability.” Chapter 22 in *Water and Wastewater Finance and Pricing: The Changing Landscape*, Fourth Edition.

substantially reducing their bill. If fully successful, as with rate structure changes, such water use reductions could lessen or eliminate the need for direct affordability assistance.

### ***Disadvantages of water use reduction strategies as affordability assistance***

There are several conceptual and practical limitations to implementing water use reduction strategies as affordability assistance.

There are significant limitations to using water use reduction strategies as an affordability assistance strategy. In all but the systems with the most progressive rate structures (still relatively few in California), households cannot realize enough financial savings by limiting their water use through conservation to make their water bill affordable. In some cases, in households already using little water and served by systems with substantial fixed charges, conserving additional water may yield very little net financial benefit. The second practical problem with relying on water use reduction strategies as a state-wide affordability assistance solution is that the offering of conservation rebates, much less leak detection and repair services, is highly variable across the state. Large urban water systems, over small rural systems, are more likely to offer these services, and it is easier for moderate- and higher-income households to take advantage of rebate programs than low-income households due to cash flow constraints.

The final disadvantage of relying on place-based water use reduction strategies to ensure drinking water affordability for low-income households is that the average U.S. household moves every five years, and low-income households may move even more often.<sup>86</sup> When a household moves, it cannot take the physical water conservation technology investment made in their home or property with them. The next resident who may or may not be low-income, will experience the benefit of this investment which thus may have no long-term impact on drinking water affordability.

## **Progressive Rate Structures**

### ***Advantages of progressive rate structures for indirect affordability assistance***

Drinking water systems generally have discretion over the structure of their residential rates and billing components. In California, public entities providing retail water service must comply with cost of service requirements of Proposition 218, whereas investor-owned utilities (IOUs) must comply with California Public Utilities Commission (CPUC) regulations. Water rate structures are generally classified into three categories: only fixed fees, fixed fee and variable quantity rates, and only variable quantity rates (which may be either uniform or tiered based on quantity thresholds). A fixed or flat fee structure charges customers the same amount regardless of how much water they use, which does not incentivize conservation or enable customers to adjust their expenditure by altering water consumption. An exclusively variable rate charges

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<sup>86</sup> For instance, see Phinney, R. (2013). Exploring residential mobility among low-income families. *Social Service Review*, 87(4), 780-815.

customers exactly in proportion to how much water they use, which provides customers the largest opportunity to reduce their water cost (by as much as they can reduce consumption) but also leaves the water system vulnerable to shortfalls.

There is no “typical” rate structure or residential water bill type across the state.<sup>87</sup> There is also no comprehensive database of residential rate structures or billing components for drinking water systems across the state. Consequently, the proposed plan uses data obtained directly from CWS electronic annual reports (EAR) which were submitted to the State Water Resources Control Board’s (Board) Division of Drinking Water in 2015.<sup>88</sup> The proposed plan uses verified data on 441 systems (serving at least 62% of state’s population) to characterize, as best as possible, the prevalence of rate structures and billing components across California.<sup>89</sup> This data included information about system retail pricing levels for the single-family residential customer class, retail pricing structures, and expenditure data at three consumption levels (6, 12, and 24 CCF).<sup>90</sup> Rate structure data from 705 systems was reported to the Board through the EAR in 2015, however, not all of the data was usable due to errors or incomplete reporting.

Table 16 uses this rate structure data to show the percentage of systems reporting each of these three billing types. It suggests that most rate structures have a fixed and variable component (hereafter, mixed bills), but a significant proportion of systems maintain only fixed fees or only variable rates, and some report using other types or no rate structures. Seventy-three percent of all systems’ residential bills contain some fixed charge component.

**Table 16. California Water Systems’ Self-Reported Rate Structure Type**

<b>Rate Structure Type</b>	<b>Proportion of Reporting Systems</b>
Mixed	65%
Volumetric Only	12%
Fixed Only	8%
Other	8%
No Rate Provided	6%

Source: 2015 EAR data

<sup>87</sup> Due to the inconsistency in billing practices across systems, credits or benefits applied uniformly to the fixed or variable charge segments across all bill types will also result in different impacts on customer consumption behavior. Accordingly, assistance assigned as a percentage of a household’s total bill (including both fixed and variable charges, but excluding other charges and fees) is deemed more equitable than flat discounts. The strength of this benefit type is its ability to equitably distribute assistance regardless of differences in rate structures and levels, ensuring that each household receives assistance relative to their total expenditure burden.

<sup>88</sup> See <https://drinc.ca.gov/ear/>.

<sup>89</sup> The EAR distinguishes between volumetric and non-volumetric billing types in 10+ categories. The Board simplified this information into three usable categories.

<sup>90</sup> Water systems often bill using a unit of 100 cubic feet (CCF), which is equivalent to 748 gallons.

Beyond the broad type of rate structure which a water system employs, the emphasis placed on the fixed versus variable components of a bill can change its financial burden or affordability to customers— particularly for low-income households. Generally, rate structures which place a greater emphasis on recovering revenue through the variable component of the bill, charge lower variable rates for lower levels of consumption (increasing block rates) and are classified as progressive rate structures. Even though they are applied to all ratepayers and not low-income ratepayers per se, well-designed progressive rate structures may lessen or eliminate the need for direct affordability assistance by keeping rates low for low-income households that consume low levels of water.<sup>91</sup>

Accordingly, a means of potential statewide affordability assistance could involve extending guidance to water systems to use very progressive rate structures. To be considered progressive, billing rates would need to use “lifeline” or “budget-based”<sup>92</sup> structures which offered a free or steeply discounted rate for an initial or baseline quantity of water that would cover a typical household’s basic needs. After this volume was consumed, progressively higher variable rates begin to apply at different consumption levels.

Proposition 218 imposes a cost-of-service requirement on publicly owned water systems charging fees for water service as an incident of property ownership.<sup>93</sup> For instance, water systems must ensure that fees do not exceed the proportional cost of service attributable to the parcel, and that revenues derived from such fees do not exceed the funds required to provide the service.<sup>94</sup> When setting rates, publicly owned water systems must ensure that progressive rate structures comport with these constitutional requirements.

The benefit of providing affordability assistance through progressive rate structure design is that it incentivizes all households to conserve water. If successful, such rate structure designs can also eliminate or reduce the need for a transfer of rate revenue from one set of (higher-income) customers to fund a subsidy for another set of (lower-income) customers. This reduces administrative costs while avoiding resistance to cross-subsidies.

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<sup>91</sup> For instance, see Baerenklau, K. A., Schwabe, K. A., & Dinar, A. (2014). The residential water demand effect of increasing block rate water budgets. *Land Economics*, 90(4), 683-699.

<sup>92</sup> Budget-based structures have the advantage of adjusting for household size in their first-tier allocations. The downside of lifeline rates not adjusted for household size is that they assume low-income households consume little water, whereas the relationship between water consumption and income is not linear (for instance, see Whittington, D., Nauges, C., Fuente, D., & Wu, X. (2015). A diagnostic tool for estimating the incidence of subsidies delivered by water utilities in low- and medium-income countries, with illustrative simulations. *Utilities Policy*). While income and water consumption are positively, strongly correlated, one cannot assume that households that are most in need of a subsidy will need a small quantity of water.

