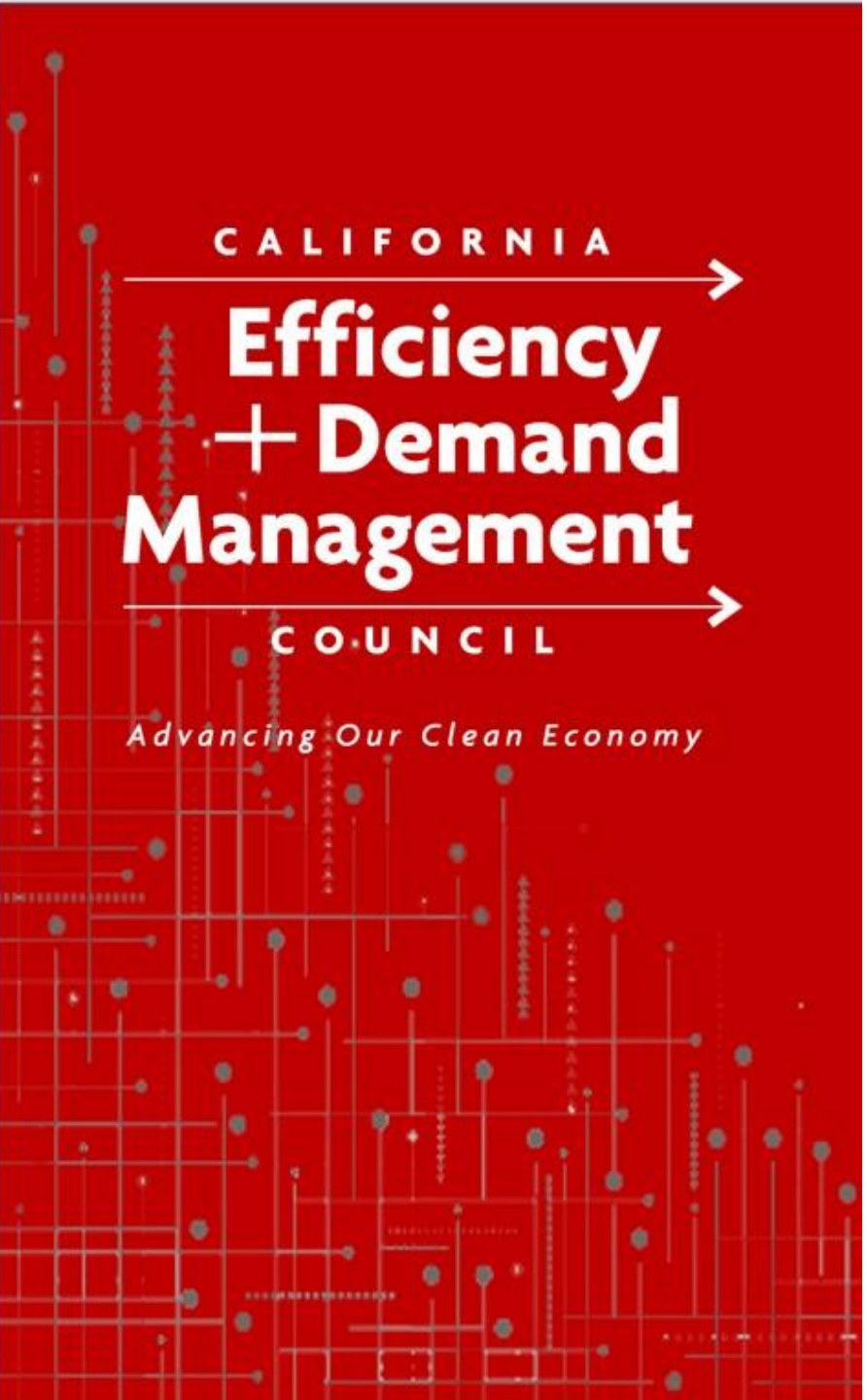

PG&E - CEDMC Business Forum

EE Focused Discussion Recommendations for Reform

Joe Desmond
October 3, 2024

Solicitations and Contracting - Recommendations for Reform

- Recommendations for Improving Program Design and Implementation
- Ongoing Challenges with Policy and Metrics
- Challenges with avoided cost calculators and net-to-gross ratios
- Additional challenges
- Custom Review
- Next steps and recommendations

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LINCUS
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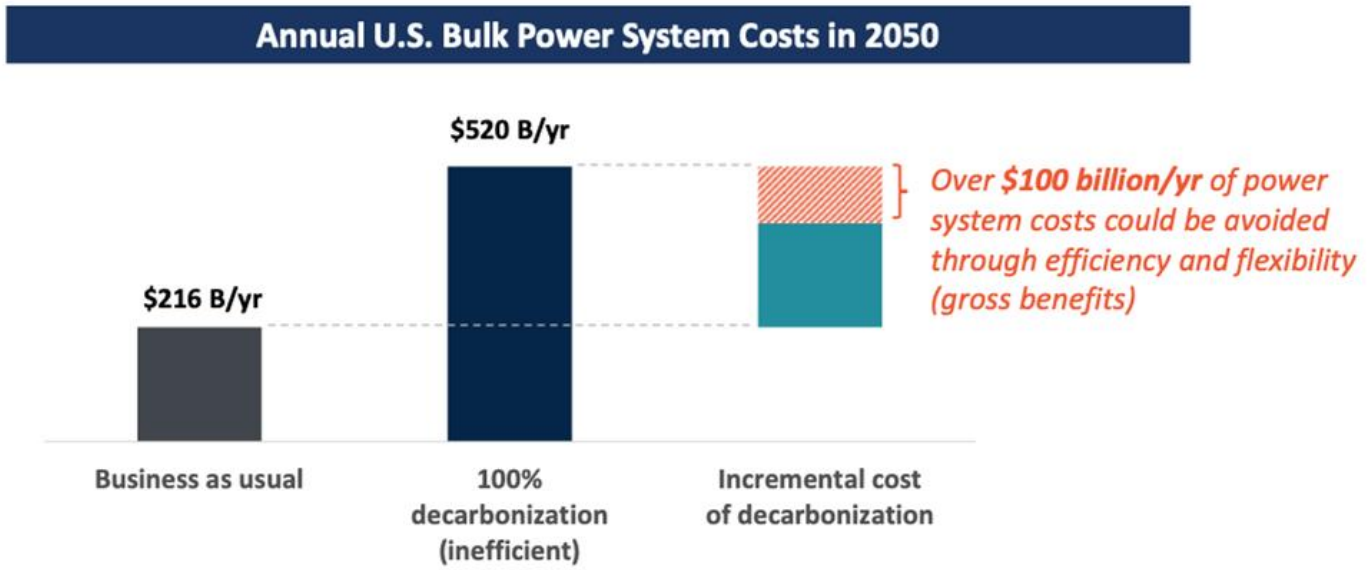
Improved Affordability

Improved affordability

Efficiency & flexibility could avoid hundreds of billions of dollars in power system costs. And consumers will spend less on new electric heating systems.



