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## SB1112 — Inclusive Utility Investment Request for Information

In response to the California Energy Commission's (CEC) request for information seeking input and comment to inform the implementation of Senate Bill (SB) 1112 (Becker, Chapter 834, Statutes of 2022), the Sonoma County Regional Climate Protection Authority and Bay Area Regional Energy Network (BayREN) would like to submit the enclosed information.

Chris Cone, BayREN Water Upgrades Save program manager ([chris.cone@rcpa.ca.gov](mailto:chris.cone@rcpa.ca.gov))

### Input Request

1. What barriers (such as statutory, regulatory, or financial barriers) do electrical corporations, community choice aggregators, and other eligible entities face in accessing state and federal financing for IUI?

These comments are provided by the **Sonoma County Regional Climate Protection Authority (RCPA)**,<sup>1</sup> which is a special district that coordinates climate protection activities countywide and performs a variety of important related functions including advocacy, project management, planning, finance, grant administration, and research as well as coordinating the activities of local jurisdictions with regional, state, and federal entities at both policy and administrative levels and **Bay Area Regional Energy Network<sup>2</sup> (BayREN)**, which is a coalition of the Bay Area's nine counties led by the Association of Bay Area Governments (ABAG) that represents and serves its member counties with outreach, training, technical assistance, funding and resources to make the Bay Area and California a greener, more resilient, more equitable and more energy efficient place to live. BayREN is the provider and RCPA the implementer for the BayREN Water Upgrades Save<sup>3</sup> program that provides inclusive utility investment services for municipal water utilities in the San Francisco Bay Area.

We believe that the only examples of Inclusive Utility Investment (IUI) programs, also known as tariff on-bill (TOB), have been programs based on the Pay As You Save<sup>®</sup> (PAYS<sup>®</sup>) system. PAYS programs have been used for over 20 years by electric utilities in eight states from Hawaii to Eastern North Carolina as detailed in the Energy Efficiency Institute of Vermont 2022 Pay-As-You-Save<sup>®</sup> Status report.<sup>4</sup> The BayREN Water Upgrades Save program is also based on the PAYS system and has been operating in California at several Bay Area water utilities since 2012.

For many of these programs, capital for upgrades has been provided by the administering utilities. North Carolina's Roanoke Electric Cooperative used capital from the federal Energy Efficiency and Conservation Loan Program. Arkansas' Ouachita Electric Cooperative and Tennessee's

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<sup>1</sup> Sonoma County Regional Climate Protection Authority website: <https://rcpa.ca.gov/about-rcpa/>

<sup>2</sup> Bay Area Regional Energy Network website: <https://www.bayren.org/about>

<sup>3</sup> BayREN Water Upgrades Save website, utility page: [https://www.bayren.org/waterupgradessave\\_utility](https://www.bayren.org/waterupgradessave_utility)

Appalachian Electric Cooperative used federal Rural Energy Savings Program (RESP) loans to pay the upfront cost of upgrades for their customers. Kansas' Midwest Energy used grant funds to supplement its own funds.

The California-based Bay Area Regional Energy Network (BayREN) Water Upgrades Save program for water utilities obtains project capital from its parent agency, the Association of Bay Area Governments (ABAG).<sup>5</sup>

One early barrier for Water Upgrades Save was California's prevailing wage requirement, which applies to expenditure of public funds like those provided by ABAG.<sup>6</sup> Feedback from program pilots in the 2019 Process Evaluation report noted the prevailing wage requirement presented a significant cost barrier.<sup>7</sup> The program applied to the state for a prevailing-wage waiver for single-family and multifamily projects on the grounds that the IUI program design ensures all public funds are repaid and therefore the program was not subject to prevailing wage;<sup>8</sup> the waivers were granted.

In its determination letter, the California Department of Industrial Relations determination concluded: "This unique financing is similar to an installment payment plan. Further, all the public funds are reimbursed, ultimately by the private customer, with market rate interest and administrative fees, so no "fees . . . loans, interest rates, or other obligations . . . are paid, reduced, charged at less than the fair market value, waived or forgiven by" ABAG. (Subd. (b)(4).) Accordingly, the energy efficient improvements are not paid for in whole or in part out of public funds as that term is defined in section 1720. Thus, the Program does not meet the definition of a public work."<sup>9</sup>

The program plans to submit a final waiver application for business, institutional, and municipal projects based on the above determination. These additional categories represent the remaining building sectors served by water utilities.