<sup>93</sup> Cal. Const., art. XIID, §6(b).

<sup>94</sup> *Ibid.*

## ***Disadvantages of Progressive Rate Structures for Indirect Affordability Assistance***

A practical obstacle to relying on progressive rate structures to provide affordability assistance is that, despite efforts by some systems, very few systems in the state employ sufficiently progressive rate structures to ensure affordability for low-income households. In other words, more systems would need to adapt their current rate structures to be more progressive or adopt new rate structures to support household-level affordability.

There are two major reasons for systems to keep non-progressive rate structures. First, some water systems prioritize revenue stability, which can be more easily achieved through imposing less progressive rates. To ensure that they can cover their fixed costs even in the context of lower consumption, such as occurs during droughts or economic downturns, these systems will put more emphasis in their rate structures on high fixed charges that they can collect regardless of consumption levels.<sup>95</sup>

Second, some systems would face significant opposition from high-use customers if they attempted to impose more progressive rate structures. Ensuring affordability through sufficiently progressive rates statewide would be challenging and would likely be widely opposed by many California water systems. Even if standardization in progressive rates could be achieved across the state, the rate design would need to be constantly monitored and adjusted to ensure minimal impact on water systems' finances if water consumption is reduced further in the future, as seen in the most recent drought. Finally, and as detailed more throughout the report, a substantial proportion of the state's low-income households do not receive a water bill directly. The benefits of progressive rate design for single-account residential customers may not be experienced by these households.

Without implementing standardized rate designs, there are disadvantages to relying on existing progressive rate structures to provide affordability assistance to low-income households. Even more important for household-level affordability than the presence or absence of a fixed charge on the bill, is the magnitude of the fixed charge as a proportion of the total bill. The Board measures this as a percent of a residential customer's bill which goes to pay fixed charges levied by the system. The Board estimates the average proportion of the total customer payment going towards fixed charges at the 12 CCF consumption level is 44%, or nearly half the bill. Table 17 illustrates the prevalence of systems using fixed charges with the percent of systems (for which the Board has data) in which households would pay above 25% of their bill on fixed charges at both the 6 and 12 CCF consumption levels. In more than one-third of systems, customers using 12 CCF per month would pay more than 50% of their bill in fixed charges.

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<sup>95</sup> For instance, see Dinar, Ariel, and Ashok Subramanian. "Policy implications from water pricing experiences in various countries." *Water Policy* 1, no. 2 (1998): 239-250; Winpenny, J. (2005). *Managing water as an economic resource*. Routledge.

**Table 17. Distribution of California Systems Based on the Share of the Fixed Charge Component in their Rates<sup>96</sup> at 6 and 12 CCF Consumption Levels**

<b>Share of Fixed Charge Component in Water Systems' Rates</b>	<b>6 CCF Fixed Charges</b>	<b>12 CCF Fixed Charges</b>
0-25%	17%	26%
26-50%	25%	38%
51-99%	43%	24%
100%	15%	12%

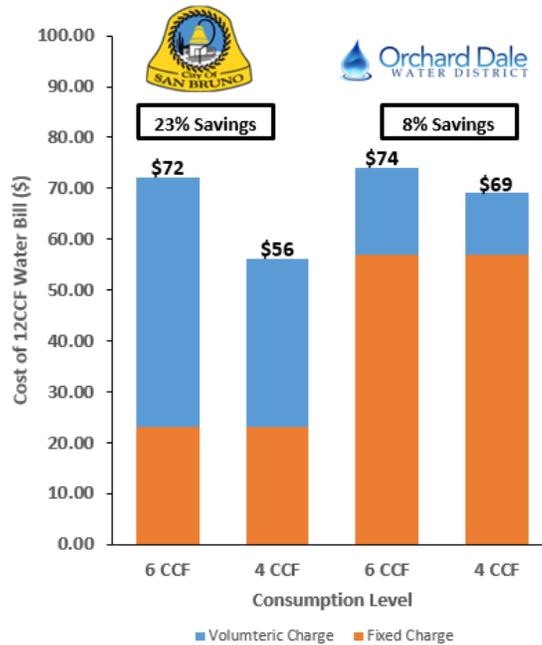
This demonstrates that relying on current water system rate structures to provide affordability assistance to low-income households in California may not be effective as many systems have only mildly progressive rate structures. Because of relatively high fixed costs, systems with only mildly progressive rate structures may not yield enough potential rate relief to low-income households to be deemed a sufficient means of affordability assistance. In other words, under existing rate structures, households cannot realize enough savings by limiting their water use through conservation to make their water bill affordable.

The proposed plan illustrates the impact of fixed charges using the example of two water systems which have very similar total charges for residential customers using 6 CCF of water in a month: the City of San Bruno (\$72) and Orchard Dale Water District (\$74). While total charges are comparable, the two systems maintain vastly different balances between fixed and variable charges. The former has a lower proportion of their 6 CCF bill attributed to fixed charge at 32%, whereas the Orchard Dale Water District's proportion is at 77%. The two systems' different emphases on the fixed charge component of the total bill means that when customers lower their consumption to 4 CCF (a 33% reduction), their monetary savings are dramatically different. Customers of the City of San Bruno would experience a 23% reduction in the cost of their bill by reducing consumption by 33%. Customers of the Orchard Dale Water District would experience only a 8% reduction in the cost of their bill by reducing consumption by 33%. In short, systems with lower fixed charges as a percentage of the total bill provide greater ability and incentive to low-income households to conserve and make their monthly water bill affordable as shown in Figure 3.

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<sup>96</sup> The percentage of households served by systems moderately or heavily reliant on fixed charges is different than the percentage of systems shown in Table 17. In our sample, it appears that large systems are more likely to rely on fixed charges as a percent of the total bill in the 51-99% range at the 6 CCF level, and in the 26-50% range at the 12 CCF level. At both levels, large systems are much less likely to use an exclusive fixed charge (100% of the bill) approach.

**Figure 3. Simulated Savings for 2 CCF Reduction Proportional to 6 CCF Bill, Comparison of the City of San Bruno and Orchard Dale Water District Water Systems**



This analysis does not attempt to fully explain the complexity of rate structure design and the constraints which different types of CWS face in rate design and revenue recovery. Thus, the above example of contrasting rate structures is provided only as an illustration, without attempting to control for the multitude of factors which influence differences in system rate structure decisions. Certainly, in some systems, especially those experiencing large transient, tourist populations (and therefore seasonal water use), instituting high fixed charges may be prudent for maintaining year-round system operations. Nevertheless, this example illustrates the principle that fixed costs can significantly impact the value of water use reduction strategies in providing water affordability. Specifically, the presence of a sizable fixed charge component prevents low-income households from being able to proportionately reduce their bill by conserving water. Recognizing that a high proportion of the state’s water systems currently employ mixed billing with a substantial fixed charge component, only mandatory state or federal standards regarding drinking water system rate design can overcome this obstacle.

