

# LGSEC 2024 Q 4 Member Meeting

Thursday, October 10, 2024 | 10:00 AM – 12:00 PM



# Meeting Agenda

**10:00 AM** Welcome and Opening Remarks

**10:05 AM** Introduction Breakout Groups

**10:10 AM** Member Presentation 1: *The Energy Coalition*

**10:25 AM** Member Presentation 2: *Sonoma County*

**10:40 AM** Member Presentation 3: *CA Department of General Services*

**10:55 AM** Break

**11:00 AM** Member Networking

**11:25 AM** Presentation 4: *M.Cubed*

**11:40 AM** Presentation 5: *California Climate and Energy Collaborative*

**12:00 PM** Adjourn



**LOCAL GOVERNMENT  
SUSTAINABLE  
ENERGY COALITION**

# Introduction Breakout Groups - 5 minutes

## ***Break off into pairs for 5 minutes***

1. **Introduce Yourself!** Name, Pronouns, Organization, Position
2. How long has your organization been an LGSEC member and what activities do you participate in?
3. What are you looking forward to learning today?



LOCAL GOVERNMENT  
**SUSTAINABLE**  
ENERGY COALITION



# Direct-to-Renter™ Clean Energy Program

Presentation to  
**Local Government Sustainable Energy Coalition**

# Overview

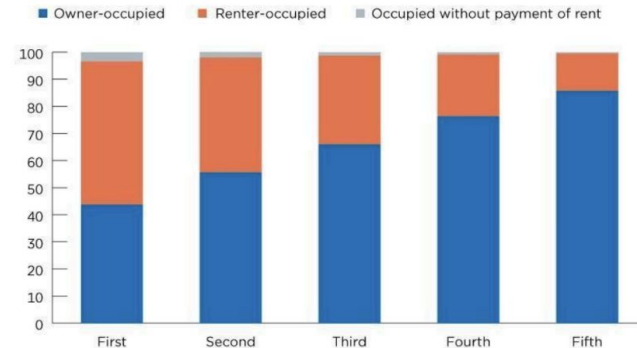
1. Motivation
2. Program goals
3. Implementation work
4. External engagement
5. Protocol and scaling

# Motivation (I of IV)

There is a stark equity gap between owners and renters in current clean energy programs.

- The majority of energy programs, even for low-income and underserved households, are designed for homeowners
- But renters comprise more than half of the lowest income quintile (see graph) - these households are the most in need.
- Approximately **45%** of California households (or ~18M people) are renters.

Figure 1.  
**Tenure of Occupied Housing Units by Income Quintile: 2021**  
(In percent)



Source: U.S. Census Bureau, 2019 and 2021, American Community Survey 1-year estimates.

# Motivation (II of IV)

**Programs designed for rental property owners have barriers that limit uptake.**

- Energy incentives designed for rental unit / multi-family building owners are complicated by a misalignment of incentives.\*
  - Costs accrue to the landlord but benefits accrue to the renter.
- Renters have no control and very little influence over a landlord's decision to participate.
- Policies related to rental property upgrades may increase the likelihood of tenant displacement.

*\*Also known as the "split incentive." A recent publication that summarizes the challenges to policies designed to address the split incentive for multifamily buildings is here: [https://s33258.pcdn.co/wp-content/uploads/2020/11/3C-REN\\_MultifamilyResearch\\_Sept2020.pdf](https://s33258.pcdn.co/wp-content/uploads/2020/11/3C-REN_MultifamilyResearch_Sept2020.pdf)*

# Motivation (III of IV)

## Energy program incentives build wealth for owners, but not for renters.

- Programs designed for homeowners (such as solar, battery storage, and appliance electrification) build wealth for participants by increasing the value of their home.
  - Typical packages of incentives for low-income households are valued at \$5K - \$20K.
  - Most of these improvements also reduce energy bills.
- Renters benefit from reduced energy bills when they participate in community solar or CARE/FERA rates, or when improvements are made to landlords' property, but these programs **do not** build wealth for renter households.



# Motivation (IV of IV)

**In summary, despite significant improvements in program equity over the last decade, renter households are still being left behind in the energy transition, though they need the most support.**

- Without renter-specific energy programs, low-income renters have few options to build resilience, find relief from high heat, improve indoor air quality, or manage their utility bills.
- Meanwhile, utility rates continue to increase and temperatures continue to climb
  - Higher temperatures exacerbate air quality problems and increase the likelihood of grid outages

## Solution: Direct-to-Renter™

**TEC's Direct-to-Renter™ program bypasses the traditional and highly challenging approach of working with landlords to bring appliances and technologies directly to renter households for their ownership and use.**

# Solution: Direct-to-Renter™

- To be clear:
  - It's not a replacement for investments in the energy system infrastructure of rental buildings.
    - Building-scale improvements are still essential.
  - It will not solve the many other health and safety challenges faced by tenants such as mold, lead, asbestos, or pests.
- But this program is essential to:
  - Address immediate and profound health and safety needs of low income renters, in the face of accelerating climate risks.
  - Fill an equity gap in current state and local energy programs.
  - Generate immediate GHG reductions that would otherwise take years or decades to occur.

# Direct-to-Renter™ Program Goals

Provide the following benefits to renters:

1. Ability to manage high heat
2. Resilience in the event of power outages
3. Improvements in indoor air quality
4. Ability to manage energy use / bills
5. GHG reductions

# Implementation Overview





## 1. Pilot Funding

- DOE Community Energy Innovation Prize
- Develop a Direct-To-Renter™ program protocol
- Initial cohort of 10 participants
- City of Pomona

## 1. Project Funding

- TCC “Pomona ACTS” (SGC grant)
- Direct-To-Renter™ is one of a suite of projects
- >100 renter participants

# DOE Pilot Process

1. Identify appliances	2. Define incentive structure	3. Define participant eligibility/ sign up	4. Design and conduct outreach
<ul style="list-style-type: none"> <li>A. Portable</li> <li>B. 120V</li> <li>C. No involvement from landlords required</li> </ul>	<ul style="list-style-type: none"> <li>A. \$0 out of pocket cost</li> <li>B. Participants select their preferred appliances (up to \$2500 per household)</li> </ul>	<ul style="list-style-type: none"> <li>A. Renter in a Justice 40 census tract → remove barriers of income eligibility verification</li> <li>B. Streamlined sign-up (2-3 minutes)</li> <li>C. Random drawing to select 10 households</li> </ul>	<p>Collaborate with trusted community partners</p>    

# Appliance Categories and Benefits

Appliance Category	Benefit				
	Resilience	High Heat Management	Indoor Air Quality	Utility Cost Savings	GHG Reductions
Portable batteries	✓			✓	✓
Fans		✓			✓ (if used to reduce need for existing A/C)
Portable heat pump air conditioners/ heaters		✓	✓		✓ (if used in place of inefficient units)
Electric cooking appliances		✓	✓		✓
Air purifiers			✓		
Energy management plugs and apps				✓	✓

# How to think about GHG reductions and new A/C loads

- GHG impacts shouldn't be measured as a simple comparison to current conditions.
- Many people currently do not use as much energy as they need to keep at safe temperatures due to high electricity costs.
  - Also, many people who need it don't even have A/C
- As heat continues to rise, people will need cooling and may buy cheap / used non-heat pump units over the next few years.
  - **This near-future scenario is the proper baseline for comparison**
- Portable heat pump A/C with a portable battery and control unit could provide needed cooling with minimum grid impacts, if we can fund it.
- This is a public health issue, not only an energy issue.



Category	Appliance	Specific Model	Cost (with tax)
Air Quality	Air purifier	<a href="#">Levoit Core 300 plus replacement filters</a>	<b>\$110</b>
Cooking	Electric kettle	<a href="#">Hamilton Beach</a>	<b>\$41</b>
	Slow cooker	<a href="#">Crock-pot 7 Quart Programmable</a>	<b>\$99</b>
	Induction cook plate	<a href="#">Nuwave Gold Precision Induction Cooktop</a>	<b>\$110</b>
	Optional cookware	<a href="#">CAROTE Pots and Pans Set</a>	<b>\$88</b>
Cooling / Heating	Tower fan	<a href="#">Dreo Tower</a>	<b>\$77</b>
	Portable heat pump A/C / heater	<a href="#">Midea Duo 14,000 BTU</a>	<b>\$769</b>
Power Storage	Portable plug-in battery	<a href="#">EcoFlow Delta 2 Max Portable Power Station 2400W</a>	<b>\$2,089</b>
	Portable plug-in battery (alternate)	<a href="#">Jackery Explorer 2000 PRO Portable Power Station 2200W</a>	<b>\$1,759</b>
Smart Home	Smart plugs / power strip	<a href="#">Kasa Smart Plug Power Strip HS300, Surge Protector x6</a> or	<b>\$48</b>
		<a href="#">Kasa Smart Plug Mini with Energy Monitoring</a>	<b>\$73</b>
	Smart speaker (optional add-on)	<a href="#">Amazon dot</a> or <a href="#">google mini</a>	<b>\$55</b>

## *Specific Appliance List*

# DOE Prize Pilot Program - Implementation Status

- **10 renter household participants** are currently using these appliances
- Gathering and analyzing data
  - Demographics / building types / existing appliances
  - Utility bills (both energy usage and cost), but not all households have access to information
    - Other measurements under consideration if we are awarded the DOE Grand Prize include indoor air quality and temp, and battery usage
- October in-person event with participants and other local renters
  - Solicit feedback on appliances - frequency and ease of use, any improvements needed, new technologies of interest (e.g., portable solar panels)



day one

**Latino & Latina**  
**Roundtable**  
of the San Gabriel and Pomona Valley

# DOE Prize Pilot Program - Engagement

- Engaged w/ technology innovators
  - LACI
  - SD CleanTech
  - CalMTA\*
- Issued a call for new technologies →
  - Increase GHG reductions
  - Increase range of co-benefits
  - Reduce upfront investment costs
  - Reduce ongoing utility costs

*\*Others working in this space include 350 Bay Area, with a TECH Quick Start Grant and continuing work through CalMTA on portable AC units.*



## The Energy Coalition's Direct-to-Renter Program

Call for New Technologies - Aug 2024

Contact: Felicia Federico, Director of Funding and Research | [ffederico@energycoalition.org](mailto:ffederico@energycoalition.org)

### Overview

The Energy Coalition (TEC) has developed an innovative **Direct-to-Renter™** program to address a critical gap in clean energy offerings available to low-income renter households. **We are interested in engaging with innovators around new clean energy technologies that are designed for renters to own and use in their homes.** Key criteria include:

- 120V operation (no electrical service panel or wiring upsizing required)
- No approval from landlords required

This program aims to reduce GHGs while providing the following benefits:

- Resilience to grid outages
- Management of high heat
- Improvement in indoor air quality
- Energy management and reductions in utility bills

TEC is implementing this program in Pomona, CA, using currently available technologies (listed below), through funding from DOE and the CA Strategic Growth Council. These projects provide a potential opportunity to partner with innovators to test new technologies in a pilot setting and to collect data on performance.

