

# Fueling Efficiency: How Water Agencies Can Stretch Budgets and Cut Energy Use

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# Today's presentation will cover:

- SoCalREN overview
- Common issues water agencies are experiencing
- Capitalizing on no-cost services and financial incentives for energy efficiency projects
- Case studies
- Q&A



# Southern California REGIONAL ENERGY NETWORK



The Southern California Regional Energy Network (SoCalREN) was created to harness the collective power of residents, businesses and the public sector to achieve an unprecedented level of energy savings across Southern California.



**Public Agencies**



**Residential**



**Workforce Education  
and Training**



**Finance**



**Agriculture**



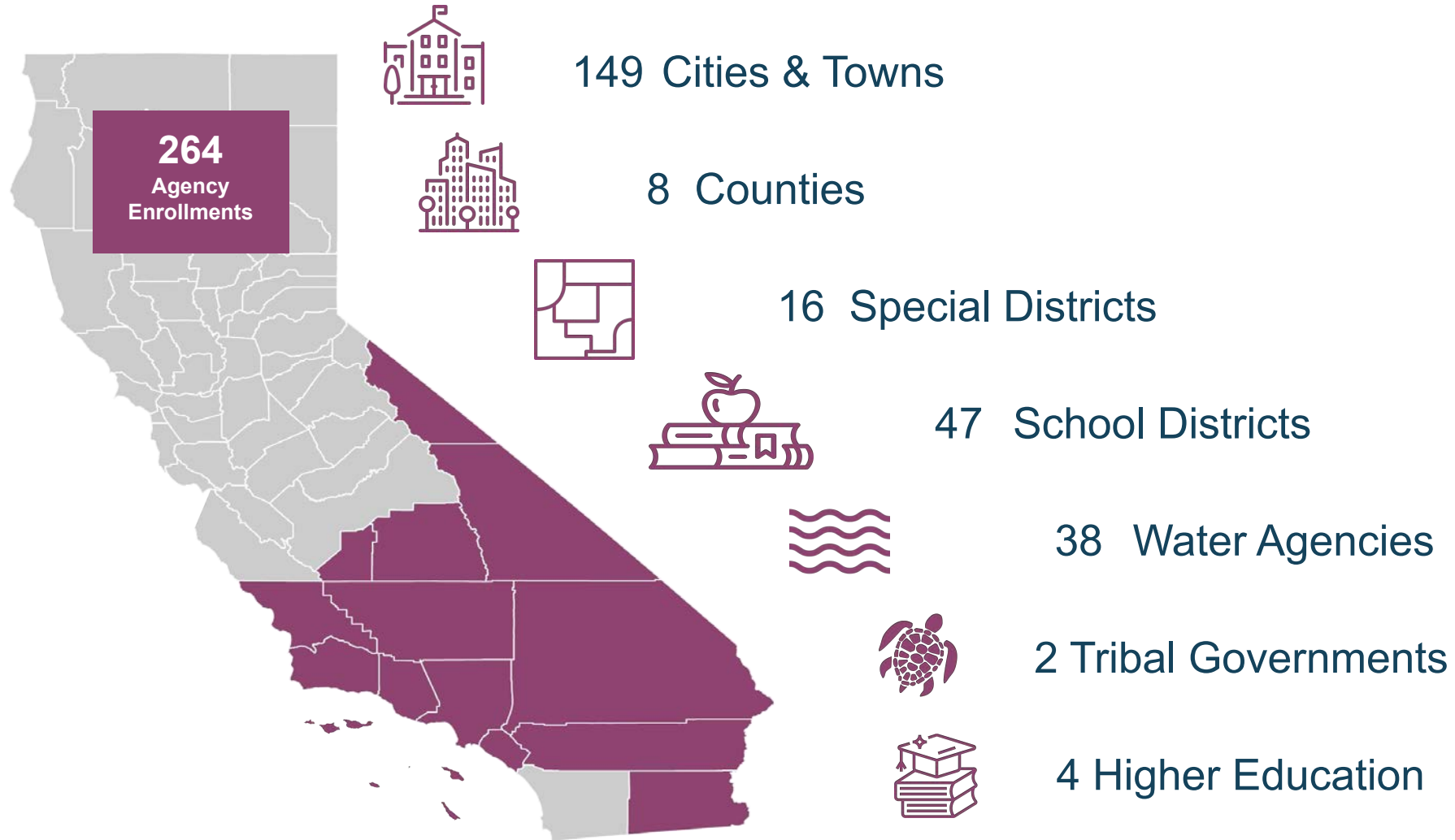
**Commercial**



The SoCalREN Public Agency Programs are administered by the County of Los Angeles and funded by California utility ratepayers under the auspices of the California Public Utilities Commission. Learn more at [socalren.org](https://socalren.org).