Thus, one of the Board’s proposals is for the Legislature to evaluate (or direct the Board to evaluate) options for additional state oversight and direction on how public water systems set rates. During the drought, Governor Brown directed the Board to examine rate structures via Executive Order B-29-15.<sup>97</sup> The Board has determined that there are multiple ways the state

<sup>97</sup> Governor’s Exec. Order No. B-29-15 (April 1, 2015). See: [https://www.ca.gov/archive/gov39/wp-content/uploads/2017/09/4.1.15\\_Executive\\_Order.pdf](https://www.ca.gov/archive/gov39/wp-content/uploads/2017/09/4.1.15_Executive_Order.pdf).

could exert oversight over how CWS sets rates, including: providing more detailed guidelines or requirements for cost-of-service studies, developing sales forecasts, and enhancing the public process associated with rate increase proposals. Making these actions mandatory, however, would require new statutory authorities.

## Appendix G: Revenue Collection Options

### Revenue Collection from the State Income Tax System

One means for collecting revenue for W-LIRA is from the California state income tax system. The collection of state income tax in California is conducted by the Franchise Tax Board (FTB). State income tax payers can broadly be classified into two categories: personal and business.<sup>98</sup> In 2016, there were 16.1 million personal income tax payers and 972,000 business income tax payers in California.<sup>99</sup> The number of personal income tax payers is significantly larger than the number of households (12.7 million in 2016) in California, accounting for the fact that there are often multiple personal income tax payers per household.

One of the advantages of collecting W-LIRA revenue via the personal income tax system is that it allows for a collection method which is very progressive with respect to income (ability to pay for the W-LIRA subsidy). Another advantage of this approach is that it would not include some of the challenges associated with system-level rate assistance programs. Instead, it would be a relatively efficient approach since it builds on an existing revenue collection structure that, by definition, already has direct access to income information and household size.

One downside<sup>100</sup> to this revenue collection approach is the potential volatility of the revenue source. Revenues for the program would likely decrease due to a recession or other downturn in macro-economic conditions, just as they did for Proposition 63 (2004), the Mental Health Services (MHS) Act, during the 2008-2010 recession.<sup>101</sup>

### *Collection Plan #1: Personal Income Tax from High-Earners*

The proposed revenue collection plan would impose a percentage income tax on annual personal income in excess of \$1 million. This plan mirrors the tax established by Proposition 63: The MHS Act.<sup>102</sup> The MHS was passed via 53.8% voter approval in 2004 and allows the California Department of Mental Health to more fully support county mental health programs.

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<sup>98</sup> Self-employed individuals (sole proprietorships) are classified as personal tax payers by the FTB.

<sup>99</sup> There are approximately 190,135 tax-exempt organizations (non-profits) registered in California.

<sup>100</sup> Another downside of collecting W-LIRA revenue in this way is that an income tax has no direct connection to water usage (or cost to provide water service to a particular user), except to the extent that higher income/revenue for a person or business is directly correlated to water usage.

<sup>101</sup> Another argument against raising personal income taxes on high-earners, that they will move out of California as a result, has been largely debunked.

<sup>102</sup> Other recent propositions which raised non-income taxes include Propositions 99 and 10, and Propositions 30 and 55. Pre-dating the MHSA, Proposition 99 and 10 increased taxes on cigarettes and allocated the revenue towards health programs. Proposition 99 specifically imposed an addition tax of 25 cents for a pack of 20 cigarettes. Proposition 10 imposed a higher tax increase of 50 cents and put the revenue raised towards early childhood development and smoking prevention programs. Proposition 30 (2012) raised the sales tax rate for four years and added three new personal income tax rates through 2018. It provided funding for schools and public services. Proposition 55 extended this tax.

The 1% tax funding the MHS was paid by approximately 25,000-30,000 taxpayers at its outset and rose to 69,000 filers in 2015. In 2014, the FTB reported taxable personal income in California of \$1 trillion, with total personal income tax liability of \$65 billion, so this tax amounted to less than 1.2% of all personal income tax collected by the FTB.

**Table 18. MHS Revenue for Fiscal Years**<sup>103, 104</sup>

Year	MHS Revenue (Billion)
2004-05	\$0.254
2005-06	\$1.319
2006-07	\$1.377
2007-08	\$1.564
2008-09	\$1.022
2009-10	\$0.734
2010-11	\$1.062
2011-12	\$1.064
2012-13	\$1.684
2013-14	\$1.454
2014-15	\$1.737
2015-16	\$ 1.807
2016-17	\$1.798
2017-18	\$2.094
2018-19	\$2.398

At 0.25%, the revenue from this tax would provide more than ¾ of the projected annual cost of the program. The income tax revenues collected would be deposited into a separate Low-Income Water Rate Assistance Fund. Like the Mental Health Services Fund, it may be necessary to deposit amounts based on estimated tax collections, with periodic adjustments, to provide consistent funding for assistance throughout the year. The establishment of a holding fund would mitigate any reasonably-expected volatility in revenue collection due to an economic downturn in California which might leave the drinking W-LIRA program under-funded.

<sup>103</sup> Little Hoover Commission. (2015). “Promises Still to Keep: A Decade of the Mental Health Services Act.” *State of California*.

<sup>104</sup> See Mental Health Services Act Expenditures: <https://www.dhcs.ca.gov/>.

### **Revenue Collection from Bottled Water Taxes**

The plan recommends that revenue obtained from higher income taxes for certain earners be supplemented by removing the current exemption of bottled water from sales tax. The sales tax would be collected by the California Department of Tax and Fee Administration (CDTFA).<sup>105</sup> Per CDTFA, an estimated \$153,600,000 in revenue could be raised by removing the current exemptions from sales tax for bottled water, which it receives due its classification under the CDTFA's Sales and Use Tax regulations as a food product.<sup>106</sup>

A downside of reliance on bottled water sales taxes is the potential decreased consumption of the products due to the higher price (the effect of the price elasticity of demand for the product), as well as the potential reduced consumption of these beverages due to changing consumer preferences. Additionally, this tax could have a regressive impact on low-income households that purchase bottled water due to actual or perceived contamination of tap water. Most expenditures on bottled water, however, are discretionary. The only known assessment of the price elasticity effect of a bottled water tax (or change in bottled water price) at a large scale is from the State of Washington, which passed a bottled water tax in 2010.<sup>107</sup> A study of this tax found that "when taxed, the average quantity of bottled water purchased in treated states drops by 6.4 percent, as compared to the untaxed control states." Whether these results translate to the California context is unclear.

For Californians with safe water supplies, bottled water is a discretionary good and therefore a reasonable product upon which to apply a sales tax. It is also directly related to potable water consumption and therefore passes the nexus criterion. Consumption of bottled water also contributes to plastic trash and other environmental impacts, and bottled water is many times more expensive than tap water. These reasons provide a possible basis for taxing bottled water sales to fund a W-LIRA program.

Similar to a bottled water tax, another potential revenue source with a nexus to water would be an additional sales tax on soda and other sugar-sweetened beverages. Assembly Bill 138 was introduced by Assemblyman Richard Bloom in the State Assembly in April 2019, which if passed would have imposed a tax of \$0.02 per fluid ounce on distributors of bottled sugary drinks and concentrate in the state. While this bill did not pass in the legislature in 2019, it was estimated to generate \$4.2 billion in revenue in 2020-2021, of which a portion of the revenues could help to fund a W-LIRA program for drinking water affordability.<sup>108</sup>

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<sup>105</sup> For this purpose, CDTFA is the successor agency to the Board of Equalization.

<sup>106</sup> See <http://www.boe.ca.gov/lawguides/business/current/btlg/vol1/sutr/sales-and-use-tax-regulations-art8-all.html>.