Our current portfolio includes the following categories of items:

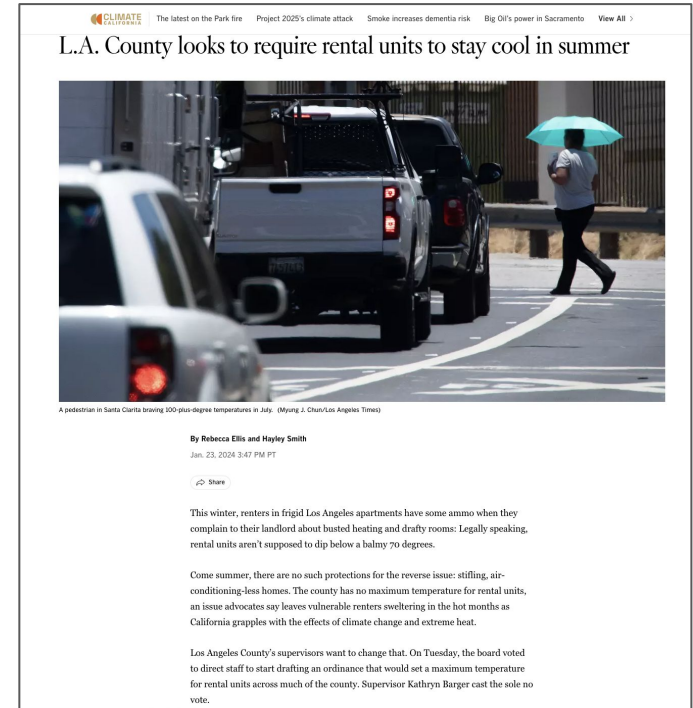
- Portable batteries
- Portable heat pump AC and heater units
- Fans
- Induction cook plates and other small electrical cooking appliances
- Air purifiers
- Smart plugs and connected energy management app

We seek new technologies that can improve on our current portfolio in terms of the extent of GHG reductions, the range of co-benefits, and the ease of use, as well as bring down both the upfront investment cost and the ongoing utility costs.

Ultimately, we aim to scale this equity program for wide application and funding through utility or state programs. New policies around the provision of cooling for tenants are also currently under consideration by the County of Los Angeles, which may increase demand for portable / window heat pump AC units and paired battery systems.

# DOE Prize Pilot Program - Engagement (cont'd)

- Discussions w/ SAJE (Strategic Actions for a Just Economy) around their tenants' rights advocacy work
  - Potential application of what we've learned to efforts by LA County and City of LA to require landlords to provide cooling in rental units
- Discussions with Pomona Choice Energy (a project partner) to understand what they would need to make this a funded program for their low-income customers



[LA Times Article](#) - January 2024

# DOE Prize Pilot Program - Deliverable

- Develop a **protocol** that documents the program and identifies places where refinements will be needed for scalability
  - Other climate zones (e.g., where heating needs are dominant)
  - Other geographies / community types (e.g., rural) that might have different energy needs or opportunities (e.g., higher needs for back-up power, space for portable solar panels)
  - Other scalability considerations (open for suggestions from LGSEC)

# Vision for Scaling Direct-to-Renter™ Program



Community Energy  
Innovation Prize



CALIFORNIA STRATEGIC  
GROWTH COUNCIL

*To be developed*

*To be developed*

**City of  
Pomona  
2024**

**City of  
Pomona  
2024-2030**

**Pomona  
Community  
Choice  
Aggregator  
Program**

**Replicate  
Statewide/  
Nationally**

10 renter  
households  
and program  
protocol

>100 renter  
households

Pair battery, A/C and load management  
software through utility/CCA demand response  
program?

# Thank You!

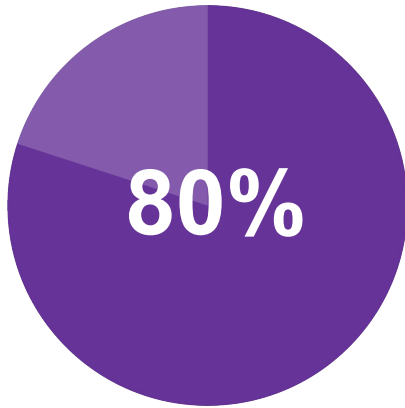
## Questions?

Felicia Federico  
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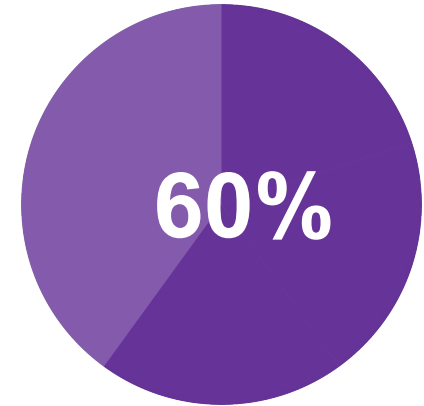
# Initial Survey Findings



Households selected A/C as their top priority



Households already had some form of A/C



Households stated that existing A/C was not sufficient

# Why is Existing Cooling Insufficient?

*“The window one doesn’t help [to cool] the whole house.”*

SURVEY RESPONDENT



*“Appliances needed for cooling [our] baby.”*

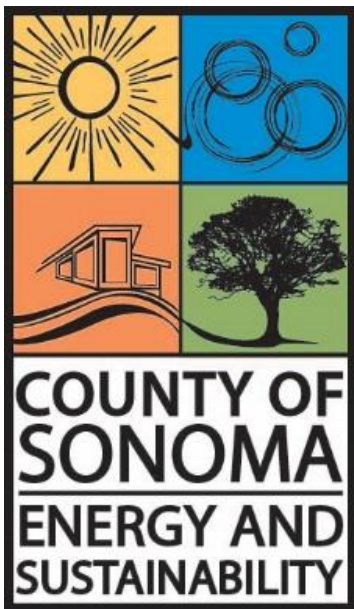
SURVEY RESPONDENT



*“The central A/C is too expensive [to use].”*

SURVEY RESPONDENT





# County of Sonoma's 2024 Comprehensive Energy Project



# Overview

- The County of Sonoma entered into contract with PG&E's Sustainable Solutions Turnkey Program to complete a Comprehensive Energy Project
- Project to be completed in two phases
- Additional scope proposed and presented to County Board of Supervisors to be phased by 2030

### Sonoma County | Energy Project

#### Investment Grade Audit Report

March 15th, 2024



Sonoma County | Energy Project

#### ECM-2 Heating Hot Water (HHW) retrofit

**Existing Conditions**  
 The County Administration Center is served by a large central plant with natural gas boilers producing Heating Hot Water (HHW). The existing primary boilers are CleaverBrooks CBE 700 Residue boilers (9500 MBH input each) paired with Autoflame MM ECA Systems. The Autoflame Control allows the County to monitor and reduce boiler emissions. There are also smaller "pony" Gas-fired boilers (3500 MBH input each) on site providing heating in low load conditions. Both boiler sizes require yearly NOx testing by the County AQMD. With the newer Autoflame Control, the need for the smaller boilers has been reduced.



**CleaverBrooks Conversion**



Figure 3 CleaverBrooks gas boiler nameplate

### Juvenile Justice Center

**Buildings**

- Juvenile Justice Center
- Juvenile Hall Tool Shed (Wildlan and site staff could not locate)

**Existing Conditions**

- Interior lighting and control: TL, high bay, and CFL lighting; mixture of occupancy sensors and manual switches
- Exterior lighting and control: LED with time-based exterior lighting controls
- HVAC: RTU's with gas heating, nearing their useful life expectancy
- HVAC Controls: No control sequence optimization such as DCV for the RTU's
- GWWS: Combination of new and old DWH heaters; instantaneous gas water heaters; HW circulation pumps are in poor condition; domestic water pumps are controlled manually
- Plumbing: High flow plumbing fixtures; in inmate areas they are allowed 3 flushes per hour; booster pump control panel is in poor condition
- Envelope: Double pane windows
- Kitchens: Kitchen hoods are manually controlled
- Laundry: Laundry and kitchen stoves use gas to operate
- Transformers: Standard efficiency transformers
- Solar: Existing solar system is part of the Los Guillicos Loop

**Proposed ECMs**

ECM	Priority	Cost	Energy Savings	CO2 Savings	Payback	Notes
Interior Lighting	High	\$100,000	10,000 kWh	10,000 lbs	10 years	Replace TL and CFL with LED
Exterior Lighting	Medium	\$50,000	5,000 kWh	5,000 lbs	10 years	Install time-based controls
HVAC Controls	High	\$200,000	20,000 kWh	20,000 lbs	10 years	Optimize RTU sequences
Water Heating	High	\$150,000	15,000 kWh	15,000 lbs	10 years	Replace DWH with tankless
Plumbing	Medium	\$80,000	8,000 kWh	8,000 lbs	10 years	Replace high flow fixtures
Envelope	Medium	\$120,000	12,000 kWh	12,000 lbs	10 years	Upgrade windows
Kitchen	Medium	\$60,000	6,000 kWh	6,000 lbs	10 years	Upgrade hoods
Laundry	Medium	\$70,000	7,000 kWh	7,000 lbs	10 years	Upgrade stoves
Transformers	Medium	\$90,000	9,000 kWh	9,000 lbs	10 years	Upgrade to high efficiency
Solar	High	\$300,000	30,000 kWh	30,000 lbs	10 years	Expand solar array