For more detail: https://buildings2050.lbl.gov/

brattle.com | 17

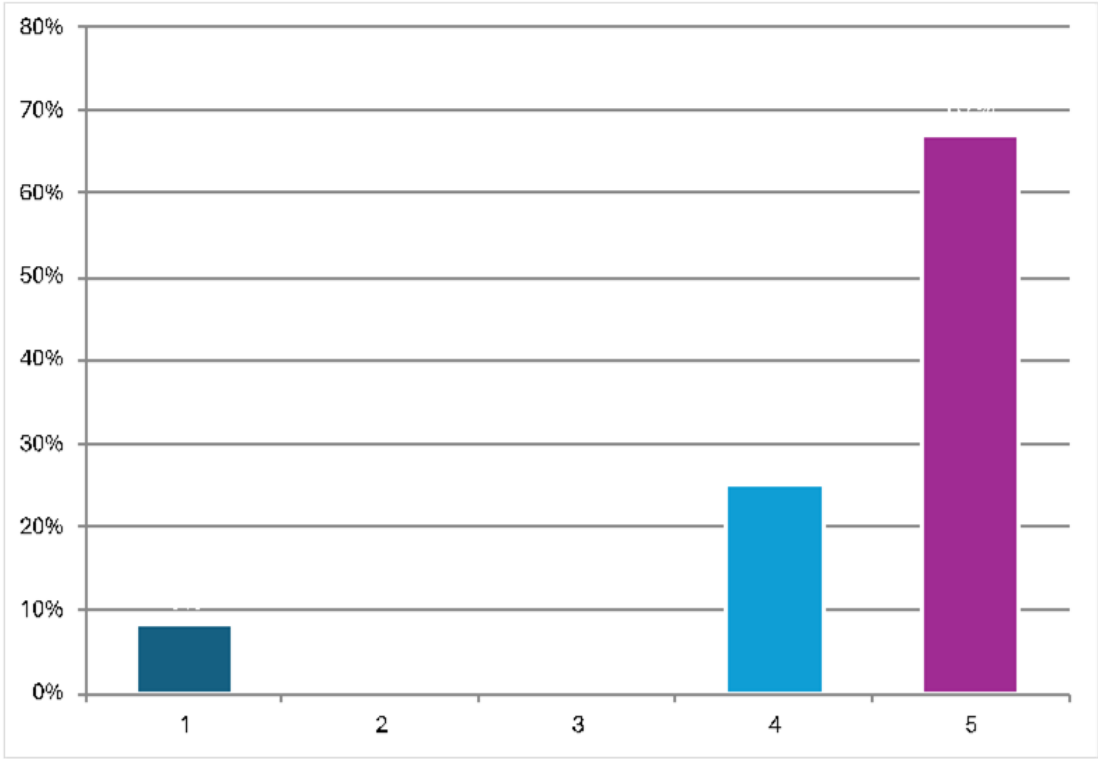
Source: Presentation by Ryan Hledik: Principal at the Brattle Group at CEDMC's Fall Conference

Q1

1. **RFP Document Consistency Across IOUs:**
   The IOUs all have very different RFP requirements and documents. Would it be helpful for the IOUs to develop a standard RFP template?

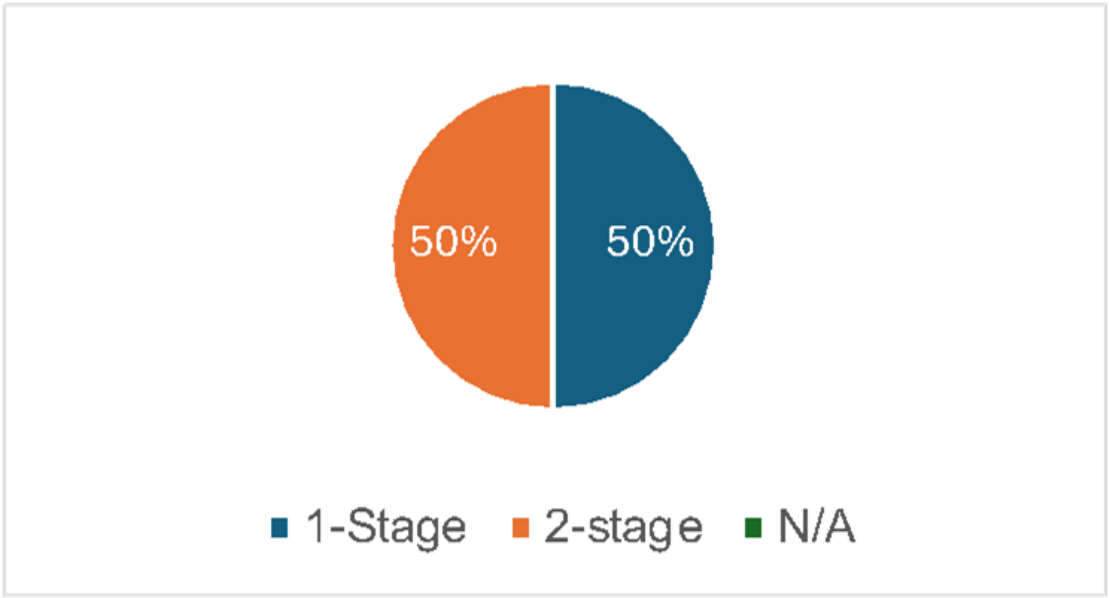
   1-star if it is not very helpful, 5-stars it would be very helpful

4.42
Average Rating



Q2

2. **1-stage vs. 2-stages:**
   Do you prefer the solicitation process to contain a single-stage (RFP only) or two-stages (RFA & RFP), assuming that the two-stage process provides a very simple RFA?