The full repayment of public funds is made possible by three program features: (1) the participating customer signs an agreement to pay an on-bill charge calculated to be no more than 80 percent of the estimated water, sewer, and water heating utility bill savings over ten years; (2) the repayment obligation (and ongoing utility bill savings) automatically transfer to a successor customer for the remainder of the repayment period should the original customer move from the property; and (3) the utility commits to repay ABAG regardless of collections while using its

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<sup>5</sup> BayREN website: [https://www.bayren.org/waterupgradessave\\_utility](https://www.bayren.org/waterupgradessave_utility)

<sup>6</sup> California Code 1773.5 and California Code of Regulations Title 8, Section 16001, Subsection (a)

<sup>7</sup> Water Bill Savings Process Evaluation (2019): [https://www.bayren.org/sites/default/files/2022-05/Water\\_Bill\\_Savings\\_Process\\_Evaluation021519-FINAL.pdf](https://www.bayren.org/sites/default/files/2022-05/Water_Bill_Savings_Process_Evaluation021519-FINAL.pdf)

<sup>8</sup> Note: During the pre-regional period (2011-2020), pilot partners requested multifamily projects be provided a do-it-yourself installation option because the prevailing wage requirement was experienced as a cost burden.

<sup>9</sup> California Department of Industrial Relations, Public Works Case No. 2020-015: Water-energy efficiency improvements for multifamily homes, Association of Bay Area Governments.

standard delinquent bill collection process in the rare instance of non-payment by a participating program customer. PAYS program history shows de minimis uncollectable payments and none of the 16 programs in eight states have reported a single disconnection for nonpayment.

2. What barriers do electrical corporations, community choice aggregators, and other eligible entities face in implementing and administering IUI programs?

The Inclusive Utility Investment approach is designed to reduce or remove risk from the Participating Customer; that is why it is considered *inclusive*.

IUI resolves long standing financing barriers to customer participation including upfront cost, new debt or lien, and credit checks. In the case of BayREN Water Upgrades Save, IUI also reduces utility burden by providing investment capital and a fully turnkey customer service (enrollment to project quality control) that requires very little utility staff time.

The risk mitigation goal means program administration is much more complicated than well-known program models such as rebates, on-bill repayment<sup>10</sup> (third-party loans), and on-bill financing<sup>11</sup> (utility loans). To correctly implement an IUI program requires administrators to unlearn what they think they know and commit to developing a detailed understanding of IUI to become effective. It requires administrators to be committed and accountable to the core principle that customers can pay the on-bill charge out of their utility bill savings.

A July 13, 2017, report by Frontier Energy and the Energy Efficiency Institute, Summary of On-Bill Opportunities and Obstacles, identified two barriers to community choice aggregators (CCAs) implementing PAYS programs. An essential element of PAYS programs is that PAYS charges are considered as payment for essential utility services, subject to the same rules of disconnection as all other essential utility charges. At the time of this report, the CPUC had prohibited CCAs from being able to disconnect service for nonpayment of essential utility charges.

Another essential element of PAYS is the ability to assign PAYS charges to a location, sometimes referred to as a meter, rather than the individual customer. This feature allows the charges to be automatically binding on successor customers. The report documents that successor customers at a location served by a CCA have approximately 60 days (two billing cycles) to opt out of the CCA without penalty and return to the distribution utility. The report discusses two ways to address this problem, preserving the seamless transferability of payment and program obligations that

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<sup>10</sup> "On-bill repayment typically refers to a program where the utility serves mainly as an intermediary between the customer and another institution that provides market-based lending." — On-Bill Financing Workgroup Staff Report (2013)

<sup>11</sup> "The term on-bill financing typically refers to a program where the utility is serving as the lender. Often the utility capitalizes on its program by establishing a revolving loan fund, using system-benefit charges or episodic government funds that become available (e.g., funds from the American Recovery and Reinvestment Act of 2009 etc.)." — On-Bill Financing Workgroup Staff Report (2013)

PAYS requires. Regardless, if the CPUC wants electrical corporations, CCAs, and others to implement PAYS (i.e., IUI) programs it must address both issues and other possible prohibitions created by previous CPUC orders.

3. Please provide information on available state and federal IUI programs and similar programs, if any.

**BayREN Water Upgrades Save:**<sup>12</sup> Municipal water utility customers can install water and energy efficiency upgrades with little to no up-front cost — using a monthly utility-approved on-bill charge that is significantly lower than the estimated savings.

Participants are assured: (1) Little-to-no upfront payment, no new debt, no credit checks, and no liens; (2) participants pay only while they are a utility customer at the project location; and (3) a guarantee that failed measures are repaired or the payment obligation ends.