Sq Ft. - 150,167; N/A; N/A  
 Year Built: 2005  
 Total of 2 buildings




RTU past its expected useful life



HW circulation pump

Opportunity for Carport  
 Additional Solar PV & EVCS

31



# Goals



Address deferred maintenance where possible



Project pays for itself over expected useful life of improvements



Carbon Neutral by 2030

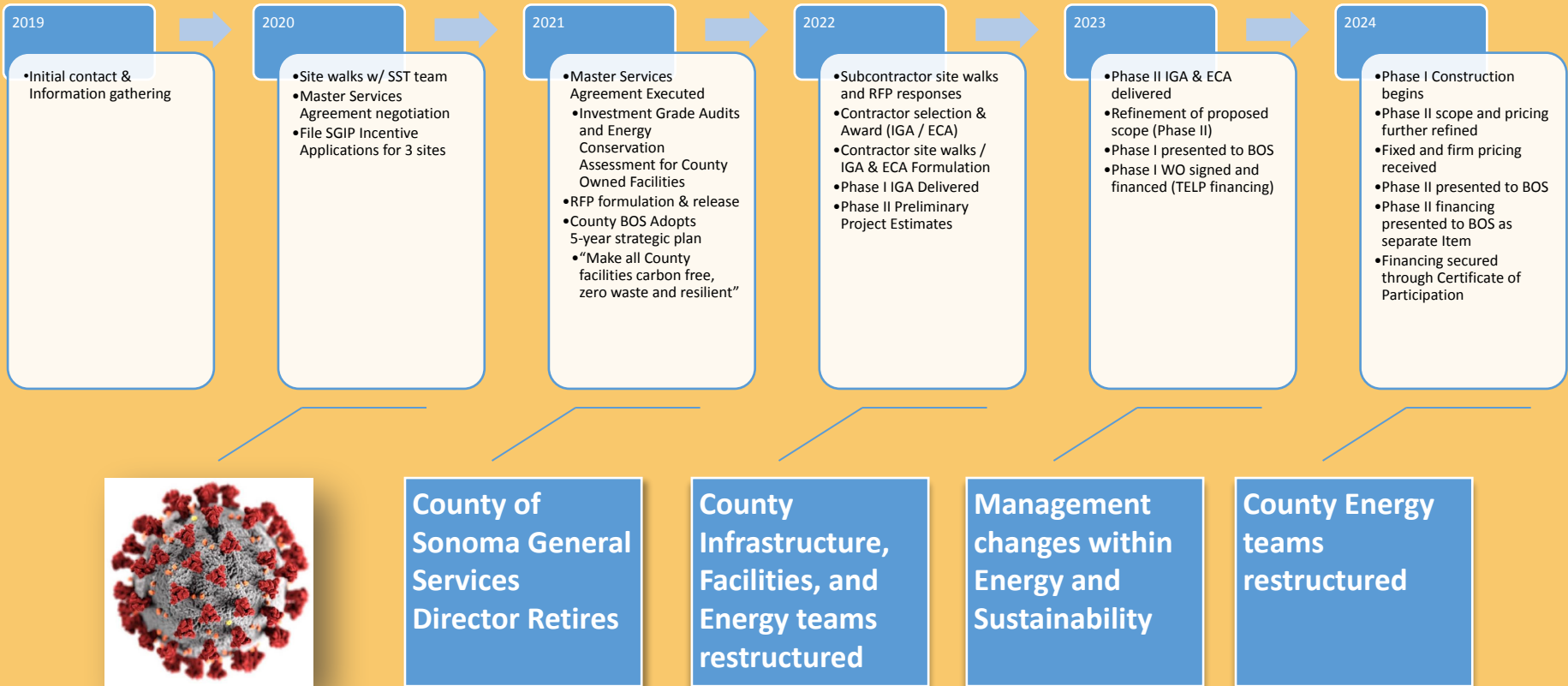


Goal specific to Santa Rosa Vets Hall: Install AC so as to be cooling center during emergencies





# Timeline





# Where it started – Phase I (SRVH)

	SCOPE #	ENERGY CONSERVATION MEASURE	SCOPE OF WORK SUMMARY	COST, SAVINGS, AND INCENTIVES							GHG Emission Reduction				
				TURNKEY COST	UTILITY SAVINGS	O&M SAVINGS	TOTAL SAVINGS	GRANTS & INCENTIVES	SIMPLE PAYBACK (YEARS)	Resiliency / Emergency preparedness	Microgrid	kWh savings / generation	Natural Gas Savings, therms	Water savings, kGal	CO2e savings, lbs
SCOPE OF WORK ("Best" Package)	1.3	LED Lighting Retrofit	New fixtures / retrofit kits	\$346,280	\$6,730	\$415	\$7,145	\$0	+20 yrs			22,430	0	0	1,525
	2	Heat Pump Water Heater	Replace elec water heater with electric heat pump water heater.	\$11,550	\$210	\$0	\$210	\$550	+20 yrs			705	0	0	48
	3.3	HVAC Replacement	Replace hot water boiler serving auditorium with electric heat pump. Add three mini splits to front offices. Replace fan and gas heater serving the club room with a pkg heat pump RTU.	\$2,210,120	(\$9,880)	(\$2,400)	(\$12,280)	\$0	NP	X		(32,920)	2,087	0	25,822
	4.3	Car Canopy Solar	Install 162 kw carport mounted PV array in the West parking lot.	\$1,593,350	\$24,530	(\$1,460)	\$23,070	\$478,010	+20 yrs			256,069	0	0	17,413
	5	BESS	Install 50 kW BESS	\$776,160	\$4,840	\$0	\$4,840	\$355,250	+20 yrs			(9,368)	0	0	(637)
	6	High Efficiency Water Fixtures	Comprehensive low flow water fixture replacement	\$95,700	\$1,700	\$0	\$1,700	\$3,600	+20 yrs			0	0	78	0
	7	BMS	Bring all building systems into one remotely controllable front end	\$403,150	\$0	\$0	\$0	\$0	NP	X	X	0	0	0	0
	8	Generator	Install new 350kW generator	\$552,090	\$0	\$0	\$0	\$0	NP	X	X	0	0	0	0
					\$5,988,400	\$28,130	(\$3,445)	\$24,685	\$837,410	+20 yrs			236,916	2,087	78



# Where we landed – Phase I (SRVH)

Scope #	Energy Conservation Measure	Scope of Work Summary	Cost, Savings, and Incentives								Yearly Energy and GHG Emission Reduction			
			Turnkey Cost (\$)	Utility Savings (\$)	O&M Savings (\$)	Total Savings (\$)	Grants & Incentives (\$)	Simple Payback (Years)	Resiliency/Emergency Prepared	Microgrid	kWh Savings/Generation	Natural Gas Savings (Therms)	Water Savings (kGal)	CO <sub>2</sub> e Savings (Lbs)
1.1	LED Lighting Retrofit	Comprehensive type B LED lighting replacement	224,870	6,730	415	7,145	0	+20	-	-	22,430	0	0	1,530
3.2	HVAC Replacement	Replace hot water boiler serving auditorium with electric heat pump. Add three mini splits to front offices.	1,023,800	(7,410)	(1,800)	(9,210)	0	NP	✓	-	(24,710)	1,770	0	22,120
4.2	Car Canopy Solar	Install 110 kW car canopy PV array, North lot	974,790	39,010	(2,210)	36,800	248,570	18.5	✓	-	165,990	0	0	11,290
5	BESS	Install 80 kW / 220 kWh BESS	578,570	4,260	(2,700)	1,560	269,940	+20	✓	✓	(5,790)	0	0	(390)
7	BMS	Bring all building systems into one remotely controllable front end	396,260	0	0	0	0	NP	✓	✓	0	0	0	0
9	CMP Chiller Schedule Update	Provide CMP schedule and 3 years of quarterly M&V to confirm savings. Capturing 50% of the utility savings associated with this scope.	45,000	62,500	0	62,500	0	0.7			0	0	0	0
-	IGA	Phase 1 investment grade audit	2,750	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>			<b>3,246,040</b>	<b>105,090</b>	<b>(6,295)</b>	<b>98,795</b>	<b>518,510</b>	<b>+20</b>			<b>157,920</b>	<b>1,770</b>	<b>0</b>	<b>34,550</b>

Cost of project after capital contribution, financing and incentives = **\$4,048,044**





## Phase I Progress

- Construction begins mid-2024
- Expected completion for full scope by early Nov 2024
- PV + BESS must be operational by 3/1/25 to claim SGIP Incentive



# Where it started – Phase II

Option Bundled	SCOPE #	ENERGY CONSERVATION MEASURE	PROJECT COST (\$)	UTILITY SAVINGS (\$/YR)	O&M SAVINGS (\$/YR)	TOTAL SAVINGS (\$/YR)	GRANTS & INCENTIVES (\$)	SIMPLE PAYBACK w/ ESCALATION [YEARS]	UTILITY / CARBON REDUCTION	RESILIENCY / EMERGENCY PREPAREDNESS	MICROGRID
	1	LED Lighting w/ Controls	\$5,071,200	\$403,100	\$25,400	\$428,500	\$0	10	X		
	2	HVAC Upgrade	\$1,154,800	\$8,000	\$5,800	\$13,800	\$0	>20 yrs	X	X	
	3	HVAC Controls Upgrade	\$7,083,600	\$123,000	\$35,400	\$158,400	\$0	>20 yrs	X		
	5	Solar PV - Rooftop	\$1,334,100	\$61,600	-\$5,400	\$56,200	\$340,200	14	X	X	X
	6	Solar PV - Carport	\$12,427,700	\$449,600	-\$39,400	\$410,200	\$3,169,100	16	X	X	
	7	Battery Energy Storage System (BESS)	\$6,600,000	\$75,800	-\$5,000	\$70,800	\$2,435,000	>20 yrs		X	
	9	Water Conservation	\$1,483,500	\$114,100	\$0	\$114,100	\$0	11	X		
	10	High Efficiency Transformers	\$700,000	\$40,000	\$0	\$40,000	\$0	14	X	X	
	11	Heat Pump DHW heaters, incentivized	\$119,900	-\$2,200	\$0	-\$2,200	\$103,800	N/A	X		
	<b>Total</b>		<b>\$35,974,800</b>	<b>\$1,273,000</b>	<b>\$16,800</b>	<b>\$1,289,800</b>	<b>\$6,048,100</b>	<b>17</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>OBF Impact</b>		<b>\$30,903,600</b>	<b>\$809,900</b>	<b>-\$8,600</b>	<b>\$801,300</b>	<b>\$6,048,100</b>	<b>20</b>	<b>X</b>	<b>X</b>		