# Who's in the Network?



Note: SoCalREN Public Agency Programs are available in the highlighted counties in areas served by either Southern California Edison or Southern California Gas Company.



# What can SoCalREN do for your agency?

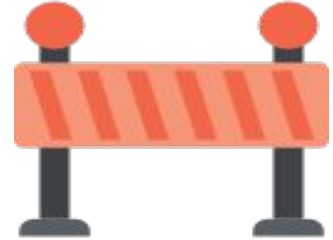
- ✓ **Project management support**
- ✓ **Technical support**
- ✓ **Access to project funding/financing**
- ✓ **Financial analysis and proposal support**
- ✓ **Procurement and construction phase support**
- ✓ **Network services**
- ✓ **Cash incentives**



*Every enrolled agency receives a dedicated SoCalREN Project Manager that will support your energy efficiency projects from identification to construction completion!*



# Common barriers water agencies are experiencing:



- Rising costs as a result of **inflation**
- Lack of available **upfront funding** for energy improvements
- Deprioritization of energy efficiency projects for **more time-sensitive maintenance and operational projects**
- **Diminishing capital improvement funds** or annual decreases to general budgets
- **Lack of staff capacity** or ability to keep track of funding/financing opportunities and incentive programs



# Capitalizing on No-cost Services and Financial Incentives



# SoCalREN Serves Public Customers with Water Production, Distribution, Irrigation, and Treatment Systems

- Water and wastewater agencies
- Special districts
- Joint power authorities
- Local government agencies
- Other public water pumping or treatment customers



**SOURCE WATER PUMPING**



**WATER TREATMENT**



**WATER DISTRIBUTION**



**WASTEWATER TREATMENT**

- Active services account(s) with SCE and/or SoCalGas paying public purpose programs (PPP) surcharge
- No previous participation with programs containing the same measures at the same facility



# Water Infrastructure Services Overview

**Offers:** Long-term energy efficiency (EE) solutions, incentives, and engineering services.

**For:** Public customers with water production, distribution, irrigation, and treatment systems.

**Service Areas:** Southern California Edison (SCE) and Southern California Gas (SoCalGas)

We manage a **Trade Ally Network** serving manufacturers, distributors, contractors in the water and wastewater segment.



# Customized Energy Efficiency Measures and Incentives

## Customized Measures

- Pump overhauls and rightsizing
- Wastewater process equipment retrofits
- Pump system and wastewater process controls
- Fans, pumps, and blowers variable frequency drives (VFDs)
- Boiler/hot water/steam system retrofits

Incentive Tier	\$/kWh	\$/kW	\$/Therm	Measure Types	Incentive Cap
Tier 1	\$0.12	\$150	\$1.50	Controls measures Equipment retrofits	50% of project cost 100% of incremental cost
Tier 2	\$0.06	\$150	\$0.75	Overhauls & setpoint updates	50% of project cost

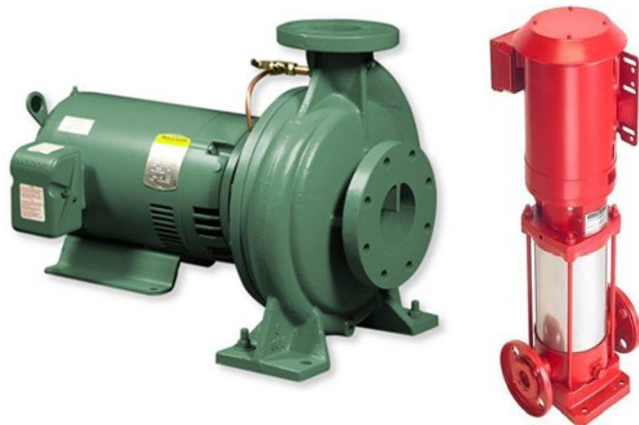
*Incentive rates based on 1st year savings.*