Q3

3. Additional Comments

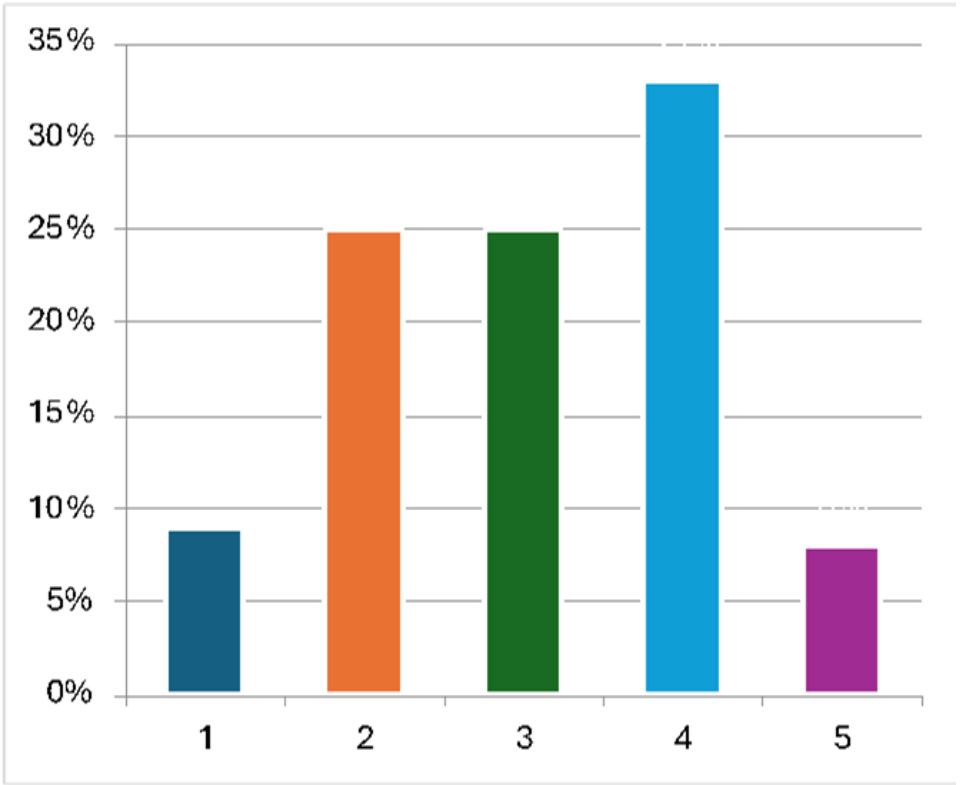
ID ↑	Name	Responses
1	anonymous	Assuming this is for Q2. The 2-stage is OK only if the first stage is very simplified.
2	anonymous	I value the two-stage process only 1) if the RFA stage is kept extremely simple (e.g., a detailed M&V plan should not be required at the RFA stage), and 2) if the IOUs would consider giving bidders feedback on abstracts to help shape them appropriately for the RFP stage (e.g., in terms of allowability of their proposed program concept).
3	anonymous	A standard template for RFP responses is much more helpful than a standard template for presenting the RFP to potential bidders.
4	anonymous	Consistency won't necessarily help. Two-stage also won't necessarily help. For Q#7, debriefs, my open ended response: IOUs do not consistently provide debriefs.
5	anonymous	Would prefer longer response period, (6-8 weeks) to a single-stage RFP.

Q4

4. Do you believe that the Q&A process provides clarity and direct answers to a bidder's questions?

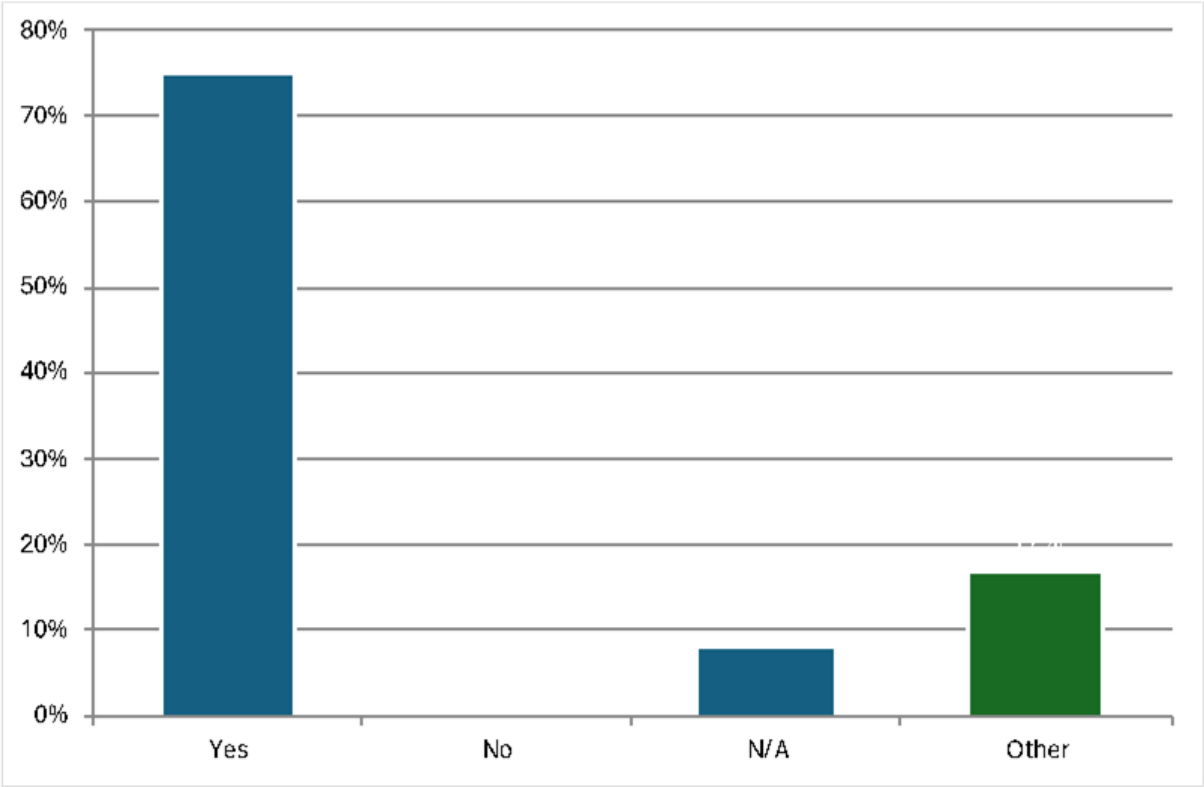
1-star does not provide clarity/answers, 5-stars provides great clarity/answers.

3.08
Average Rating



Q5

5. Would you like to see more information on segment-specific data? (For example, if you are bidding an Industrial program, would it be helpful to break out the Industrial segment NAICS codes, customer size and customer count)?



Q6

6. Additional Comments

ID ↑	Name	Responses
1	anonymous	Granularity helps immensely. CPUC already has ordered utilities to provide usage data to all parties (prior to even contracting) bidding into a program. This information will be very helpful not just for effective EE programs but also for DER programs.
2	anonymous	Q&A helpfulness can vary by IOU and solicitation lead. What is most helpful is if the IOU answers the bidder's question directly instead of pointing them to a document or a ruling that they must try to find, read, and interpret. Having segment-specific data is essential to being able to develop realistic program participation and savings goals.
3	anonymous	It would also be helpful to know which other existing or proposed programs will be competing in the same space, as we have assumed (incorrectly) that any proposed subsector is available to us for enrollment.
4	anonymous	Bidders should be able to access information that is equivalant to the incumbent, otherwise, they always have an advantage when it comes to pricing.