# Where we landed – Phase II

SCOPE #	ENERGY CONSERVATION MEASURE	SCOPE OF WORK SUMMARY	COSTS, SAVINGS & INCENTIVES								ENERGY & EMISSIONS REDUCTION			
			PROJECT COST	CAPITAL COSTS AVOIDED	ANNUAL UTILITY SAVINGS	ANNUAL O&M SAVINGS	ANNUAL TOTAL SAVINGS	GRANTS & INCENTIVES	SIMPLE PAYBACK w/ ESCALATION (YEARS)	Expected useful life	Annual kWh savings / generation	Annual Natural Gas Savings, therms	Annual Water savings, kGal	Annual CO2e saving annual, lbs
1	LED Lighting w/ Controls	LED lighting retrofit at 46 buildings. Primarily type B retrofit with standalone controls.	\$6,376,474	\$3,384,378	\$403,325	\$30,872	\$434,196	\$0	12	20	1,630,934	0	0	114,165
2	Solar PV - Carport	1.827 MWdc at the County Admin Center	\$13,423,541	so	\$536,000	(\$36,540)	\$499,460	\$3,269,155	15	30	2,580,000	0	0	180,600
3	Battery Energy Storage System (BESS)	1 Tesla Megapack at the County Admin Center central mechanical plant yard. 964 kW / 1927 kWh. 240 kW / 516 kWh battery at Los Guilicos.	\$4,907,425	\$0	\$188,340	(\$5,000)	\$183,340	\$1,228,364	14	20; 15	(41,782)	0	0	(2,925)
4	Water Conservation	Replace a mixture of fixtures, aerators, retrofit flush timing using the existing system at the MADF. This scope is at 44 buildings.	\$3,147,560	so	\$147,776	\$2,190	\$149,966	\$0	>20 years	15	35,262	9,690	5,628	132,763
5	Heat Pump DHW heaters, incentivized	Replace 3 existing gas water heaters at Petaluma Vets, Cloverdale Vets, and Heavy Fleet Building	\$96,573	so	\$61	\$0	\$61	\$51,191	>20 years	15	(18,670)	2,684	0	34,782
6	CMP Chiller Schedule Update	Provide CMP chiller schedule. Provide 3 years of quarterly M&V to confirm savings. Only capturing 1/2 of the utility savings here.	\$0		\$62,500	\$0	\$62,500	\$0	0	20	0	0	0	0
	Investment Grade Audit	Fee for PG&E SST Investment Grade Audit (IGA) and report	\$247,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Energy Conservation Assessment	Fee for PG&E SST ECA report	\$27,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		<b>Total</b>	<b>\$28,226,572</b>	<b>\$3,384,378</b>	<b>\$1,338,002</b>	<b>(\$8,479)</b>	<b>\$1,329,523</b>	<b>\$4,548,710</b>	<b>14</b>		<b>4,185,744</b>	<b>12,374</b>	<b>5,628</b>	<b>459,386</b>

Cost of project after financing =  
**\$39,695,500**



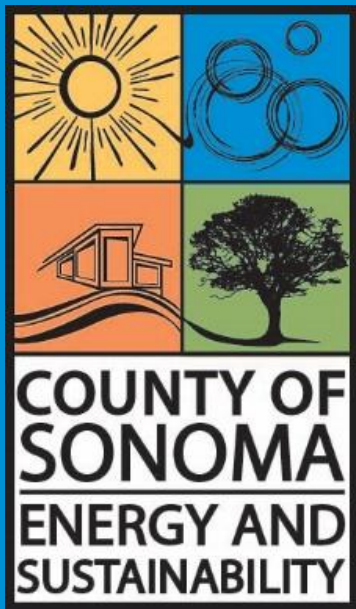
# Lessons Learned

- Clearly define the roles of those involved – separate the individual from the position/role
- Define clear, shared objectives that align with stakeholder interest but still meets project goals.
- Understand who owns/provides the following:
  - Utility data
  - Systems data (HVAC/Water Heating model/serial numbers)
  - Maintenance logs
  - Facility drawings
    - Mechanical layouts
    - Electrical diagrams
    - “As built”
  - Access to facilities



# Lessons Learned

- Update/consult your decision makers and legal counsel early and often.
- Consider where the project fits into your organization's CAP.
- Actively listen to stakeholders' concerns and try to find a path forward that addresses both concerns and project goals.
- Maintain perseverance and focus on the ultimate goals of the project and its broader impact, even when facing resistance.
- Remain fluid and able to pivot depending on the changing needs of the project to keep it moving forward.
- Complex projects can be overwhelming. Break the project into smaller tasks to focus on moving them forward.
- Archive *all* related documentation/correspondence!



# Contact Us

Storefront open 8-5

Monday through Friday

2300 County Center Drive, Suite A105

Santa Rosa, CA 95403

707-565-6470

[Energy@Sonoma-county.org](mailto:Energy@Sonoma-county.org)

[www.sonomacounty.ca.gov/energy](http://www.sonomacounty.ca.gov/energy)

# Site Overview

## McCain Valley -Task Order 5

This task order focuses on the McCain Valley site located at 2550 McCain Valley Road, Boulevard, CA, 91905 in San Diego County.

This currently unutilized site was once operated

by California Department of Corrections and Rehabilitation as part of the Conservation (Fire)

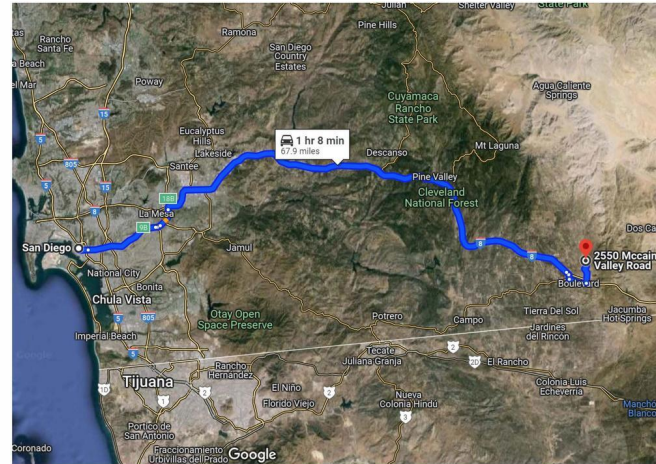
Camp Program whose mission is to support state, local, and federal government agencies as

they respond to emergencies including fires, floods, and other natural disasters.

It is a 433-acre parcel with an irregular shape.

11 existing structures and a parking area are on site.

ARUP



# Site Overview – Renewables Potential

## McCain Valley – Task Order 5

The McCain Valley site has promising natural solar and wind resources. It is within a two-mile radius of two existing renewable generation sites. Nine other solar farms and two other wind farms are planned or operating within 40-100 miles northeast / east of the site. Additional sites are located to the west, near the coast.







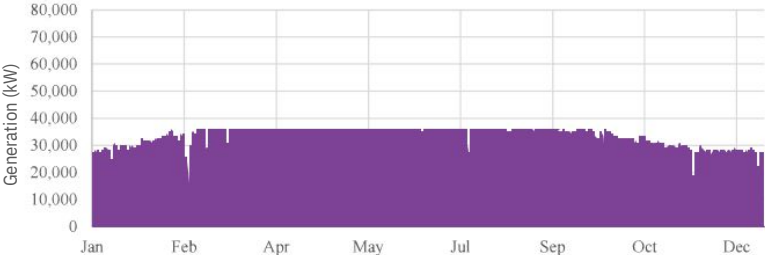
# Annual Generation

## McCain Valley – Task Order 5

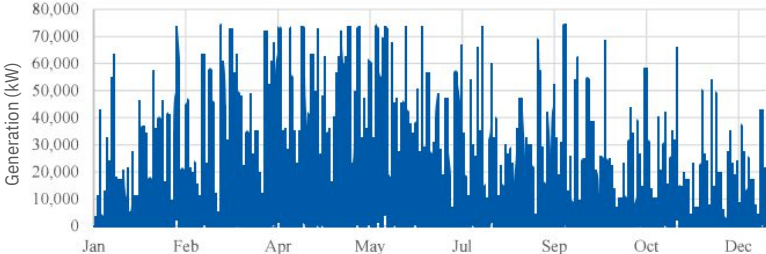
Scenario 1 – PV Only (65.5 MW-DC)



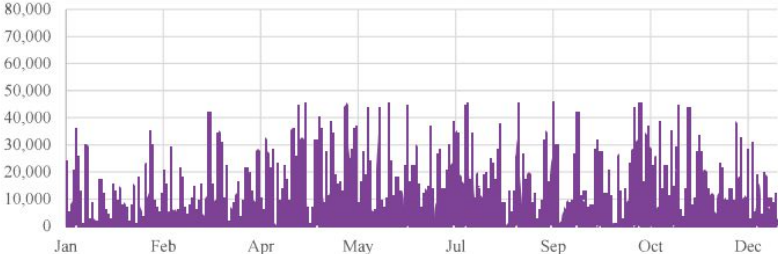
Scenario 3 – PV with Wind (43.3 MW-DC)



Scenario 2 – Wind Only (93.6 MW-AC)