# Deemed Electric Measures and Rebates

## Measure List

#	Measure Name	Measure Description	Rebates
1	<b>Water pump upgrade</b>	Clean water pump replacement with high pump efficiency index between 1 HP - 250 HP	<ul style="list-style-type: none"><li>• \$3-9/HP for 50-250 HP Pumps</li><li>• \$9-26/HP for 15-50 HP Pumps</li><li>• \$24-71/HP for 1-15 HP Pumps</li></ul>
2	<b>VFD on well irrigation pump</b>	VFD installation on well irrigation pump $\leq 600$ HP	<ul style="list-style-type: none"><li>• \$35/Pump HP</li></ul>
3	<b>VFD on booster irrigation pump</b>	VFD installation on booster irrigation pump $\leq 150$ HP	<ul style="list-style-type: none"><li>• \$35/Pump HP</li></ul>



*VFD = variable frequency drive; HP = horse power*

# Deemed Gas Measures and Rebates

## Measure List

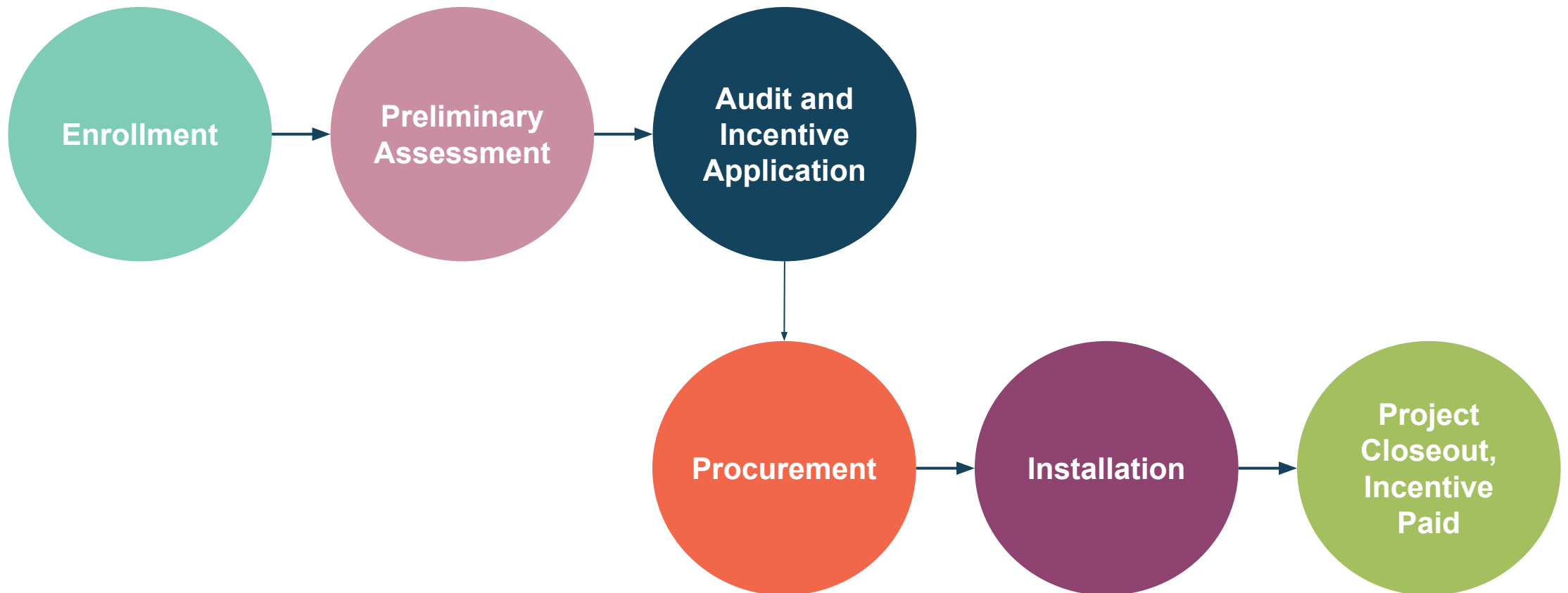
#	Measure Name	Measure Description	Rebates
1	Hot water pipe and fitting insulation	New insulation installed on pipes and pipe fittings for <b>hot water</b> or <b>steam</b>	<ul style="list-style-type: none"><li>• \$3/Fitting</li><li>• \$3/Linear-Ft</li></ul>
2	Hot water tank insulation	New 1" to 2" insulation on existing tanks	<ul style="list-style-type: none"><li>• \$9/FT<sup>2</sup> 1" Tank Insulation</li><li>• \$12/FT<sup>2</sup> 2" Tank Insulation</li></ul>
3	Process hot water boiler replacement	<b>Boiler replacement</b> , hot water, 85% CE, ≤20,000 kBTU/hr <b>Boiler replacement</b> , hot water, 90% CE, ≤20,000 kBTU/hr	<ul style="list-style-type: none"><li>• \$1.50/kBTU per hour</li><li>• \$3.50/kBTU per hour</li></ul>
4	Process steam boiler replacement	<b>Boiler replacement</b> , steam, 83% CE, ≤20,000 kBTU/hr	<ul style="list-style-type: none"><li>• \$2.00/kBTU per hour</li></ul>