<sup>107</sup> See Berck, Peter, Jacob Moe-Lange, Andrew Stevens, and Sofia Villas-Boas. "Measuring consumer responses to a bottled water tax policy." *American Journal of Agricultural Economics*, 98, no. 4 (2016): 981-996.

<sup>108</sup> Assembly Committee on Revenue and Taxation Hearing on AB 138 (April 22, 2019). See: [https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill\\_id=201920200AB138#](https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201920200AB138#).

**Collection Option #2: Rely Solely on Personal Income Tax Revenues**

A tax increase of 0.33%, rather than 0.25%, on all personal income over \$1 million would be sufficient to fund the proposed program in year one. Based on 2017 tax receipts from the MHS Act of \$1.864 billion, a 0.33% tax increase would raise an additional \$615.1 million. However, sole reliance on the personal income tax results in significant risk of revenue volatility, as described above. The Board also notes that personal income tax increases could be levied at income levels below \$1 million as well. Lowering the tax threshold to \$500,000 or \$250,000, for example, would mean more individuals would be subject to the tax.

**Collection Option #3: Combination of Personal and Business Income Tax**

An alternative plan with respect to income taxes would be collecting revenue via a tax paid by a combination of both personal income tax payers and business tax payers. This approach, however, appears inferior to collection plan #1 in several respects.

First, businesses do not pay very much income tax to the state of California. In 2015, the FTB reported corporate income tax revenue of \$9 billion. This amount represents less than 10% of total taxes which businesses paid in California (\$93 billion)<sup>109</sup>, and less than 13% of total income tax collected by the FTB. If one were to set a per-taxpayer revenue goal of 25% from business tax payers to fund the drinking water LIRA program (as in the revenue collection approach derived from fees on drinking water accounts), this would amount to a 1.7% income tax increase on businesses, as opposed to a 0.7% increase on personal income tax payers.

Second, it is not clear whether a flat tax or proportional fee can be levied on business income taxpayers in the same way that it can be levied proportionally on personal income tax. For profit-business entities are not considered one group in the eyes of the income tax system. There are at least five different tax rates paid by different types of legal business entities in California, ranging from 1.5% to 10.84% rates (see Table 19). Moreover, these rates are not progressive with respect to the amount of taxable income accrued.

**Table 19. Business Income Tax Rates**

<b>Business Entity type</b>	<b>Tax Rate</b>
Corporations other than banks and financials	8.84%
Banks and financials	10.84%
Alternative Minimum Tax (AMT) rate	6.65%
S corporation rate	1.50%
S corporation bank and financial rate	3.50%

<sup>109</sup> Businesses pay other taxes such as property, sales, public utilities, insurance, corporate, unemployment, individual income tax on business income, licenses and other taxes.

By contrast, while there are differences in personal income tax rate that depend on filing status (ie, single, head of household, married filing jointly etc.), the tax rate is otherwise progressive with respect to income levels. For instance, for a joint personal filing, the proportional tax income rate for an income of between \$60,000-83,000 is 6%, whereas the proportional rate for an income above \$1 million is 12.3%.

We illustrate how sufficient revenue might be collected for a drinking water LIRA program using a combined income tax collection approach with 2015/2016 tax data (Table 20). We stress that the numbers reflected here are used for demonstration purposes and are not final proposed tax levels, and do not reflect dynamic responses by taxpayers to increased taxes. Both the form and level of taxes could be altered to meet revenue goals.

**Table 20. Sample Combined income tax**

<b>Adjusted Gross Income Class</b>	<b>2015 # of Returns</b>	<b>Additional Annual Tax</b>	<b>Total Revenue Collected</b>
Business entities	972,000	\$157.84 (flat)	\$153.4 million
Personal: \$200,001-\$500,000	800,000	0.01%	28 million
Personal: \$500,001-\$1 million	132,000	0.1%	\$99 million
Personal: \$1 million+	69,000	0.2%	\$345 million
<b>Total</b>			<b>\$625.4 million</b>

The sample approach levies a flat tax on all business entities of \$157.84 in order to raise 25% of the revenue raised for the program. The remaining 75% of revenue could be raised by a progressively-structured, but still quite modest proportional increase on personal income tax payers with adjusted gross incomes above \$200,000. This combined approach would yield revenue in excess of \$625 million annually. This level of taxation on high income earners is also quite modest in comparison to the taxes instituted by Propositions 30/55.

#### ***Collection Option #4: Personal Income Taxes Combined with Targeted Business Taxes***

In keeping with the revenue criteria listed above, this option would levy business taxes directly on businesses whose activities have a direct nexus to water use. Examples of potentially included businesses are bottled water producers, wine, beer, and liquor producers, and certain industries (i.e., oil and gas, cement, and paper) that use high volumes of water. Total revenue from business sources would depend on the type of tax levied (income versus excise (production tax), the level of the tax, and the number of businesses impacted.

### ***Collection Option #5: Fee Levied on CWS Customer Bills***

We also generated two approaches to estimating an account-based surcharge which each community water system in the state would need to levy on their customers to fund a three-tiered LIRA program design for residential customers. The program would provide a:

- a. 20% discount to households who had incomes below 200% of the federal poverty line with monthly water costs (at 12 ccf) below \$90,
- b. 35% discount to households who had incomes below 200% of the federal poverty line with monthly water costs (at 12 ccf) between \$90 and \$120,
- c. 50% discount to households who had incomes below 200% of the federal poverty line with monthly water costs (at 12 ccf) above \$120.

We estimate the total cost of such a program and thus the revenue target for fee collection at \$613.7 million annually. Given that a 12 CCF approach is currently not the preferred and proposed approach for Component 1, we note that this option could be modified to reflect support for a 6 CCF consumption level. The two fee collection approaches<sup>110</sup> consist of:

1. a flat surcharge levied on all non-income eligible account holders assessed by customer class, or
2. a flat surcharge levied on all non-income eligible account holders assessed by pipe size.

For each approach, we consider the equity of the financing mechanism across different income levels (i.e., the incidence). We aim to settle on a financing design for the program which does not inadvertently and unduly burden a subset of the state's households, particularly those which the program is designed to support. Each approach collects 75% of the total revenue needed for the program from residential account holders. This proportion of revenue collected from the residential sector mirrors the average proportion of total water consumed by residential customers in urban water systems in California.

#### ***1. Estimates by customer class derived from wastewater systems***

For the purpose of generating an estimate of fees to collect from drinking water accounts in approaches a. and b., we needed estimates of the number of connections by customer class serviced by each drinking water system. As the Board does not currently maintain such a database, we developed an estimate using the Board's Wastewater User Charge Survey 2016-2017. This survey contains a recent tally of wastewater connections by customer class (single

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<sup>110</sup> Another approach which we attempted to empirically estimate was a progressive, volume-based surcharge on all non-income eligible account holders assessed by customer class. However, around 15% of CWS (for which we have rate structure data) charge flat rates to their residential customers without any unit-based consumption component.

family, multi family, industrial, commercial, and institutional) across California. We expect most users with drinking water connections to also have wastewater accounts (with the exception of those practicing on-site wastewater treatment). To validate this dataset, we examined the ACS count for the number of single-family households against the wastewater survey's number of single-family wastewater connections. The two showed a strong correlation ( $R^2=0.9509$ ) giving us confidence in the validity of the wastewater survey estimates. To maintain consistency with other components of the analysis, we chose to utilize the ACS data where available (for residential account information) and the wastewater survey data to supplement (for non-residential account information).