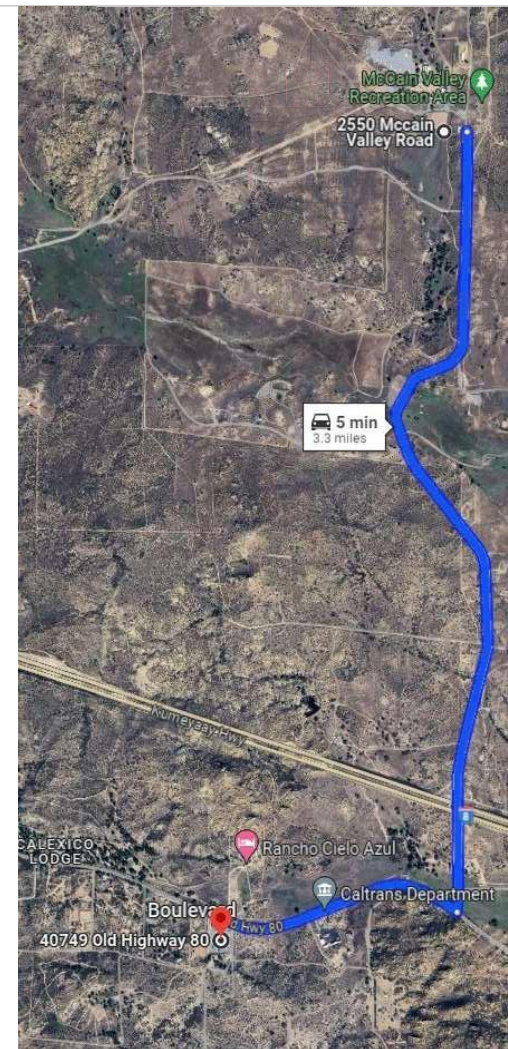
Scenario 3 – Wind Generation (57.6 MW-AC)



# Interconnection Opportunities

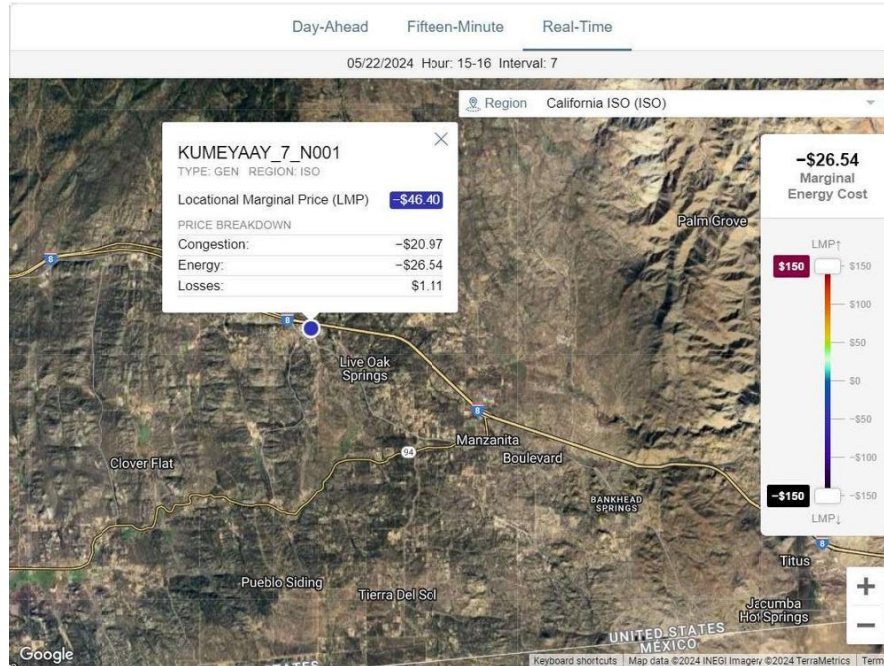
## McCain Valley – Task Order 5

- **12.47kV distribution line** – Appears to be an exclusive line running from Tule Wind project directly to private site south of McCain Valley Conservation Camp. *Infeasible interconnection.*
- **138kV transmission line** – Appears to be an exclusive line with 196MVA capacity serving the 200.1MW Tule Wind project. Runs from Tule Wind project to Boulevard Substation. *Potential opportunity to coordinate with Tule to upgrade & tap into line.*
- **500kV transmission line** – Main extra high voltage (EVH) SDG&E transmission line. EHV lines typically don't have small generation attached to them for reliability issues and are used to wheel power from region to region. Would require a switching station and three ring bus; collector substation would tie to this ring bus. *Costly interconnection, typically only justified by project >300MW.*
- **New transmission line** – Potential opportunity to run a new direct connection to the 138kV Boulevard Substation, 1.7 miles from the site. *Preliminary routing and estimate to come.*



# Applying Prices over Time

## McCain Valley – Task Order 5



Operation Date	Operation Hour	LMP Price
		\$/MWh
5/22/2023	1	\$ 21.48
5/22/2023	2	\$ 17.88
5/22/2023	3	\$ 16.25
5/22/2023	4	\$ 16.05
5/22/2023	5	\$ 19.17
5/22/2023	6	\$ 31.77
5/22/2023	7	\$ 34.50
5/22/2023	8	\$ 20.45
5/22/2023	9	\$ 21.09
5/22/2023	10	\$ 21.80
5/22/2023	11	\$ 18.59
5/22/2023	12	\$ 19.85
5/22/2023	13	\$ 19.44
5/22/2023	14	\$ 14.91
5/22/2023	15	\$ 7.14
5/22/2023	16	\$ 11.82
5/22/2023	17	\$ 11.82
5/22/2023	18	\$ 31.30
5/22/2023	19	\$ 43.82
5/22/2023	20	\$ 67.42
5/22/2023	21	\$ 62.69

# MEMBER NETWORKING - 25 minutes

- **Groups of 3-4**
- **Three 8-minute rounds**

Please refer to your participant packet for networking questions (page 4), sent via email & the chat box



**LOCAL GOVERNMENT  
SUSTAINABLE  
ENERGY COALITION**

# WHODUNIT: THE REAL STORY OF UNTETHERED RATE INCREASES

Presented to LGSEC

October 11, 2024

Richard McCann, M.Cubed

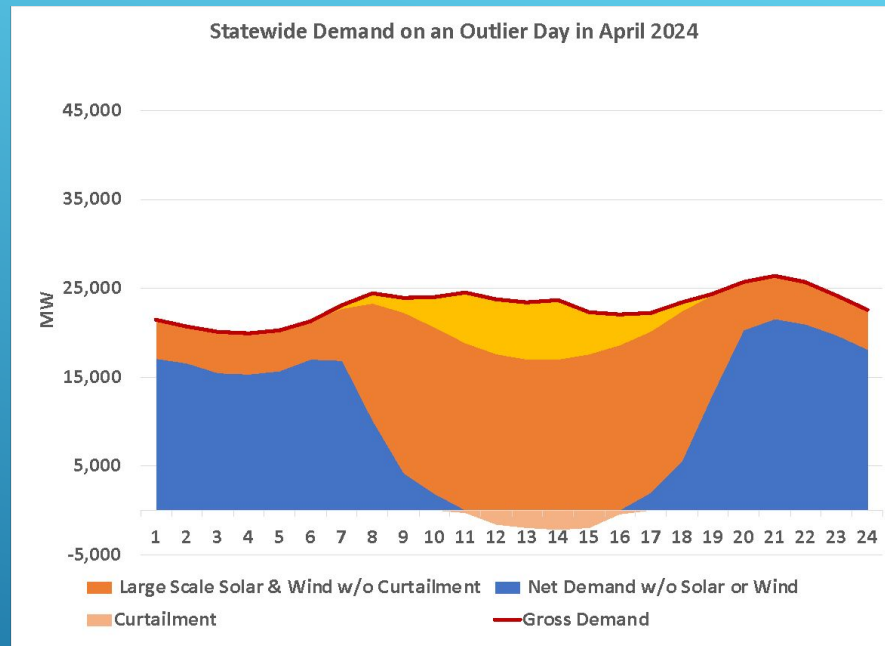
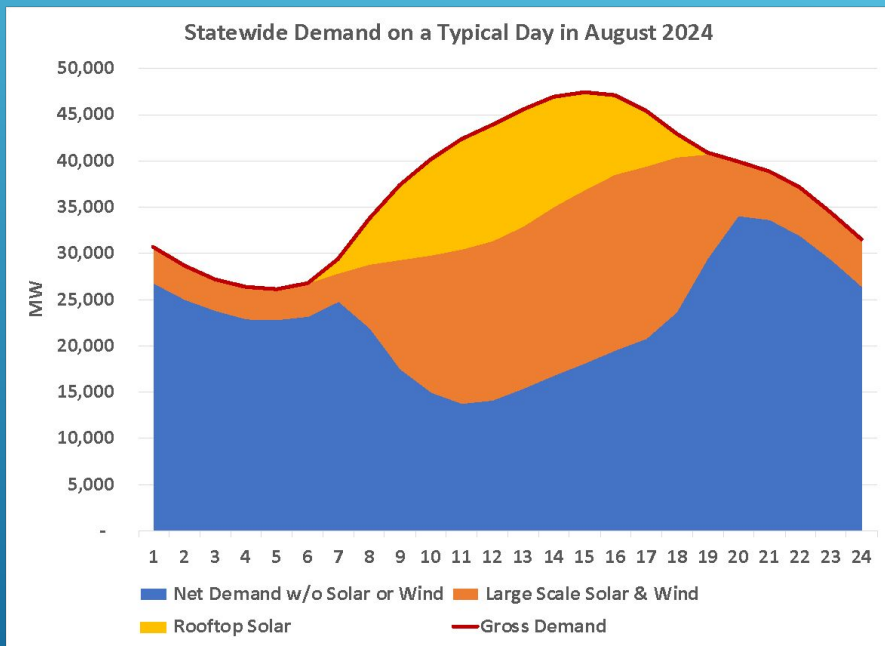


- ▶ Since 2014: PG&E rates up 110%, SCE = 90%, SDG&E = 82%
- ▶ CPUC Public Advocates Office with utility support asserts rooftop solar customers shirked \$8.5 billion in rate responsibility
- ▶ A corrected version reverses this story and rooftop customers have instead saved ratepayers billions of dollars
- ▶ The real source of rate increases can be traced directly to untethered utility spending, much of it not overseen
- ▶ Recent CPUC decisions have decimated the rooftop solar industry—a key component of meeting our electrification goals

## WHAT IS CAUSING DRAMATIC RATE INCREASES?

# California's Peak Electricity Demand Is Still Mid-Day

## Rooftop Solar Addresses Summer Peak Enabling Savings for Everyone



- The mid-day summer peak still exists. This is actual electricity consumption. Rooftop solar addresses this peak.
- The “net peak” is now in the evening. We are addressing that with solar plus storage.
- When generation exceeds consumption, large scale solar is curtailed. This is small in comparison with total solar generation, and only occurs on some spring days when total consumption is much lower. Storage is the answer.