CE = combustion efficiency; kBTU = one thousand British Thermal Units

# Project Delivery Process

SoCalREN provides project management support and coordinates every step of the way to ensure seamless delivery of services!



# SoCalREN Service Areas



## Network Services

Agency recognition (case studies, conferences, council presentations, webinars), outreach and education, regional partner activities and initiatives, peer-to-peer networking, stakeholder engagement



## Project Management

Start-to-finish project management support, energy consulting, unbiased third-party review, ESCO support, staff report and documentation



## Technical Support

Audit/engineering calculations, retrofit assistance, portfolio-wide benchmarking, retrocommissioning support, scope of work review, technical performance specifications



## Financing and Funding Analysis and Support

Project financial analysis, funding option analysis, cash incentives, Revolving Savings Fund, loan program viability analysis and application support, utility and other energy program incentive application support



## Procurement and Construction Support

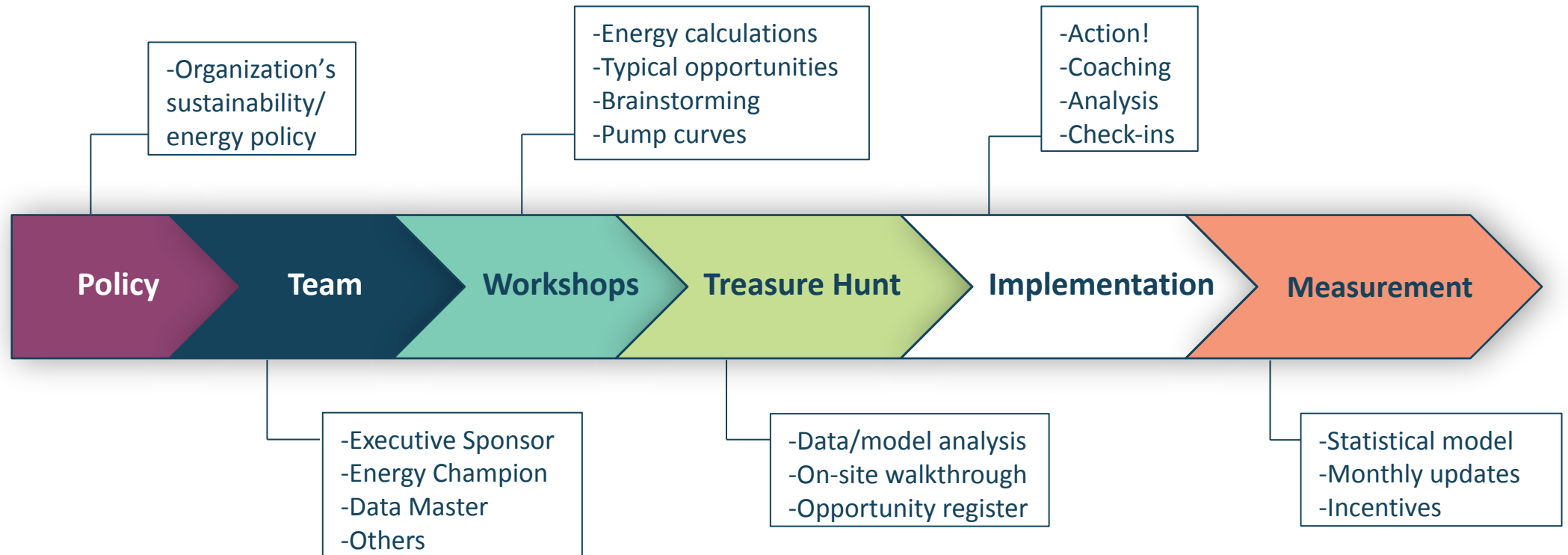
Contract language review, procurement and project delivery option analysis, objective technical review of third-party proposals or audits, construction phase oversight, project close-out support