We use estimates of the number of multi-family households holding unique drinking water accounts (paying directly for water) by building size, tenure status and poverty status derived from the Water Research Foundation's national 2017 report *Customer Assistance Programs for Multi-Family Residential and Other Hard-to-Reach Customers* and from the 2011 American Housing Survey to refine our assumptions of the number of paying accounts and the number of households each account serves.

This approach levies a flat surcharge on all account holders served by community water systems who are not eligible for the benefit of the LIRA program. However, for multi-family buildings which bundle multiple households into a single drinking water account that is paid directly by the landlord rather than the tenant, we cannot differentiate between eligible households and non-eligible households within accounts. Accordingly, the state would require landlords to differentiate between households served by the same account. Most landlords collect tenant income information prior to signing a rental contract, so the state would require them to allocate the per account surcharge only to tenants who are not eligible for the LIRA program.

This design directly excludes income-eligible, single- and multi-family households with direct water accounts. It applies a lower per-household but higher per-account charge to multi-family and mobile home bundled accounts, which would then be sub-administered by landlords paying bundled water bills. Fees for bundled accounts are calculated based on data showing a higher-percentage of income-eligible households served by bundled accounts, but also a higher number of households served by bundled accounts. The downside of this approach is that it relies on landlords to exclude eligible tenants from paying the surcharge.

**Table 21. Flat surcharges to estimated eligible accounts and households**

<b>Customer class</b>	<b>Total Accounts</b>	<b>Paying accounts (Households served)</b>	<b>Monthly Cost Per Account</b>
Single Family accounts	8,335,164	6,253,639	\$4.23
Multi-family, direct accounts	1,351,418	1,082,891	\$4.25
Multi Family bundled accounts <sup>111</sup>	417,961	417,961 (1,537,627)	\$15.60
Mobile home bundled accounts	95,704	95,704 (219,519)	\$8.02
Industrial accounts	115,621	115,621	\$36.49
Commercial accounts	906,665	906,665	\$8.88
Institutional accounts	40,285	40,285	\$12.69
<b>Total payees/revenue</b>	<b>11,262,817</b>	<b>8,912,766 (10,156,247)</b>	<b>\$613.7 million</b>

**2. Estimates by Pipe Size derived from sample of drinking water systems**

We compared these estimates to estimates of the number of service connections by pipe size across California provided by an independent consultant estimating calculations for the SB 623 process. Their state-wide estimates were derived from scaling up customer class data from 24 systems managed by California Water Service Company. Per the consultant’s study, the upper-end of the revenue range is calculated by assuming the first meter category generally represents all single-family services, the second: all multi-family services, the third: all commercial services, and the fourth: all industrial services.

**Table 22. Flat surcharges using meter size estimates from consultant**

<b>Meter Size Category</b>	<b>Number of accounts</b>	<b>Paying accounts</b>	<b>Monthly Cost Per Account</b>
Less than or equal to ¾”	8,857,311	6,642,983	\$5.02
Greater than ¾” and less than or equal to 2”	545,468	300,007	\$16.62
Greater than 2” and less than or equal to 4”	39,683	39,683	\$161.09
Greater than 4”	23,014	23,014	\$277.77
<b>Total payees/revenue</b>	<b>9,465,476</b>	<b>7,005,688</b>	<b>\$613.7 million</b>

<sup>111</sup> This category condenses the per-account charges for each multi-family account depending on the number of households it serves, which we calculate as between \$4.14 for a two-household account and \$41.39 for a twenty-plus household account. We do not have the capacity to estimate the number of households above twenty for very large accounts.

## Appendix H: Roles and Responsibilities

### Roles and Responsibilities for Component 1: Benefit Distribution via Water Bills<sup>112</sup>

#### *Regulatory and Fund Management Agency: State Water Resources Control Board*

- Collect and ensure accuracy of water rate data and water system boundary data from all community water systems.
- Manage revenues from tax collection agencies in a separate fund.
- Institute a means of transferring state funds to each water system for the program and institute controls to prevent fraud, waste, and abuse.
- Work with CPUC regarding IOU W-LIRA programs.
- Disburse revenues to water systems (both IOUs, POUs and others) for public benefit distribution.
- Manage funds and maintain fund balances as specified by statute,<sup>113</sup> in conjunction with the State Controller's Office, State Treasurer's Office, and State Auditor's Office, as well as control agencies such as the Department of Finance.
- Provide oversight of non-IOUs' benefit distribution program to ensure effectiveness and prevent fraud, waste, and abuse.
- Develop and publish performance metrics, including but not limited to enrollment levels, total shutoffs for inability to pay, and on-time payment levels.
- Coordinate with all state agencies and resolve disputes.

#### *Regulatory Agency: California Public Utilities Commission (CPUC)*

- Make recommendations for recovery of administrative costs and set rules for appropriate ratemaking treatment, for each water investor-owned utility (IOU)<sup>114</sup> and what program data IOUs must provide to the CPUC.
- Modify California Alternative Rates for Water (CARW) marketing, education, and outreach requirements to include the W-LIRA program.

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<sup>112</sup> Roles and Responsibilities for Components 2 and 3 are under development as of this writing.

<sup>113</sup> Proposed fund carry-over provisions will resemble provisions for the Safe and Affordable Drinking Water Fund as proposed in SB 845 (Monning).

<sup>114</sup> Per a 2018 electronic communication between CPUC staff and the Board, "A proceeding would be required to establish program rules and determine reasonable administrative costs and appropriate ratemaking treatment. Since GRC proceedings are staggered across the utilities, this could take many years to fully implement. It may be possible to consolidate the issues into a single proceeding, but given the fact that each utility has different billing and back office systems, a standalone proceeding on this issue would require additional eAdministrative Law Judge, legal, audit, and GRC staff/resources and it may not be possible to litigate the issues. It should be noted that modifying the electric utility billing systems will be expensive and require significant lead times."

- In consultation with the Low-Income Oversight Board, monitor IOU compliance with new W-LIRA program.
- As part of oversight of the W-LIRA program, oversee IOU benefit distribution program to ensure effectiveness and prevent fraud, waste, and abuse.

### ***Benefit Delivery Agents: Water IOUs***

- Modify billing systems to include the W-LIRA credit amounts on customer bills.
- Perform marketing, education, and outreach for the new W-LIRA program as directed by the CPUC.

### ***Benefit Delivery Agents: All Other Community Water Systems***

- Modify billing systems to include the W-LIRA credit amounts on customer bills.
- Using water rate data provided by the Board, distribute W-LIRA benefits to low-income customers enrolled in existing assistance programs, based on water system boundaries.
- Perform marketing, education, and outreach for the new assistance program as directed by the Board.
- Provide the Board with invoices for W-LIRA program costs.

## **Roles and Responsibilities for Revenue Collection**

### ***Revenue Collection Agency: Franchise Tax Board (FTB)***

- Collect revenues from individual and business income as directed by authorizing statute.
- Hold collected revenues in an account separate from other income tax receipts.
- Transfer revenues to state implementing agency as specified by statute.
- Notify tax preparers and tax software vendors of changes, to allow reprogramming of software.