CAISO; DG Stats





**Cost shift advocates have three *erroneous* unstated premises**

1. **Utilities own all electric output including used for self generation and are entitled to charge the retail rate**
  - ▶ Even if the utilities incurred no costs
2. **Rooftop solar is a reduction in use of infrastructure already built**
3. **Only avoided costs in the future matter**

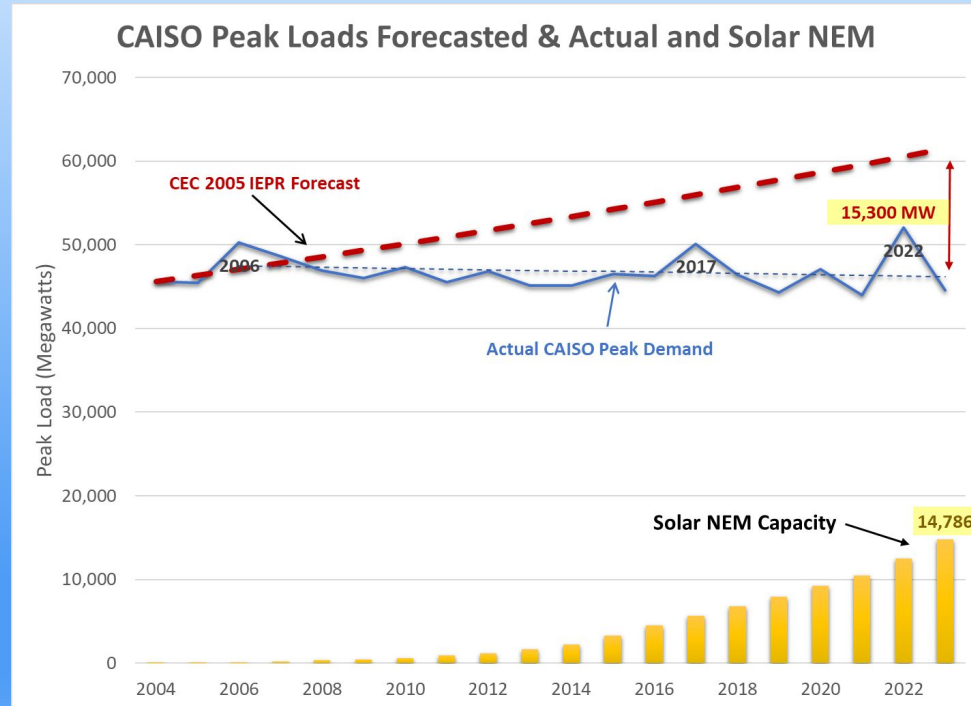
**The correct premises are**

1. **Customers own their generation and have no obligation to pay retail rates**
2. **Rooftop solar has met increased load growth and metered load has remained flat since 2006**
3. **Rooftop solar has created savings in generation and displace transmission and distribution investment that have reduced current rates**

**THE “COST SHIFT” STUDIES USE FAULTY PREMISES**

# Rooftop Solar Has Kept Peak Electricity Demand Flat for Nearly 20 Years

- Utilities complain about solar as “departing load,” as if the size of the pie never changes and solar customers only take away slices.
- Actually, rooftop solar has kept the pie from growing.
- Rooftop solar avoided new generation capacity, expensive renewable contracts, associated transmission investment, and added local distribution.

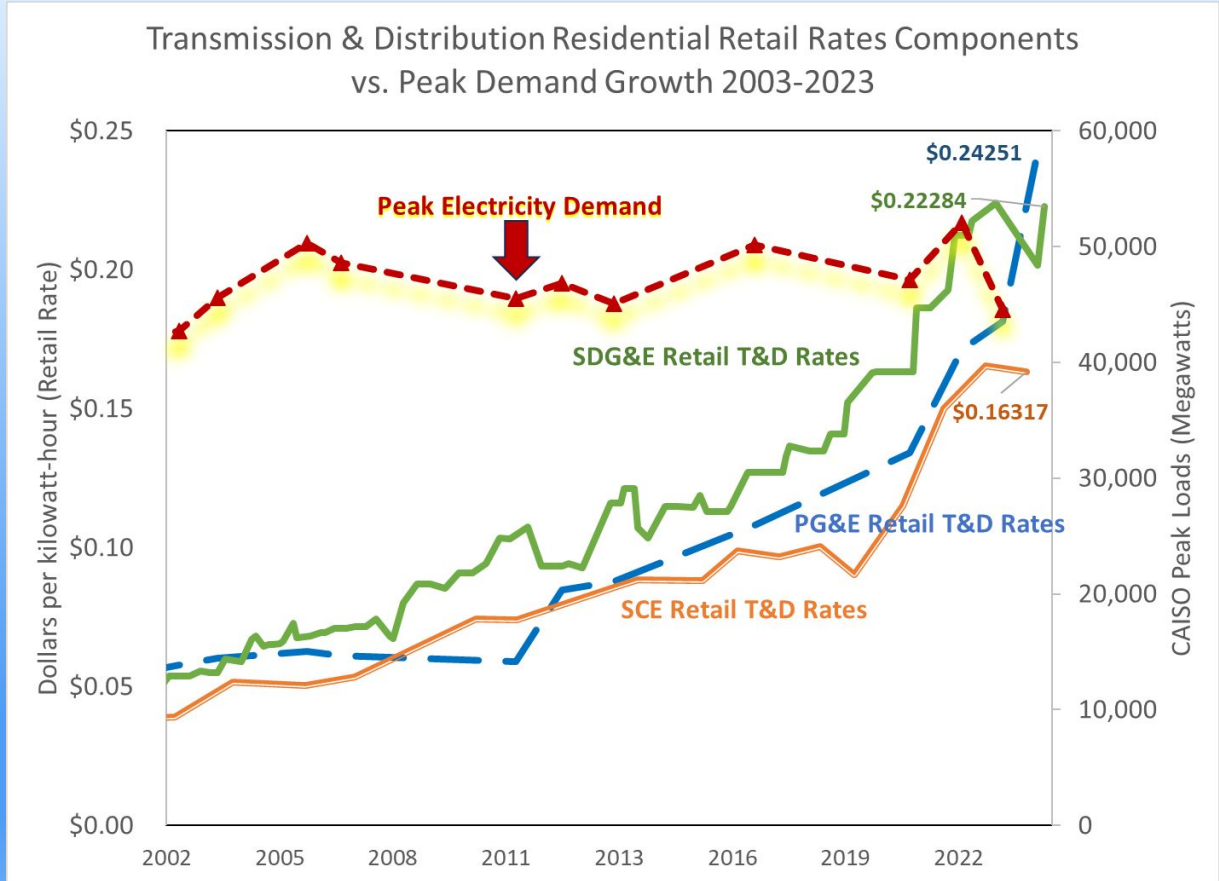


Energy planners expected peak loads to increase by 15,000 MW

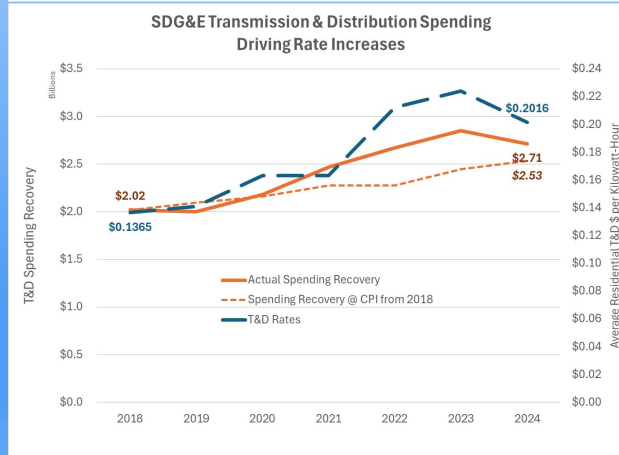
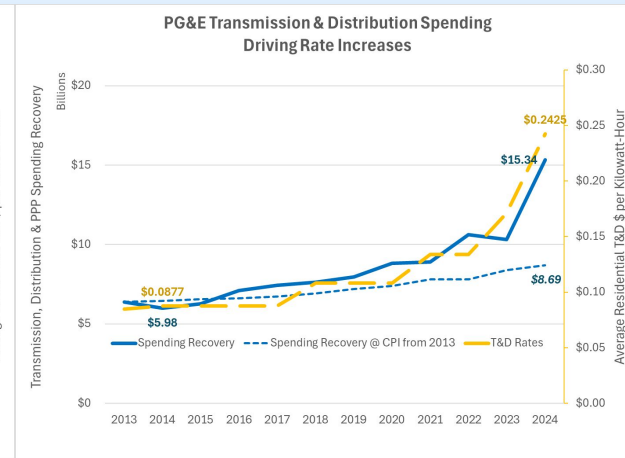
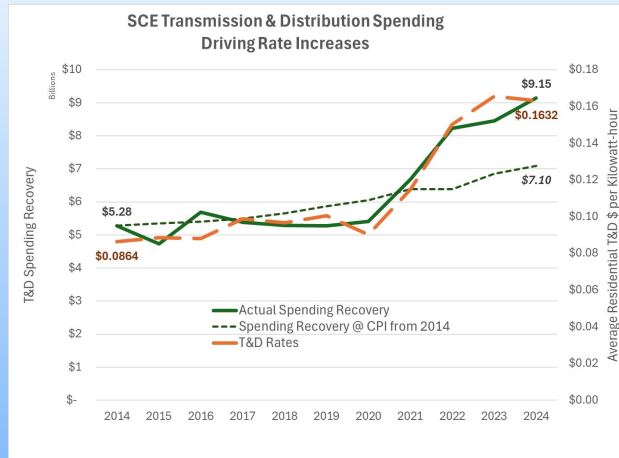
Instead, consumers covered load with 15,000 MW of solar



Peak Electricity Demand Has Remained Flat For Nearly Twenty Years Yet Utility Spending Has Increased Dramatically



Utility rates have increased because utility spending has increased.