BayREN Water Upgrades Save serves municipal water utilities in the nine Bay Area counties, all of which are BayREN members. The program provides Partner Utilities with project capital and program administration, and Participating Customers with turnkey project assessment, installation, and quality control services to ensure the estimated utility bill savings meet the program’s 80 Percent Rule (i.e., Participant’s annual payments cannot exceed 80 percent of the estimated annual utility bill [water, sewer, natural gas, and/or electricity] savings obtained from installation of the Improvements, and the maximum cost recovery period cannot exceed 80 percent of the useful life of the Improvement).

**A Simple Offer**

- ✓ Save more than you pay
- ✓ Little-to-no upfront costs
- ✓ No new debt
- ✓ No credit check

**It's Easy!**

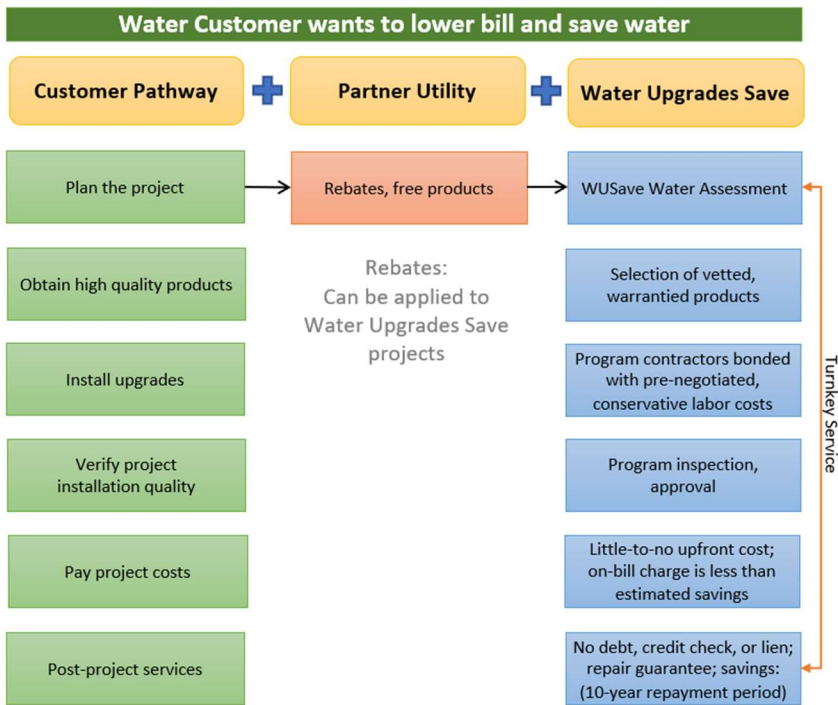
- ☐ Select your upgrades
- ☐ Install with a certified contractor
- ☐ Pay a monthly charge on a lower water bill

**Lasting Rewards!**

- Immediately lower your utility bills
- Upgrade your home
- Save water and energy

**Enroll today!**  
[www.waterupgradessave.org](http://www.waterupgradessave.org)

<sup>12</sup> <https://www.bayren.org/waterupgradessave>



Completing a water efficiency project requires a sequence of steps (see green boxes). Water Upgrades Save provides not only high quality, warranted products but also professional, bonded installation and quality control inspection in partnership with a trusted source — the local water utility. This turnkey service removes many barriers to behind-the-meter efficiency results.

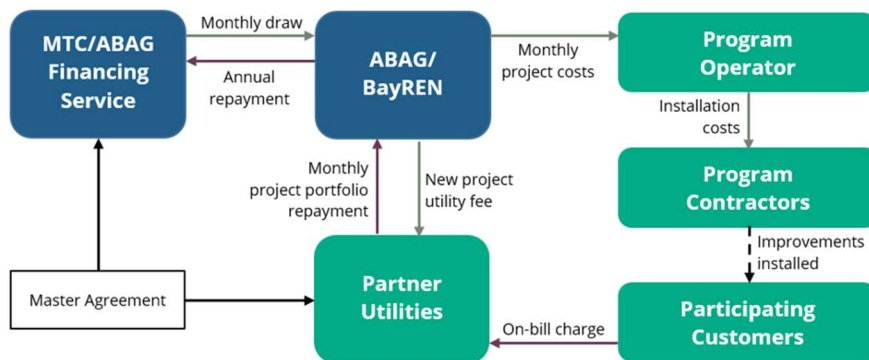
Water Upgrades Save provides indoor water efficiency upgrades for single family and multifamily residential and is developing offers for business, institutional,

and municipal customers. The program is adding a lead detection service and developing an outdoor offer. As shown in the graphic, the program can be integrated with existing utility-run water conservation programs.