### ***Revenue Collection Agency: California Department of Tax and Fee Administration (CDTFA)<sup>115</sup>***

- Collect sales and excise taxes on products as specified by authorizing statute.
- Hold collected revenues in an account separate from other revenues.
- Transfer revenues to the Board or counties, and local entities as specified by statute.

### ***Oversight: Legislature***

- Evaluate program effectiveness.
- Modify tax rates if needed after first 5/10 years.
- Hold hearings to receive input from CPUC, Board, CDSS, and counties on program implementation issues.

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<sup>115</sup> For this purpose, CDTFA is the successor agency to the Board of Equalization.

## Ongoing Tasks for Effective Program Implementation

- Water systems provide the Board with updates on water system boundaries.
- Water systems provide updated water rates to the Board.
- Water systems and service providers ongoing customer assistance support to answer customer questions.
- Water systems and service providers conduct ongoing marketing, education, and outreach to increase enrollment.
- Auditors evaluate financial transactions.
- Legislative Analyst's Office performs program effectiveness evaluation.

## **Appendix I: Data on Water System Shutoffs**

This appendix describes the initial results of data collection by the Board via new questions in its Electronic Annual Reporting System (EAR) regarding drinking water system service shutoff policies stemming from SB 998 (2018). Results described here are from 2018 EAR reporting as of June 2019. Of the 719 large water systems across the state, about 400-600 of these systems answered each of the questions about system shutoffs described below.

We anticipate that data quality and response rate to these questions in the EAR will improve over time, and thus we suggest caution in drawing final conclusions from this first year of data. Our analysis below, however, provides a first summary of shutoff procedural trends across the state, which we will continue to update and refine in future years.

### ***Written Policies on Residential Account Shutoffs***

In the 2018 EAR, large systems were asked to answer yes or no to the following question: “Do you have a written policy on discontinuation of residential service?” About 15% of systems asked the question declined to reply. Of the 612 systems responding to the question, the vast majority (78% or 480 systems) do have a written policy while 132 systems (22%) do not.

### ***Prevalence of Residential Account Shutoffs***

The survey also asked how many accounts for residential service connections had their water shut off once during 2018 due to failure to pay. Systems were asked to report this information in several categories: occupied, unoccupied, and unknown accounts for single family and multifamily. The table below summarizes the general trends for single time water shutoffs in 2018 in the state. A total of 506 and 503 systems provided information for this question for single family and multifamily connections respectively.

Systems had an average of nearly 228 shutoffs to occupied single family homes in 2018, although this average was skewed by several systems with much higher numbers of shutoffs. The median for single family occupied homes is about 12 shutoffs per system. Multifamily connections saw much lower shutoff rates, likely because individual families may not be metered or pay their water bill directly which could disguise the extent of water affordability challenges for these families. Systems reported an average of just over 8 shutoffs per year in occupied multifamily units with a large proportion reporting 0 shutoffs.

**Table 23. Residential Account Shutoffs Once**

	<b>Occupied</b>	<b>Unoccupied</b>	<b>Unknown</b>
<b>Single Family</b>	Average: 227.6 Median: 11.5 Range: (0, 6979)	Average: 8.2 Median: 0 Range: (0, 1382)	Average: 145.4 Median: 0 Range: (0, 8596)
<b>Multifamily</b>	Average: 8.4 Median: 0 Range: (0, 1496)	Average: 0 Median: 0 Range: (0, 1)	Average: 2.1 Median: 0 Range: (0, 136)

**Repeat Shutoffs**

The survey then asked, “How many accounts for residential service connections had their water shut off more than once during 2018?” with space to provide data in the same categories (single or multifamily and occupied, unoccupied, or unknown). A total of 467 systems reported data on the number of single family households experiencing recurrent water shutoffs due to failure to pay in 2018 and 472 systems reported on multifamily recurrent shutoffs.

As with single occurrence shutoffs, average shutoffs per system appear somewhat skewed by outlier systems with high numbers of shutoffs, as median shutoffs tend to be 0. More recurrent shutoffs occurred in 2018 in single family homes than multifamily residences.

**Table 24. Residential Account Shutoffs More than Once**

	<b>Occupied</b>	<b>Unoccupied</b>	<b>Unknown</b>
<b>Single Family</b>	Average: 63.0 Median: 0 Range: (0, 2298)	Average: 1 Median: 0 Range: (0, 330)	Average: 32.3 Median: 0 Range: (0, 1931)
<b>Multifamily</b>	Average: 1.9 Median: 0 Range: (0, 214)	Average: 0 Median: 0 Range: (0, 1)	Average: 0.5 Median: 0 Range: (0, 77)

**Median Number of Days Shutoff**

The next question asked systems, “What was the median duration of the shut-off (in days) for continuously occupied residential service accounts?” Since each system reported a median value, half of shutoffs in each system experienced longer shutoffs than the value indicated. A total of 209 systems answered this question, less than half those reporting total shutoffs. While the average for all systems of median shutoff length is around 1 day for most categories (and less than 5 days for all categories), the very high outlier values of some systems are very concerning

seeing as the systems reported median values. Again, single family households experience more shutoff challenges than multifamily connections with a longer median length of shutoffs.

**Table 25. Median Days of Residential Shutoffs**

	<b>Occupied</b>	<b>Unoccupied</b>	<b>Unknown</b>
<b>Single Family</b>	Average: 1.2 Median: 1 Range: (0, 30)	Average: 1.4 Median: 0 Range: (0, 120)	Average: 0.36 Median: 0 Range: (0, 121)
<b>Multifamily</b>	Average: 0.25 Median: 0 Range: (0, 5)	Average: 0.5 Median: 0 Range: (0, 7)	Average: 0.8 Median: 0 Range: (0, 9)

A large majority of systems report 0 days as length of shutoff, likely the large number of systems that reported no shutoffs.

### **Payment Assistance**

The survey asked two additional questions about extended repayment or customer payment assistance plans. First, if they offered such a plan, how many continuously occupied residential customer accounts participated? Next, how many of the continuously occupied residential accounts were shut off at least once during calendar year 2018 and were enrolled in such a plan at the time of service disconnection?

A total of 635 systems answered the first question, reporting an average of 194 customers enrolled in such plans. However, a very large proportion of systems reported 0, likely indicating they did not have such programs, which resulted in a median value of 0. The maximum reported number of enrolled customers was 31,459 by the Ontario Municipal Utilities Company.

635 systems also answered the second question, with an average of 22 customers experiencing shutoffs during the year being enrolled in such a plan at the time of disconnection. The median is 0, reflecting the high number of systems reporting 0 values. The maximum is 2,740, reported by the Los Angeles County Waterworks District 4 & 34 Lancaster.

The graph below shows the distribution of systems into categories based on the number of customers they report having experienced shutoffs while enrolled in an extended repayment or customer payment assistance plan. The systems reporting non-zero values highlight the importance of providing a more robust statewide affordability program for water service, as the system provided repayment plans did not provide sufficient relief to avoid shutoffs for some households.