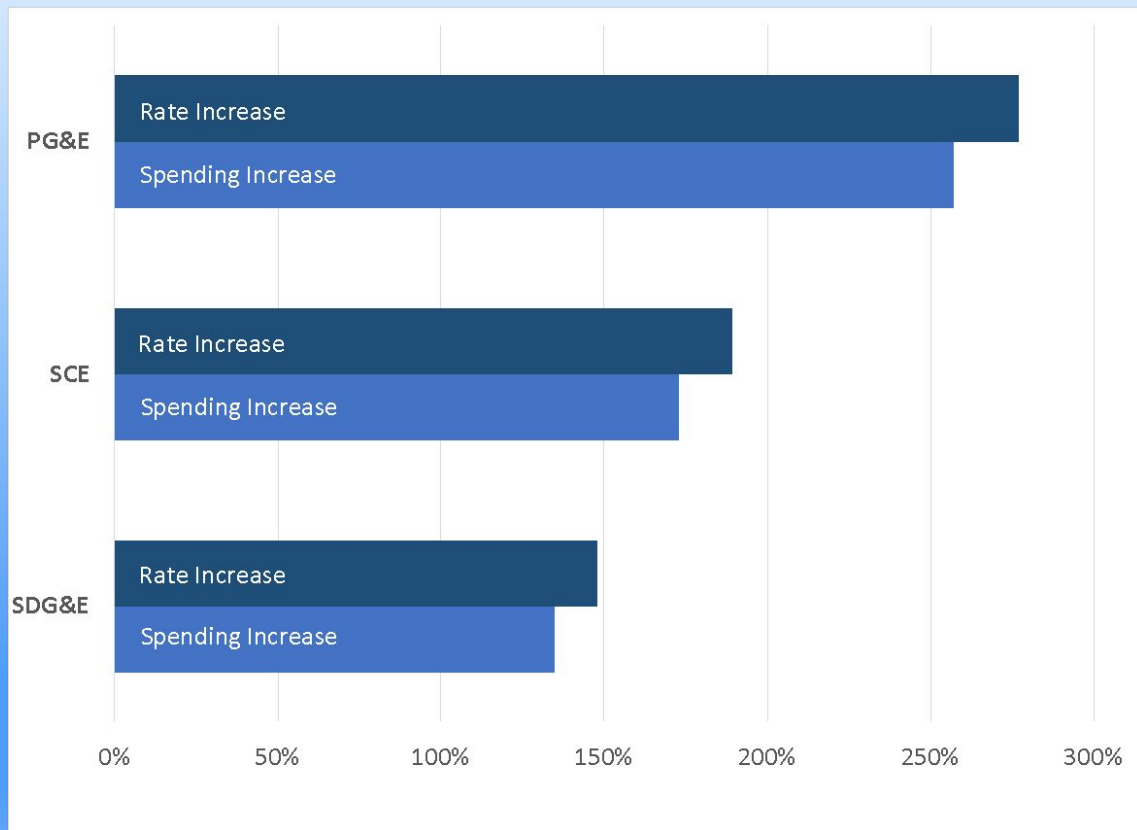
- Grid spending has far outpaced inflation and is nearly 1:1 with rate increases.

("Spending Recovery = Collections from ratepayers for utility spending from current and previous years)



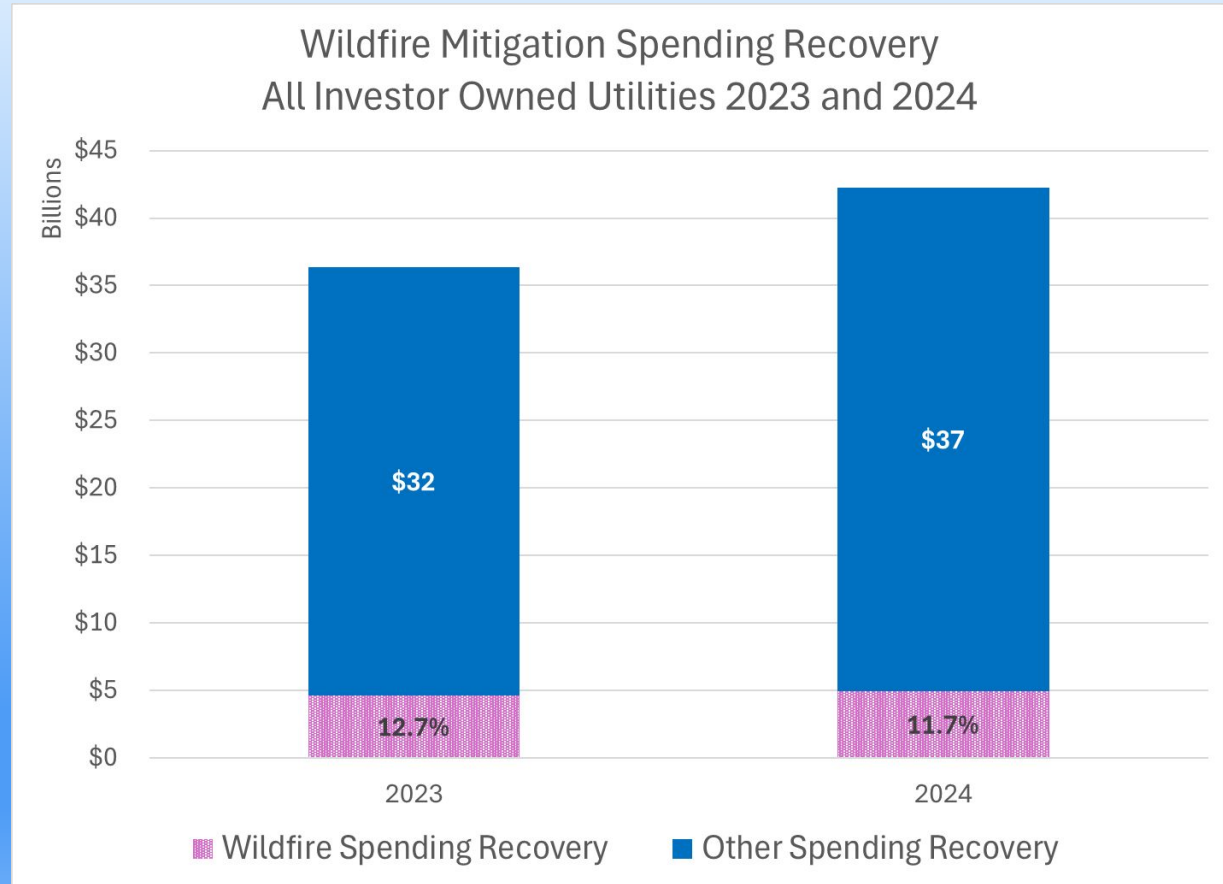
# NEARLY ALL RATE INCREASES ARE DUE TO SPENDING INCREASES

- 91%-93% of the utilities' T&D rate increases are the direct result of their spending increases.
- T&D spending accounts for two-thirds of rates. Generation spending has grown much more slowly over time.
- The rest is due to customers reducing their usage in response to rapidly rising prices

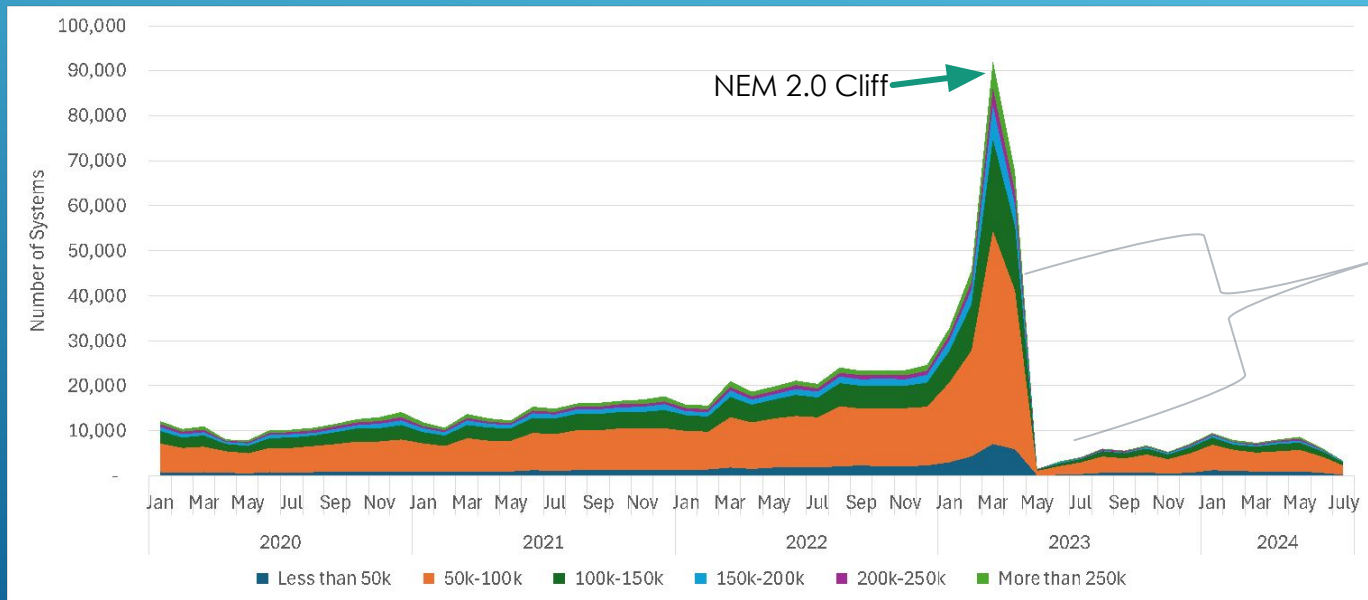


PG&E and SCE timeframe is 2014-2024. SDG&E timeframe is 2018-2024 because the utility did not previously report T&D spending separately.