BayREN Water Upgrades Save is a partnership between the Metropolitan Transportation Commission and Association of Bay Area Governments, of which BayREN is a program. As capital is invested in completed projects, the customers pay their on-bill charge, and the utility collects the on-bill charges and repays ABAG. The Partner Utility signs a master agreement with ABAG setting the terms of financing service.

**Table 1: BayREN Water Upgrades Save program team diagram.**

## Regional Tariff On-Bill Finance Service



The Water Upgrades Save program began as an On-Water-Bill pilot under the DOE's Better Building Program ARRA grant, Retrofit California, in 2010 in the Town of Windsor. Two additional pilots in the City of Hayward and East Bay Municipal Utility District preceded the launch of the regional program in 2020.

BayREN Water Upgrades Save program team includes program manager Sonoma County Regional Climate Protection Authority (RCPA), which initiated the program in 2010 under the DOE Better Buildings Retrofit California grant;<sup>13</sup> IUI originators, Energy Efficiency Institute of Vermont, which designed and consults on IUI programs under the trademark "Pay-As-You-Save®";<sup>14</sup> IUI specialist implementers, EUtility Company, which run IUI electric utility programs in the Midwest and east coast;<sup>15</sup> and Frontier Energy, which has provided program design and technical support to RCPA since the 2010 pilot.<sup>16</sup>

a. What are the lessons learned from this program?

**No. 1 — The customer comes first.** IUI (i.e., tariff on-bill, Pay-As-You-Save®) empowers the customer to act by removing barriers — such as upfront cost, consumer financing requirements, project management, faulty project/installation risk, and lack of quality control — to ensure utility bill savings. IUI is a utility service, not a consumer loan or rebate. It is also a turnkey service that relieves the customer of the burden to buy fixtures, hire a contractor, manage installation, and ensure effectiveness. Customers are also protected by product warranties and Program Contractor licensing and bonding. Finally, the customer only pays the on-bill charge while they receive the associated savings; if they move, the *successor customer* assumes the ongoing utility bill savings and the remaining on-bill charge. Everything resolves around maintaining the integrity of the offer: a portion of the estimated utility bill savings more than covers the on-bill charge over the cost recovery period.

**No. 2 — Risk management is complicated.** To make a program simple and effective for participants, IUI has a very complex back-office design that requires diligent attention to the core principle — shift risk away from customers to ensure they can pay the project cost over time and reap net utility-bill savings. Administrators need to deeply understand this program design to maintain its integrity against the temptation to use shortcuts that erode the inclusive effect. Program administrators need to acquire a detailed understanding of: (1) the project calculator assumptions and how they protect the customer; (2) the transfer of savings and on-bill payments to successor customers at participating meters; (3) the turnkey customer service and how to

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<sup>13</sup> Retrofit California: Better Buildings Program Overview (2014): <https://www.osti.gov/servlets/purl/1126788>

<sup>14</sup> <https://www.eeivt.com/>

<sup>15</sup> <https://www.eutility.com/>

<sup>16</sup> <https://frontierenergy.com/>

deliver the program assurances;<sup>17</sup> (4) the IUI-specific agreements and rate-and-fee schedule that define the customer, utility, and financing partner roles and responsibilities; (5) the importance of and process for filing a Notice of Efficiency Charge for each project with the local County Recorder's office; and (6) why IUI is not a consumer loan, but a utility service authorized by the utility's power to set rates and fees.

**No. 3 — IUI is typically not well understood.** As noted above, implementing an IUI program requires unlearning assumptions attached to standard program models. It takes time and study to grasp the intricacies of IUI and avoid jumping to predetermined assumptions that can erode the IUI model. For instance, the on-bill charge is based on the project cost (install and fees) but is capped at a percentage of the estimated savings, usually 80 percent. In a consumer loan situation, the on-bill charge is calculated only on the project cost, with no consideration of the estimated bill savings (like on-bill repayment or on-bill financing) and the customer may have to qualify with a credit check or other eligibility test. With or without such tests in a consumer loan program, guarantee funds might be required. In an IUI situation, the on-bill charge pays for a water efficiency service provided by the program (i.e., upgrades that reduce water use). None of the ongoing IUI programs have required or used a utility guarantee fund.

b. What sources of funding does this program use?

For the capital required to cover the upfront cost of customers' installed upgrades Water Upgrades Save draws on a line of credit provided by the Association of Bay Area Governments, which is the parent agency of the program administrator, the Bay Area Regional Energy Network.

c. Please provide relevant case studies, program results, reports, and participation data if possible.