**System Reconnection Charges**

Systems were also requested to provide information on the cost of the residential reconnection fee to restore drinking water service to single family and multifamily accounts that experienced a shutoff due to failure to pay. Systems were provided space to record both the reconnection fee during operating hours and during non-operating hours. A summary of the values is provided on the next page. The extremely high outlier maximum values of a \$24,650 operating hours fee and \$33,250 non-operating hours fee was reported by the City of Eureka. It appears that single family accounts have higher fees than multifamily accounts.

**Table 26. Reconnection Fees**

	<b>Operating Hours Fee</b>	<b>Non-Operating Hours Fee</b>
<b>Single Family</b>	(n=513) Average: \$103.32 Median: \$46.00 Range: (0, 24,650)	(n=485) Average: 166.20 Median: \$85.00 Range: (0, 33,250)
<b>Multifamily</b>	(n=485) Average: \$95.86 Median: \$44.00 Range: (0, 24,650)	(n=459) Average: 156.01 Median: \$79.50 Range: (0, 33,250)

## Appendix J: Preserving Water Access for Tenants: Options to Reduce or Eliminate Shutoffs of Residential Master-Metered Accounts

### A State Prohibition on Shutoffs to Residential Master-Metered Accounts

A water system may, under existing law, try to enforce payment of a delinquent bill by shutting off water service to a residential master-metered building or to residences within master-metered mobile home parks (“master-metered residential property”). The State Water Board estimates that in 2017 tenants in more than 9,700 multi-family buildings statewide experienced a water shutoff. More than 4,100 of those multi-family buildings had the water shut off more than once during the year.<sup>116</sup> When a water system shuts off water to a residential master-metered account, the burden falls most severely on the tenants who are deprived of water for drinking, cooking, and sanitation purposes – a fundamental human right recognized by California law. While tenants of a master-metered residential property are under no financial or legal obligation to the water system for paying water bills, they are the ones who suffer when the water is shut off.<sup>117</sup> A shutoff, therefore, is a poorly tailored enforcement mechanism for residential master-metered accounts and violates the spirit of California’s Human Right to Water.

Shutoffs to residential master-metered accounts are unnecessary when water systems have other means of collecting unpaid water bills from property owners. Some water systems are authorized by law to place liens on properties with delinquent accounts and to collect unpaid bills via the county’s collection of property taxes. As an example, municipal utility districts are authorized under the Municipal Utility District Act to file with their county auditor a report of delinquent fees and charges, together with interest and penalties, for services provided to residential tenants of properties with master-metered accounts.<sup>118</sup> County tax collectors include those delinquent fees and charges against the respective properties in the same manner as property taxes. In addition, the municipal utility districts may record a lien against the properties with the same effect and priority as a judgment lien.<sup>119</sup> Other publicly owned water providers are currently authorized to pursue similar collection methods, including but not limited to entities formed

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<sup>116</sup> State Water Resources Control Board. (2018). “Water System Electronic Annual Report 2017.” *State of California*. Reports on shutoff data in 2018 are still being submitted to the Board. As of June 2019, there were 6,800 multi-family buildings that experienced a water shutoff once and 1,500 multi-family buildings that experienced a shutoff more than once.

<sup>117</sup> Even if tenants wanted to pay for water service, they would not be able to so long as they are not accountholders. While existing state law provides tenants with a right to assume the account and deduct from their rental payments amounts paid for water service, that right is illusory when there is not a single tenant with the financial means to assume the entire account in their name. (Health & Saf. Code, §§ 116916, 116924.) This is especially true for larger multi-family buildings.

<sup>118</sup> Pub. Util. Code, § 12811.1.

<sup>119</sup> *Ibid.*

under the Municipal Water District Law of 1911,<sup>120</sup> the California Water District Law,<sup>121</sup> and the County Water District Law.<sup>122</sup> Property-based enforcement of delinquent water bills for multi-family accounts is a more appropriate tool than shutting off water service to tenants because it is focused on the property owners who bear responsibility for payment.

Property-based collection methods have also proven to be effective. For example, the East Bay Municipal Utility District (EBMUD) uses its authority under the Municipal Utility District Act to collect unpaid water bills for master-metered multi-family residential accounts via the county's property tax collection system to enforce payment of residential master-metered accounts without resorting to shutoffs. It has done so since 2011, when it initially approved a program for delinquent charge collection through liens and property tax bills for residential master-metered accounts, observing "the dependency of tenants in multi-family residential buildings arising from those tenants' lack of direct control over payment for utility service."<sup>123</sup> Since then, EBMUD has maintained a policy against shutting off water service to multi-family residential master-metered accounts. Instead, it puts liens on properties associated with roughly 500 delinquent master-metered accounts each year and collects approximately up to 90% of delinquent amounts through the county's collection of property taxes.<sup>124</sup> That collection rate is comparable to EBMUD's collection of delinquent amounts on non-master-metered accounts for which it does shut off water service.<sup>125</sup> EBMUD recoups its administrative costs through the imposition of regulatory fees on multi-family residential accounts.<sup>126</sup> EBMUD's experience demonstrates the effectiveness of this property-based approach to collection of delinquent multi-family residential master-metered accounts and shows that shutoffs to tenants can be unnecessary for the successful operation of a publicly owned water system.

Similar to EBMUD's approach, the City of Sacramento maintains water service to tenants when a landlord neglects to pay the water bill. When the bill for a master-metered parcel that is occupied by multiple residents in a multi-unit structure becomes 75 days delinquent, the parcel is referred to the County Assessor's Office and the city obtains a recorded lien in the amount of the unpaid water bill. All of this occurs while the city continues to provide water service to tenants occupying the multi-unit structure. On an annual basis, the city recovers the unpaid water bills of approximately 436 master-metered accounts. The payment recovery time can range anywhere from 12-24 months.<sup>127</sup>

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<sup>120</sup> See Wat. Code, §§ 72100 et seq.

<sup>121</sup> See Wat. Code, § 37212.

<sup>122</sup> See Wat. Code, §§ 31701.5 et seq.

<sup>123</sup> East Bay Municipal Utility District Resolution No. 33802-11.

<sup>124</sup> Conversation with EBMUD staff on April 15, 2019.

<sup>125</sup> *Ibid.*

<sup>126</sup> *Ibid.*

<sup>127</sup> Board staff electronic communication with representatives from the City of Sacramento Department of Utilities staff on May 30, 2019.

To protect renters and advance the Human Right to Water, the Legislature should consider enacting a policy prohibiting shutoffs to residential master-metered accounts and eliminating a poor enforcement mechanism in favor of more tailored and effective tools. Such a policy would be consistent with recent legislation regarding shutoffs. In 2018, the Legislature enacted the Water Shutoff Protection Act (SB 998, Dodd), which created procedural safeguards for water accountholders while still permitting shutoffs for nonpayment. Recognizing the special circumstances facing non-acountholder tenants, a policy against water shutoffs to residential master-metered accounts is a reasonable and measured approach to ensuring their access to water for drinking, cooking, and sanitation. This is particularly true when other tools are available to water systems for incentivizing and collecting unpaid water bills. To that end, the Legislature should ensure that all publicly owned water systems are authorized to collect delinquent bills on residential master-metered accounts through the county's collection of property taxes.