# Strategic Energy Management (SEM)



# SEM Process



# Examples of CA Incentive Programs Available



**SoCalREN's  
cash incentives**

**Utility  
Programs**

**Statewide Water  
Infrastructure and  
System Efficiency  
(SW WISE)  
Program**

**Public Energy  
Performance  
(PEP) Program**

**Comfortably  
California**

**...and many more!**



\*NOTE: NV Energy offers energy efficiency incentives and technical assistance programs

# Project Funding and Financing Support

Stack cash incentives with additional funding and financing sources, such as:

- **Revolving Savings Fund:** Offers an easy process, 0% interest rate, five-year loan term, and relatively quick allocation of funds.
- **IOU On-Bill Financing:** 0% interest, convenient loan repayment through your utility bill.
- **Industrial Technical and Assessment Centers (ITAC) Grant:** Dept. Of Energy (DOE) grant awards of up to \$300,000 per grant on a quarterly funding round basis, at a 50% cost share.
- ... and more!



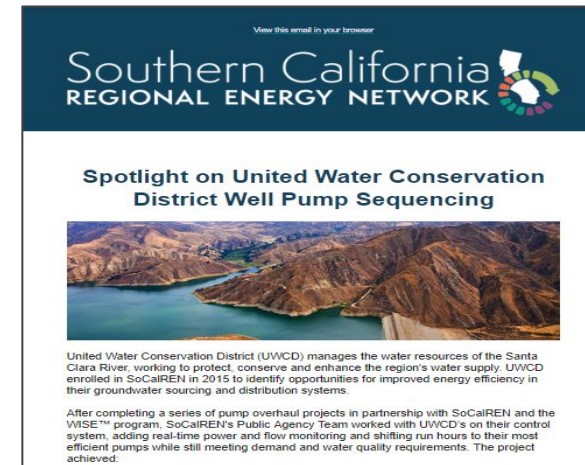
# SoCalREN shares and celebrates your success!



**conferences & events**



**check presentations**



**newsletter features**



**case studies**



**videos**



**social media posts**



# Energy Tax Provisions in the Inflation Reduction Act

Provision	Description	Direct Pay Eligible or Transferrable?
<b>Investment Tax Credit for Energy Property</b>	A tax credit for renewable energy projects, including solar and storage.	✓ Direct pay eligible
<b>Production Tax Credit for Electricity from Renewables</b>	A tax credit for electricity produced from renewable sources.	✓ Direct pay eligible
<b>Alternative Fuel Vehicle Refueling Property Credit</b>	<p>A tax credit for alternative fuel vehicle refueling and charging property in low-income and rural areas.</p> <p>Qualifying alternative fuels include electricity and hydrogen.</p>	✓ Direct pay eligible
<b>179D Energy Efficient Commercial Buildings Deduction</b>	A tax deduction for energy efficiency improvements to commercial buildings, including public agency buildings.	✓ Government entities may allocate to designer





# Case Studies



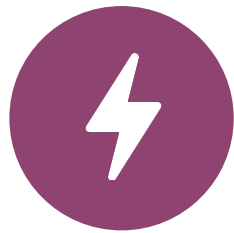
# Project Spotlight: Inland Empire Utilities Agency (IEUA) Process Optimization and Lighting Opportunities