Q7

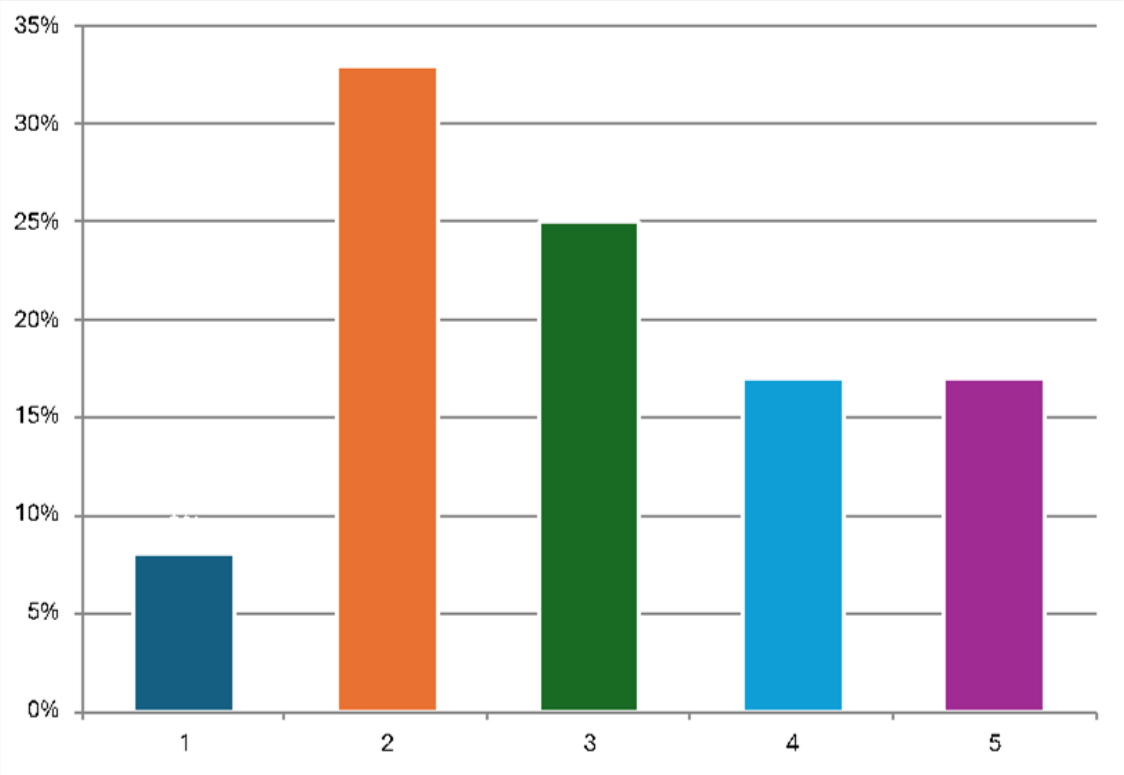
7. **Debrief Meetings:**

How would you rate the unsuccessful bidder's debriefing meetings?

1-star they have not been very helpful, 5-stars very helpful.

3.00

Average Rating

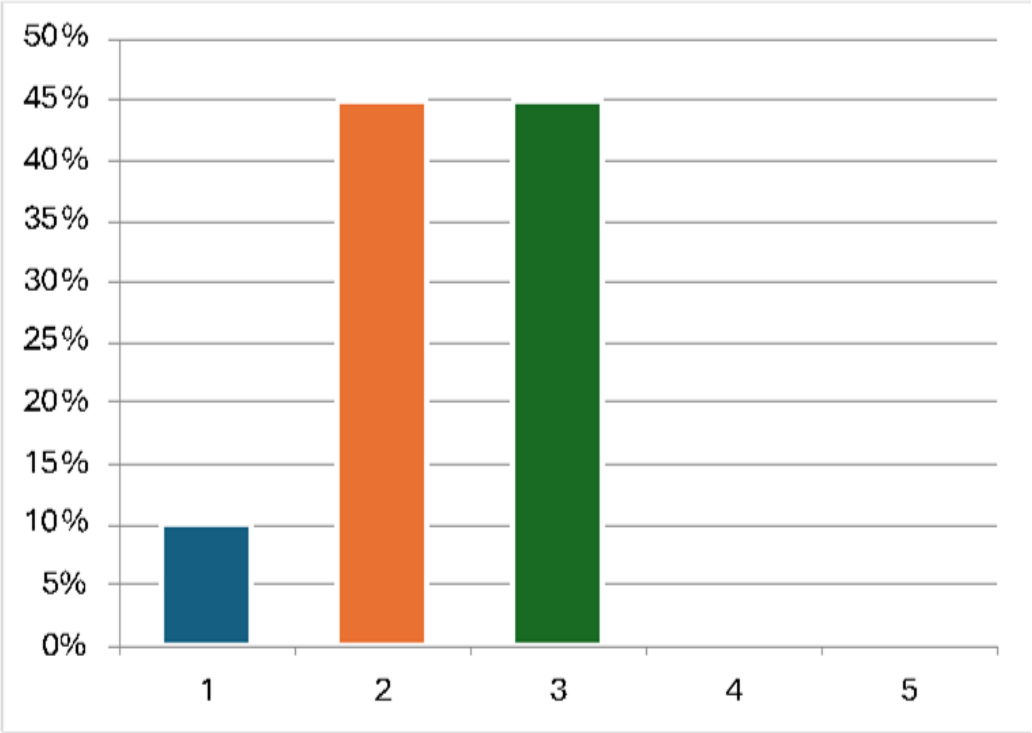


Q8

8. **Statewide Program Coordination:**
How have IOUs handled coordination on Statewide programs (e.g. customer data access, OBF policies/processing, custom review process consistency, etc.):

1-star is no coordination, 5-stars is great coordination.

2.36
Average Rating



Q9

9. Additional Comments

1	anonymous	I don't have insight into Q.8 so would elect to skip it if I were able to.
2	anonymous	Utilities should be required to be 100% aligned and if they are unable to be, become fiscal agents and allow all aspects of portfolio administration to be handled by third party.
3	anonymous	This survey seems geared only for implementers, and not other service providers, like evaluators.
4	anonymous	Not been in involved in any SW programs, but coordination among IOUs in shared functions or overlapping territories has declined over time. On debriefing meetings: PG&E is the best, with its standard deviation approach, but even its feedback is not actionable. It isn't helpful in identifying specific areas needing improvement. Especially for proposals with very fine margins between first and second finishers, we need to know what we can do to improve. Otherwise, we're wasting valuable resources submitting complex proposals we could be spending on other clients who can tell us what they need.