WILDFIRE  
MITIGATION  
COSTS ARE  
NOT THE MAIN  
REASON FOR  
SPENDING  
INCREASES



# NEM 3 Hurt Solar Everywhere, Especially in Low- and Middle-Income Communities



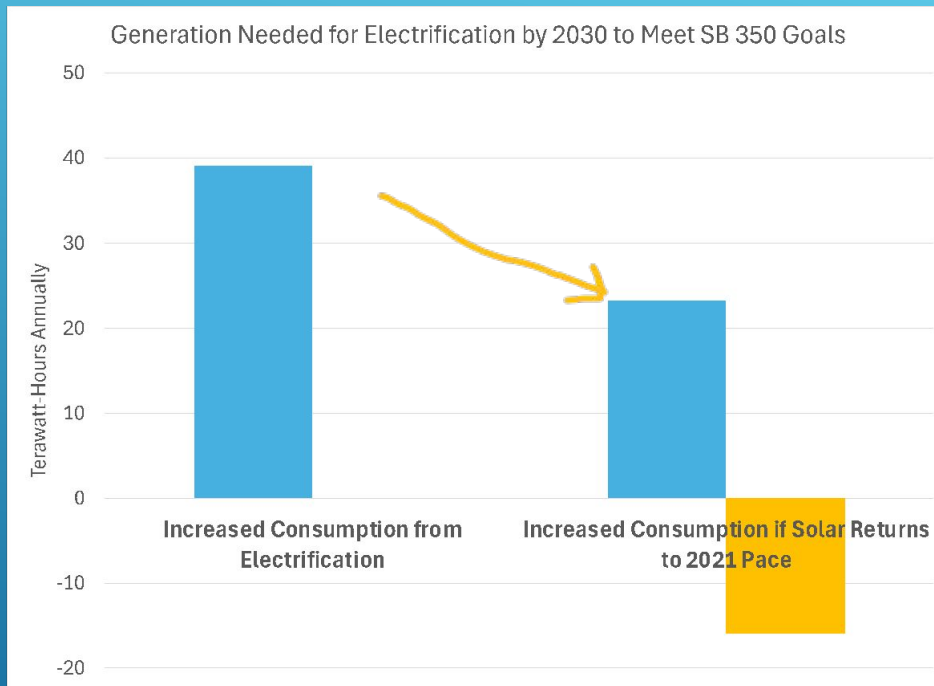
All income levels were severely harmed by the sudden and extreme changes of NBT, but especially those in the \$50k-\$100k bracket as they are the largest slice of the market pie.

Source: CALSSA analysis of DG Stats, Census Data



# With Electrification, Rooftop Solar Is Even More Important for California

- If we only respond to electrification by building power lines to faraway power plants, grid infrastructure costs will increase dramatically.
- If rooftop solar returns to its 2021 pace, it would cover less than half of the projected increase in electricity usage due to electrification.



Source: CEC Integrated Energy Policy Report; California Distributed Generation Statistics





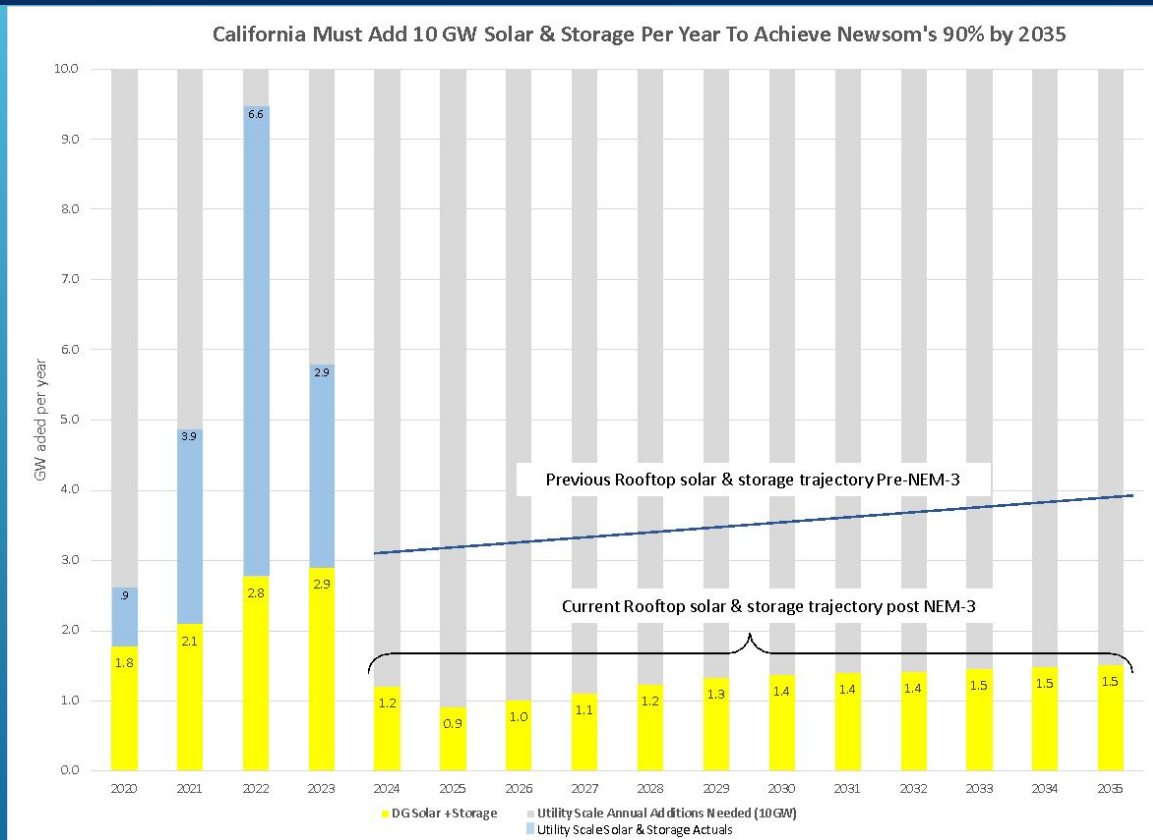
# California Is Falling Short of Renewables Needed to Achieve 100% Clean Energy

In this chart, grey bars depict how much solar & storage California must build to meet its accelerated climate goals by 2035 (10 gigawatts added per year according to CARB).

The yellow and blue bars show actuals and projected MWs added each year.

California must accelerate both utility scale and rooftop projects.

Over the the past four years, the rooftop solar and storage market has accounted for 40% of the capacity additions. The market has been severely cut back creating an unrealistic scenario for utility scale solar and storage to make up for the loss.



THANK YOU

[mccann@mcubed-econ.com](mailto:mccann@mcubed-econ.com)

530.757.6363



# LGSEC Fall Forum

October 10, 2024



## ***State Engagement Opportunities of Local Interest Outside of CPUC Regulatory Proceedings***

Angie Hacker

CCEC Statewide Best Practices Coordinator



# CEC Engagement Opportunities

## Events and Workshops

- 2024 Electric Program Investment Charge (EPIC) Symposium (October 28)

## Comment Opportunities

- SB 100 Demand Forecast - CCEC Commented Aug 2024
- HOMES/HEERHA - CCEC Commented January 2024; Continuous docket
- TREC Contractor Training - CCEC Commented Sept 2023; Continuous docket
- 2025 Building Energy Efficiency Standards - Continuous docket

## Advisory Opportunities

- CCEC/CEC bi-monthly informal meeting - contact Angie to join

## Other

- Building Energy Performance Strategy Report
- Solar for All (pending)
- Technical Assistance for Building Energy Codes (pending)
- General local coordination - leadership meeting CCEC soon



# CARB Engagement Opportunities

## Events and Workshops

- 5-Year Strategic Research Plan - CCEC commented live and invited CARB to LERN (Feb 2024)
- CCI Triennial Investment Plan - CCEC commented live (Feb 2024)
- CCI Funding Guidelines Workshop - CCEC commented live (July 2024)
- CCI Outreach Liaisons Presentation (Sept 2024)
- Transportation Fuels Transition Plan
- Zero emission heat and water heater standards - regional workshops; CCEC inviting to SLECC

## Other

- CCI Reauthorization (Leg)

## Advisory Opportunities

- Addressing barriers to Advanced Clean Fleet regulations - TBD
- Transportation Fuels Transition Plan - CCEC on Workgroup
- SLECC - Barrier to Climate Action (CCEC drafted Summary report; next discussion in December 2024)

## Comment Opportunities

- CCI Funding Guidelines - CCEC submitted comment (July 2024)
- 2022 Scoping Plan - CCEC Submitted Comment in June 2022



# CPUC Engagement Opportunities

## Events, Workshops (Informal)

- Climate Adaptation Vulnerability Assessment - Workshop #2 Oct 25, 2024 in Irvine

## Advisory Opportunities

- [CPUC Data Access](#) - CCEC participating

## Comment Opportunities

- <Steven Moss handling>

## Other

- CPUC interest in Energy Affordability conversation



# LCI (OPR) & SGC Engagement Opps

## Events, Workshops

- Local Government Roundtables (pending 2025-26)

## Advisory Opportunities

- Climate Action Plan Technical Advisory Group + General Plan Guidelines

## Comment

- California Climate Adaptation Strategy - CCEC Commented July 2024

## Other

- Priority 3; E/O
- Prop 4
- Vatican Initiative
- Environmental Goals Policy Report
- CEQA Mitigation Bank
- Siting/permitting



# ***IBank/Treasurer Engagement Opps***

## **Events, Workshops**

- Treasurer's Office: Local Financing Resources

## **Advisory Opportunities**

## **Comment**

- IBank Climate financing products - Continuous RFI

## **Other**





# CCEC State-Local Coordination

## SLECC

- Virtual Statewide: December - Barriers to Local Climate Action
- Regional convenings being planned
  - Stay tuned for possible convening in Inland Empire in December
  - Collaborating with LCI/SGC



# LSGEC / CCEC Collab Discussion

## CEC

- HOMES/HEERHA - Continuous docket
- TREC Contractor Training - Continuous docket
- 2025 Building Energy Efficiency Standards - Continuous docket
- Building Energy Performance Strategy Report
- Solar for All (pending)
- Technical Assistance for Building Energy Codes (pending)

## CARB

- Transportation Fuels Transition Plan
- Zero emission heat and water heater standards
- Addressing barriers to Advanced Clean Fleet regulations
- CCI reauthorization

## CPUC

- Climate Adaptation Vulnerability Assessment - Workshop #2 Oct 25, 2024 in Irvine

## IBANK

- IBank Climate financing products - Continous RFI

## Other

- Regional convenings - LSGEC session?
- Anything else?

# LGSEC Member Meeting

Thank you for engaging today!



**LOCAL GOVERNMENT  
SUSTAINABLE  
ENERGY COALITION**