SoCalREN supported IEUA with identifying and implementing several efficiency improvements:

- Blower replacements and ammonia-based aeration controls
- MLR & RAS process optimization
- Various pump efficiency upgrades, replacements



\$627,500  
annual  
savings



5.02M+ kWh  
annual  
savings



\$518,000  
incentives  
paid



MLR = Multivariate Linear Regression; RAS = Recirculating Aquaculture System

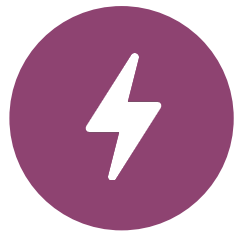
# Project Spotlight: Cucamonga Valley Water District Water System Optimization Opportunities

SoCalREN supported CVWD with identifying and implementing several efficiency improvements:

- Well, booster, pressure zone sequencing
- Various pump overhauls and replacements



\$650,000  
annual  
savings



5.01M+ kWh  
annual  
savings



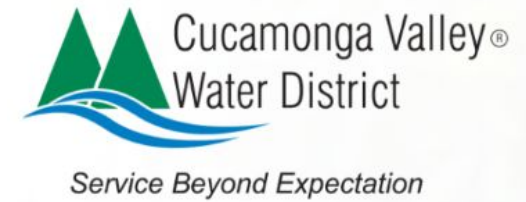
\$316,000  
incentives  
paid



*Service Beyond Expectation*



# Case Study: Cucamonga Valley Water District Well 30 Pump Overhaul



## Project Overview

- **\$35,602** in incentives
- **\$159,213.51** in lifetime cost savings
- **282,108.3 kWh** savings achieved
- Increased overhaul pump efficiency (OPE) by 9%!

## Project Highlights

- Large check was presented to CVWD board!

“ I want to express my gratitude to SoCalREN Public Agency Programs for their outstanding support in securing incentives for CVWD. Their assistance has greatly enhanced our pump overhaul projects and improved energy efficiency. Thank you for being a valuable partner in our sustainability efforts. ”

*- Jacob Johnson, Operations Manager - Production, Cucamonga Valley Water District*

The image shows a check from SoCalREN. The date is March 12, 2024. The payee is Cucamonga Valley Water District. The amount is \$35,602.87, written out as 'Thirty five thousand six hundred two and 87/100 Dollars'. The purpose is for an 'Energy efficiency project at Well 30' under the 'Southern California Regional Energy Network'.



OPE = overhaul pump efficiency

# Case Study: Ventura Water Reclamation Facility

- SoCalREN helped Ventura identify and secure energy-efficient MBR and UV systems, along with incentives and grant application support.
- The new system will replace aging infrastructure, improve energy efficiency, and support future potable reuse expansion.



Credit: [CWEA](#)

Energy Efficiency Measures	Annual Savings (kWh)	SoCalREN Incentive (\$)	ITAC Grant Award Selected (\$)
<b>Ultraviolet Disinfection (UV):</b> Low-pressure, high output lamps	1,392,657	\$330,300	\$300,000
<b>Membrane Bioreactor (MBR):</b> Hollow-fiber membrane module w/ load-based scouring (pulsed aeration)	1,059,419	\$230,000	\$300,000



ITAC = Industrial Training and Assessment Center

# Case Study: Redlands Pump Overhaul

The City of Redlands is implementing several phases of **pump overhaul projects**. The identified pumps were operating at a low overall plant efficiency and the goal was to increase OPE values. In the first phase of installation, the City overhauled Peak Pond A and Recycle Water Pump A, 2 out of 6 total pumps.

- Peak Pond Pump A OPE: 19.9% → 81.2%
- Recycle Water Pump A OPE: 43.8% → 71.6%

Measure Description	Annual kWh	Annual kW	Avoided GHG Emissions	Incentive Amount
Pump Overhaul - Peak Pond A	113,627.28	13.34	134	\$8,524.80
Pump Overhaul - Recycle Water A	51,852.32	6.78	61	\$5,817.55
Total Approved Savings	165,479.60	20.12	195	\$14,342.35



OPE = Operational Pump Efficiency



# Questions?



# Thank you!

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