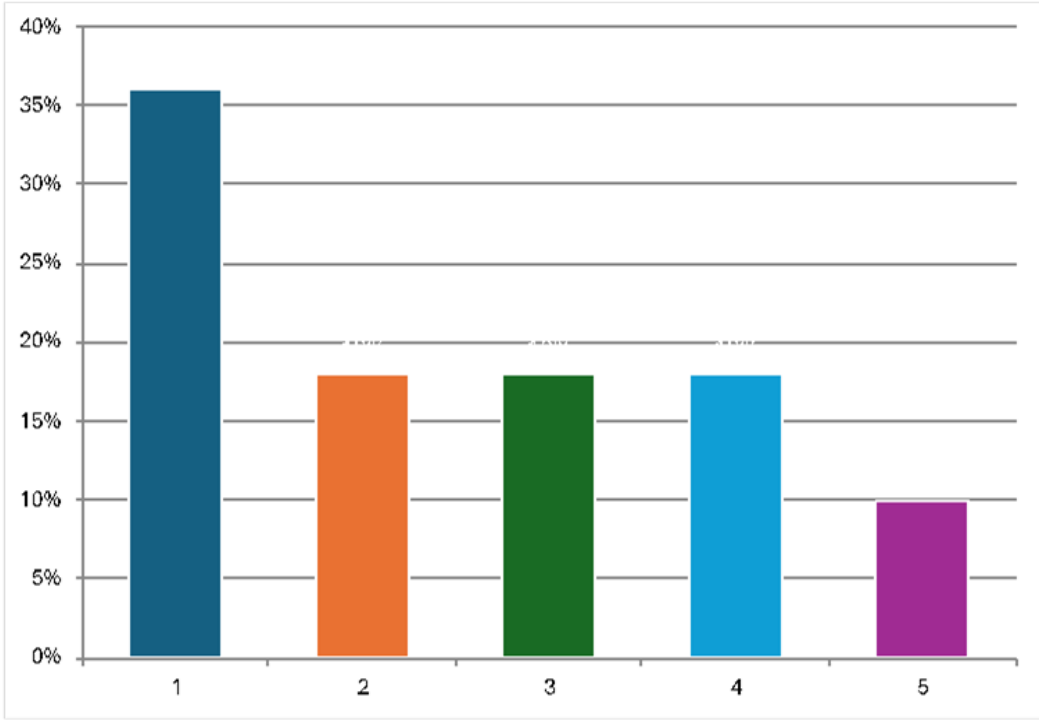
Q10

10. **General Policy Observations:**

Are policy issues affecting your company from effectively doing business in California and bringing innovative programs into the market?

1-star is greatly affecting our work in CA, 5-stars is not affecting our work in CA.

2.45
Average Rating



Q11

11. What policies or processes are most concerning to you or need improvement in CA?

1	anonymous	Net to Gross, Avoided costs, Custom project requirements and Pay for performance requirements
2	anonymous	NMEC eligibility needs to expand. Required approvals and reports need to be streamlined and expedited. Many requirements (permitting, workforce standards) seem designed for deemed programs - to flow these requirements to other types of programs is overly complex and onerous for the implementer.
3	anonymous	Risks associated with completely throwing out projects due to an evaluator's opinion on baseline or influence. The outcomes for projects should not be to simply reject if other levers can be pulled to reduce savings claims or incentive costs.
4	anonymous	Custom, Deemed, Overall EE policy too complex, burdensome and voluminous. EM&V too long after program implementation and focuses on wrong issues.

Q11 (Con't)

5	anonymous	Issues in pop-NMEC, especially "contaminating events" like adding PV or EVs during the post-install period. Access to usage data.
6	anonymous	NMEC policy outside of AB 802 conformance, dysfunctional custom review process & absence of measure packages with unrealistic requirements for deemed applications
7	anonymous	CPUC Review process is too long for both Custom and NMEC projects. NMEC projects are being highly scrutinized and held to near custom standards, even though implementers bear the responsibility and risk for project outcomes. A project should be defined at the project level, not at the customer level, this policy makes it nearly impossible to take multi-sites projects under the same customer through the custom or custom lite pathway.
8	anonymous	Custom processes, utility ability to incorporate equity design, internal systems like Energy Insight and EECB.
9	anonymous	Custom review policies and processes are inconsistently applied across IOUs

Q12

12. **Additional Comments**

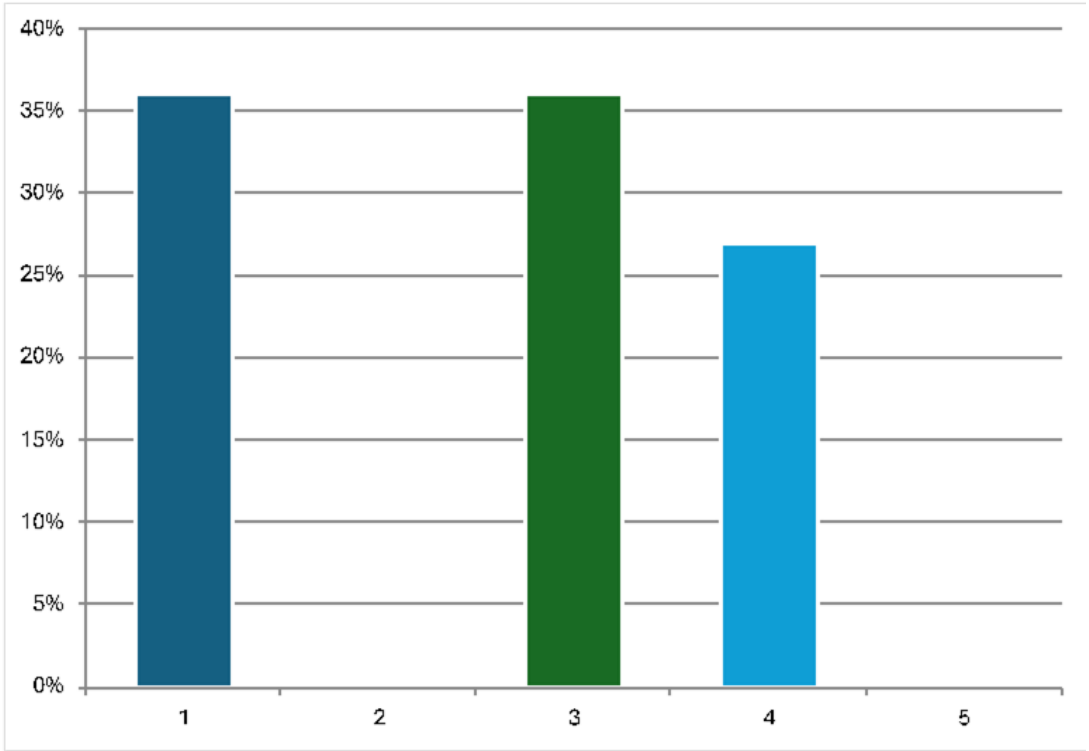
1	anonymous	Avoided costs on electricity is worrying especially when actually utility electric bills are so high
2	anonymous	These questions seem really biased and leading I might doubt the generalizability of the results of this survey.
3	anonymous	NMEC with a matched comparison set for control should be a realization and NTG of 1.0.
4	anonymous	Evaluation results of implementation get broadly applied to technologies and delivery method with extremely low net to gross values.
5	anonymous	Implementers are treated like they are trying to "game the system" in CA making it nearly financially impossible to run a successful EE program in CA. So many rules, regulations and policies slow projects down, creating inefficiencies, higher costs to customers, contractors and implementers. Without EE programs we can't get to grid stability, but every year it gets harder to deliver EE programs.