Program	Single Family Homes	Multifamily Units
Water Upgrades Save (2020–Present)	58	21
Water Bill Savings Pilots (2010–2020)	247	584

**BayREN Annual Report 2022, pages 18 to 21:** <https://www.bayren.org/sites/default/files/2023-05/BayREN%20AR%2011x17.pdf>

**BayREN Annual Report 2021, pages 19 to 21:** <https://www.bayren.org/sites/default/files/2022-05/2021%20BayREN%20Annual%20Report-11x17.pdf>

**BayREN Annual Report 2022, pages 26 to 29:** [https://www.bayren.org/sites/default/files/2022-03/BayREN\\_PY2020\\_AnnualReport\\_Final.pdf](https://www.bayren.org/sites/default/files/2022-03/BayREN_PY2020_AnnualReport_Final.pdf)

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<sup>17</sup> IUI program assurances include little-to-no upfront payment, no new debt, no credit checks, and no liens; Participants pay only while they are a utility customer at the project location; and a guarantee that failed measures are repaired or the payment obligation is ended.



**Water Bill Savings Process Evaluation** (2019) prior to regional program launch in 2021:  
[https://www.bayren.org/sites/default/files/2022-05/Water\\_Bill\\_Savings\\_Process\\_Evaluation021519-FINAL.pdf](https://www.bayren.org/sites/default/files/2022-05/Water_Bill_Savings_Process_Evaluation021519-FINAL.pdf)

**Retrofit California: Better Buildings Program Overview, pages 18 to 19 and 246 to 247** (2014) report on the DOE Better Buildings grant program that funded the first Water Bill Savings pilot:  
<https://www.osti.gov/servlets/purl/1126788>

4. What technical assistance would be most beneficial to electrical corporations, community choice aggregators, and other eligible entities to access state and federal financing for IUI?

Entities considering establishing an IUI program design will benefit from access to IUI expertise to ensure programs comply with the IUI characteristics that produce the successful inclusive result.

5. What decarbonization measures are most appropriate for existing IUI programs?

BayREN Water Upgrades Save did research adding a decarbonization measure (i.e., heat pump water heater) to the program. The research revealed two barriers common to decarbonization upgrades: The cost of natural gas is generally lower than electricity and new electric technologies are typically more expensive by unit than their natural gas competitors. For these reasons, innovative fuel-switching upgrades have struggled to qualify as cost effective measures within the IUI program model.

One potential solution is to allow IUI to qualify the portion of the project cost based on utility bill savings and provide a subsidy for the remaining cost to accelerate the transition to clean power. Examples of decarbonization technologies to consider are:

Water: Heat pump water heaters, municipal water grid pumps and other equipment.

Electricity: Heat pump heating/cooling, heat pump water heater, heat pump clothes dryers, induction cooktops, building envelop sealing/insulation, cool roofs.

- a. Are measures required to be cost effective?

Yes. The elimination of barriers for all customers is the essential ingredient for IUI programs. Most customers cannot afford to or likely will not choose to knowingly worsen their financial situations. The assurance of immediate annual savings that will last as long as the on-bill charges is one of the key elements for all successful PAYS/IUI programs to date.

To promote market transformation technologies that are not yet price competitive or serve underserved communities, utilities have the option to provide subsidies for project costs that exceed the cost-effective rule (e.g., apply subsidy or rebate to buydown remaining project cost).

- b. Should programs that access state or federal financing be required to ensure participants realize utility bill savings?

Yes. Without the accountability of producing immediate and persistent utility bill savings that pay for the project, it isn't Inclusive Utility Investment.

- c. What, if any, consumer protections are required to improve access to financing or investment solutions?

As a utility service, IUI protects the customer in several ways: (1) IUI is a utility service, not a consumer loan or rebate, so customers do not incur new debt; (2) it is a turnkey service that relieves the customer of the burden to buy fixtures, hire a contractor, manage installation, and ensure effectiveness; (3) customers are protected by program assurances that include: Little to no up-front payment, no new debt, no credit checks, and no liens; participants pay only while they are a utility customer at the project location; a guarantee that failed measures are repaired or the payment obligation is ended; and the program provides product warranties and Program Contractor licensing and bonding. Finally, the customer only pays the on-bill charge while they receive the associated savings; if they move, the *successor customer* assumes the ongoing utility bill savings and the remaining on-bill charge. Everything resolves around maintaining the integrity of the offer: a portion of the estimated utility bill savings pays the on-bill charge over the cost recovery period.

6. What statutory changes are necessary to improve access to federal funding for financing or investment solutions?

Utilities can implement IUI under their existing authority to set rates and fees.

7. Input on other topics welcomed.