In addition, the Legislature could consider other methods for recovering unpaid water bills when addressing tenants' health and safety generally. For instance, the City of Los Angeles operates a Rental Escrow Account Program (REAP) to assist tenants living in buildings with substandard habitability conditions by allowing them to pay a reduced rental amount into an escrow account until the owner completes repairs to the building.<sup>128</sup> The city operates a similar program modeled after REAP to prevent shutoffs to residential master-metered accounts. Called the Utility Maintenance Program, it allows tenants to pay rent into an escrow account from which the city's Department of Water and Power can recover unpaid water bills until the property owner's account is current.<sup>129</sup> As the Legislature confronts the state's housing crisis and develops proposals to assist tenants generally, lawmakers may find opportunities to encourage coordination between local housing departments and municipal water systems to collect unpaid water bills without resorting to shutoffs. At a minimum, proposals to address habitability concerns and enforcement of state housing laws should incorporate a commitment to addressing the Human Right to Water for tenants of master-metered residential properties.

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<sup>128</sup> See City of Los Angeles Housing and Community Investment Department. "What is REAP?" Accessed June 12, 2019. <https://hcidla.lacity.org/what-is-reap-for-renters>.

<sup>129</sup> See City of Los Angeles Housing and Community Investment Department. "What is UMO?" Accessed June 12, 2019. <https://hcidla.lacity.org/What-is-UMP>. The city is currently revamping the Utility Maintenance Program after suspending it during the implementation of a new billing system (Conversation with city staff on June 5, 2019).

## Appendix K: Other Options for Benefit Delivery to Low-Income Tenants

### Other Potential Solutions to Master-Metering Problem

We identified three other potential, but likely only partial, solutions to deliver benefits through CWS to non-account holding but otherwise income-eligible households. In each approach, water systems and low-income tenants are necessarily involved, whereas the role of landlords varies.

#### *CWS Works with Landlords and Households*

The first draws on the experience of large energy investor-owned utilities (IOUs) and involves direct interaction and sharing of information between all three parties: CWS, landlords, and tenants. Over time, energy IOUs have shifted away from an approach which relies more heavily on landlords toward a model which enables direct contact with those tenants with sub-meters.<sup>130</sup> The large energy IOUs have developed a mechanism to directly contact sub-metered, but not directly bill-paying CARE and Federal Emergency Relief Administration (FERA) eligible households to expedite their enrollment in affordability programs. At the same time, the IOUs generate lists of eligible CARE and FERA tenants and share them with owners and managers of master-meter accounts on a monthly basis. Once the CARE tenant is enrolled, responsibility shifts to the master-meter customer to pass the benefit onto the CARE tenant as well as update the utility of the status of the tenant should they move or become ineligible. These efforts have resulted in enrolling substantial percentages of these households, although not nearly all of those eligible.<sup>131</sup>

There is a major caveat, however, to the transferability of this approach as it applies to water systems. Households are much more likely to be sub-metered for energy service, even if they do not directly pay an energy bill (which in turn relies on the master-meter held by the landlord), than they are for water service. Even among energy IOUs, as far as we can assess, there remains no mechanism to deliver benefits to non-sub-metered tenants who are solely master-metered.

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<sup>130</sup> See SoCal Edison (2016) Annual Report of Energy Savings Assistance and Alternate Rates for Energy Programs.

<sup>131</sup> For instance, SoCal Edison estimates that among 4,469 CARE eligible master-metered tenants in its service area, it enrolled 1,390 customers (31%) in CARE at the end of 2015 (see SoCal Edison (2016) Annual Report of Energy Savings Assistance and Alternate Rates for Energy Programs). Similarly, PG&E estimates that among 54,252 CARE eligible master-metered tenants of master-metered customers in its service area, it enrolled 28,885 customers (53%) at the end of 2015 (see PG&E (2016) 2015 Annual Report of Energy Savings Assistance and Alternate Rates for Energy Programs). SDG&E estimates that among 22,456 CARE eligible master-metered tenants in its service area, it enrolled 15 (68%) in 2015 (see California Department of Public Health SDG&E (2016) Annual Report on Low Income Assistance Programs for 2015).

### ***CWS Works with Landlords Who Pass on Benefits to Households***

A second approach involves direct interaction and transfer of funds between CWS and landlords, and between landlords and tenants, but not between CWS and tenants. This approach would require that, for low-income households who pay for water indirectly through rent, landlords deduct a water credit amount from the rent, and notify tenants in writing of the deduction and other affordability program information. In turn, CWS would then credit landlords' master-metered bills to cover rent deductions.

There are major challenges to this approach. The primary challenge would be establishing the legal means to require landlords to pass on the full affordability benefit to tenants and establishing a verification mechanism.<sup>132</sup> While complaint and grievance mechanisms could follow those set out in Senate Bill 998 (2018), the volume and complexity of disputes between tenants and landlords could require significant administrative management and legal expertise. We also note that energy IOUs have moved away from reliance on landlords to play an active role in enabling tenants to receive an affordability benefit, given their demonstrated inactivity in this role.

### ***CWS Directly Deliver Benefits to Households***

Finally, the third approach involves direct interaction and transfer of funds between CWS and tenants, but does not involve landlords. The one known precedent<sup>133</sup> for this approach is the City of St. Helena CWS' affordability program, which is just over two years old. This system offers a low-income discount via their "CARES" program to their all of their low-income residents (homes, apartments, and mobile homes).<sup>134</sup> The benefit is a 50% discount on the fixed charges for water and sewer bill for all households with incomes below 200% of the FPL. A total of 108 households (or 27% of eligible households) are enrolled in the program, of which 20-30 are master-metered.

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<sup>132</sup> For instance, the Portland Water Bureau cited difficulty in finding a cost-effective way to verify that landlords pass on savings to tenants as a key-challenge to expanding its low-income assistance program (WRF 2017 Hard to Reach Report).

<sup>133</sup> A similar program appears to be operated in Washington by the Seattle Public Utilities (SPU), which has partnered with a local energy utility to offer direct discounts to households via energy bills (WRF Hard to Reach Report, 2017). Vouchers are also offered to households that do not receive an energy or water bill. This strategy proves effective because the partnering energy utility, City Light, shares the same billing system as SPU.

<sup>134</sup> Information based on electronic communication between Board staff and St. Helena CWS "CARES" program administrators.

The City of St. Helena CWS used to credit landlords, and rely on them to pass credits directly to sub-metered households.<sup>135</sup> However, given the lack of success with this strategy, the CWS added an approach where it sends benefit checks directly to eligible households. The system reports devoting little staff time to maintaining the program. Staff market the affordability program on the back of billing statements as well as send annual renewal reminders to the 108 households enrolled, which are required to show proof of enrollment in comparable benefit programs or provide proof of income. Most qualifications are made based on enrollment in the Pacific Gas & Electric CARE program, so there is little administrative work involved for the CWS during the approval process. The main downside of this approach is that it has only been demonstrated by a single CWS over a relatively short period of time, and at a relatively small scale. It is unclear how or whether a direct CWS-tenant approach would scale across the state.

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<sup>135</sup> The old approach was the following: There was a written agreement between the three relevant parties: the system, the account holder, and the tenant where the account holder must pass the credit to the tenant by either a (1) utility bill credit or (2) rent reduction. If a written agreement was not possible then after the bill is paid, (3) the City will issue a check to the account holder monthly. The discount was required to be given only to the eligible tenant, not all sub-metered customers. If the discount was not properly applied by the account holder, then the tenant could contact the Finance Dept and the monthly checks would be sent directly to the tenant.