Q13

13. **Do you believe that both reporting on TSB and getting compensated for TSB, but still having a TRC greater than 1.0 is working:**

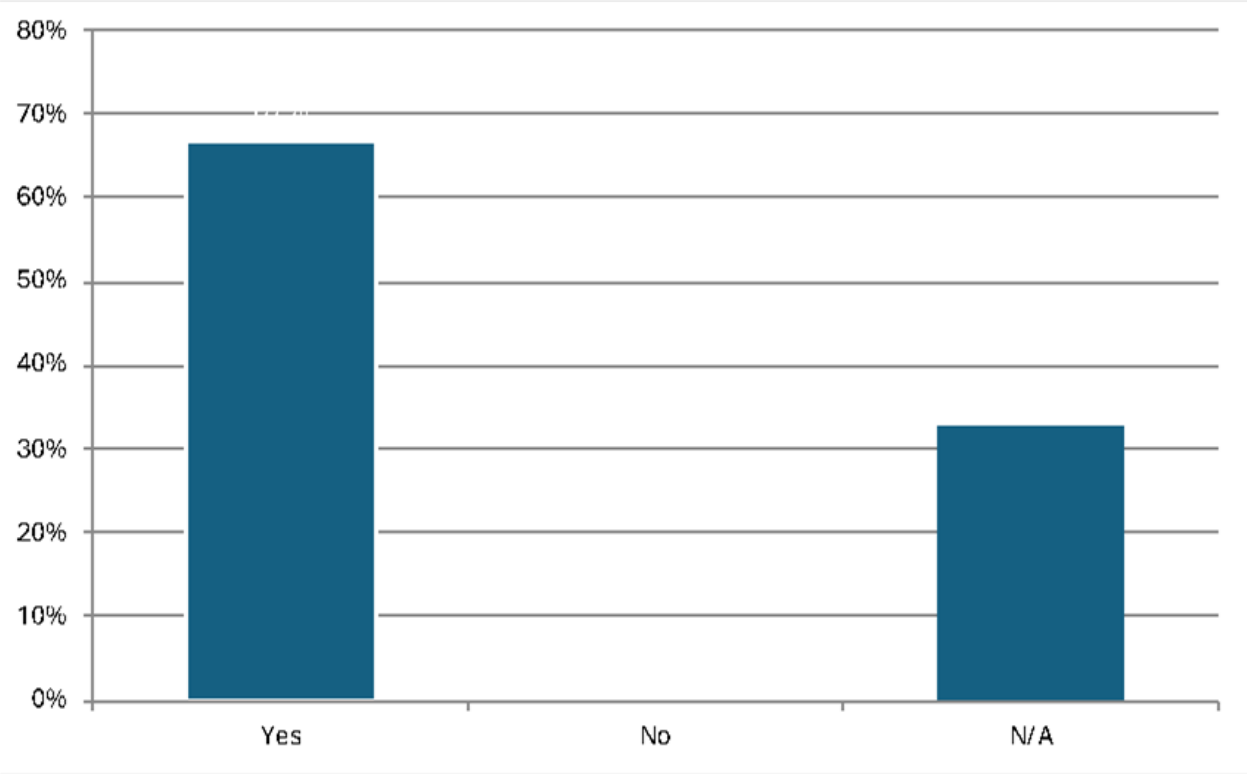
1-star is not working, 5-stars is working great.

2.55
Average Rating



Q14

14. Is there another method other than TRC (e.g. PAC) that could protect ratepayers from overspending on EE projects?



Q15

15. Additional Comments

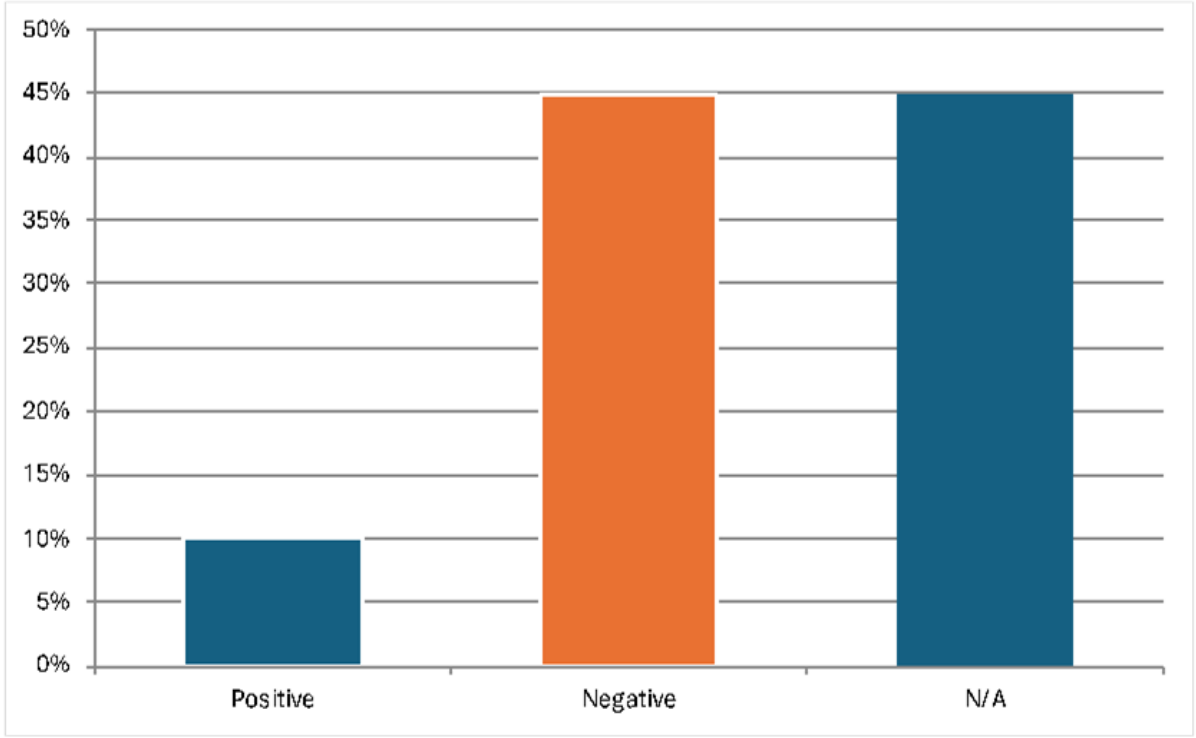
1	anonymous	Not sure the question is framed correctly....seems to say the current method is overspending...assuming this is around signficant EM&V costs but that is not very clear from the question.
2	anonymous	Getting compensated on TSB is new enough that I do not have a lot of insight here. Would skip this question if I were able to.
3	anonymous	We need to protect ratepayers but we the state should also integrate climate resilience with DSM and this will require ditching the California tests and move to the NSPM.
4	anonymous	TSB only measures benefits, in that respect it is flawed from a ratepayer impact perspective.
5	anonymous	Use the Avoided Cost Calculator.
6	anonymous	Other cost tests are available and widely used by other states. Policies and updates to CFT inputs do not align.

Q15 (Con’t)

7	anonymous	There are many measures that don't have comparable TRC and TSB, making it almost impossible to design a balanced program without sacrificing one over the other. If we are trying to reduce load on the grid and we know that we need EE to get there, we've got to come up with something that doesn't make EE nearly impossible for PA's and Implementers.
8	anonymous	Use the Societal Benefit Cost Effectiveness test instead of TRC
9	anonymous	Incorporate the cost of carbon
10	anonymous	Maybe PAC instead of TRC

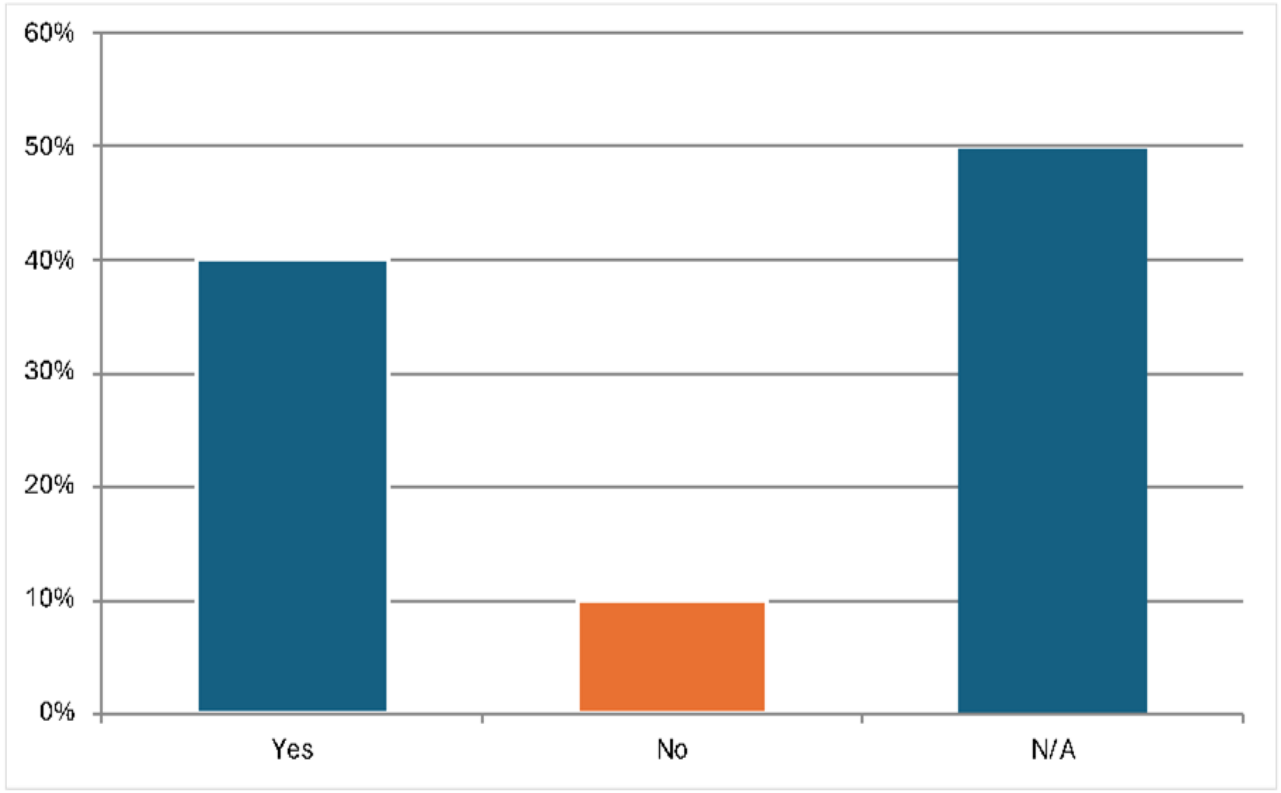
Q16

16. **Avoided Cost Calculator (ACC) Updates:**
While implementing your program, have you been negatively or positively impacted by an ACC update?



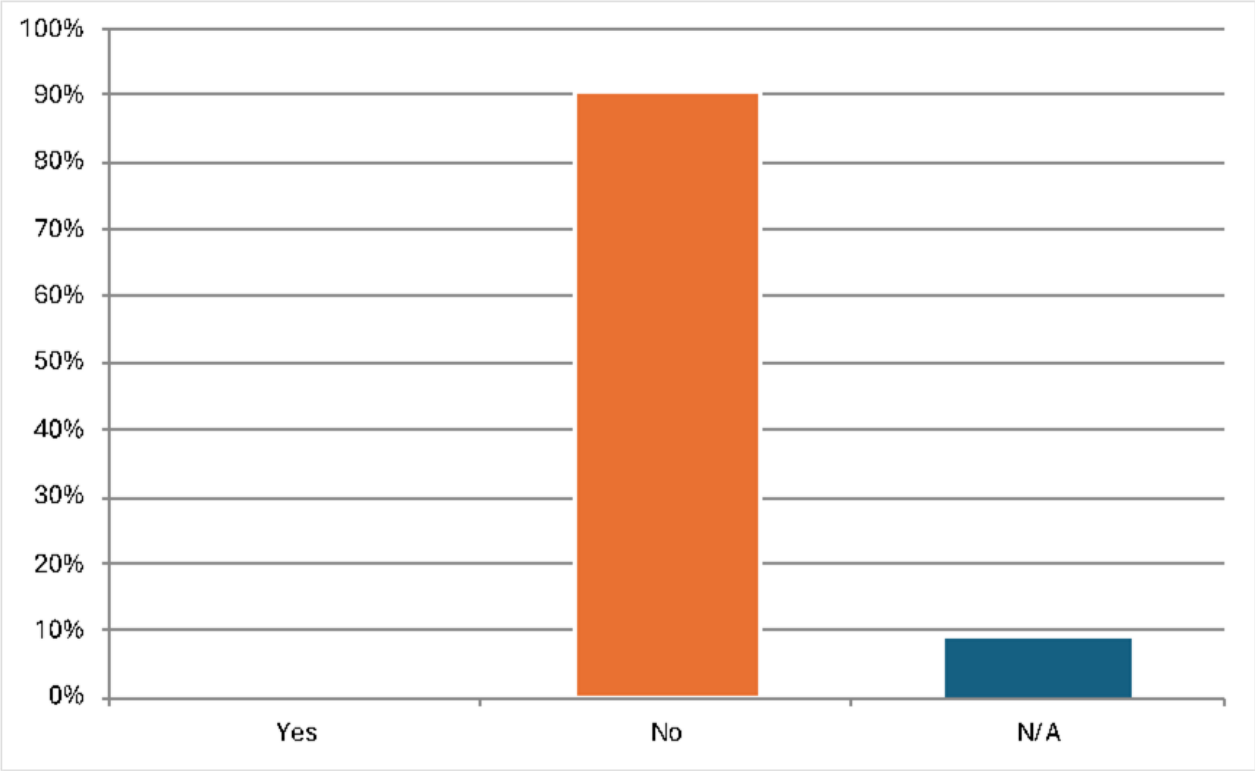
Q17

17. If you were impacted, did this affect your program design and or your IOU contract?



Q18

18. **Net-to-Gross Ratio (NTG):**
Do you feel that your program's NTG ratio is appropriate for your program/segment?

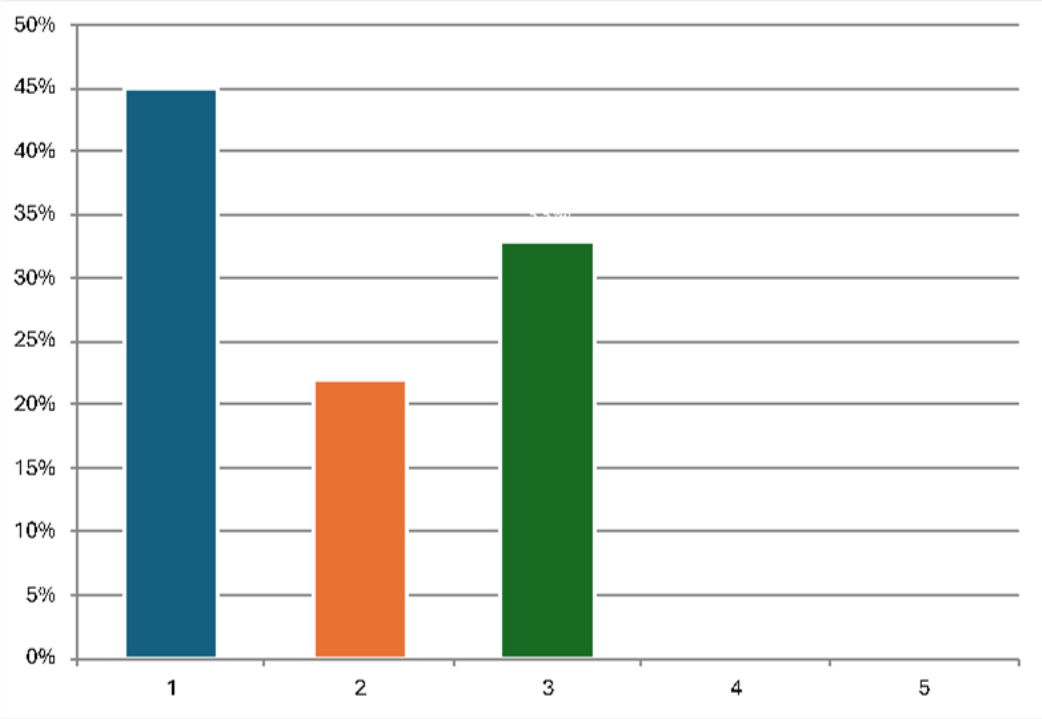


Q19

19. **Custom Review Process:**
Have you seen an improvement or streamlining of the Custom Review Process or attempts to work with the implementers?

1-star has not improved at all, 5-stars has greatly improved recently.

1.89
Average Rating



Q20

20. **Additional Comments**

1	anonymous	The answer is YES and NO - yes we have seen improvement but we are starting from a very low point. So still lots of room to improve, get better and deliver for CA rate payers
2	anonymous	NTG for custom is 0.5. It would seem like the care that must be taken to show influence for custom projects and the scrutiny placed on them would result in a higher NTG. Custom warrants an updated assessment of NTG.
3	anonymous	This review is still delaying customers by several months. For the industrial segment who needs to schedule projects up to a year in advance, this has a multiplying effect of killing projects.
4	anonymous	Several improvement efforts under way this year (CPUC, Cal TF, IOU). Hopefully they collectively will achieve significant improvment. IOUs should be required to 100% harmonize all aspects of Custom Project Oversight.
5	anonymous	Again, this survey is only geared for implementers and if so should specify that other members should'nt take it. The survey questions are leading and biased.
6	anonymous	Still broken.
7	anonymous	Any progress was eradicated when a new CPUC consultant was brought on board.

Q21

21. Specifically for multifamily properties, are you experiencing similar issues with soliciting for energy efficiency programs? If yes, please provide response below.

1	anonymous	N/A
2	anonymous	N/A - we do not delivery any MF programs
3	anonymous	NA
4	anonymous	N/A
5	anonymous	What similar issues?
6	anonymous	Current policy makes multifamily unpractical as a resource program.
7	anonymous	na

Question

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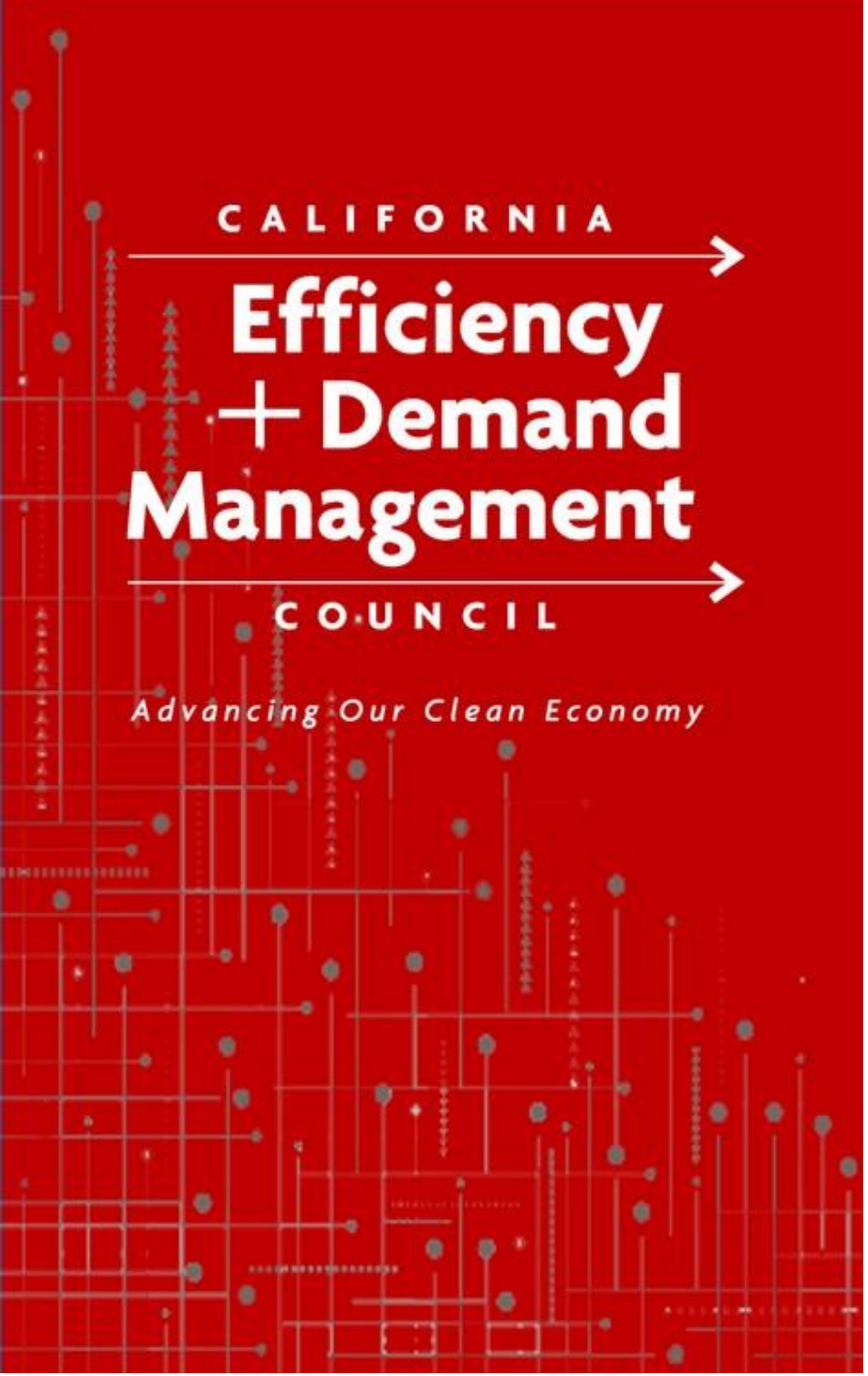
Thank You



PG&E - CEDMC Business Forum

DR, DERs Focused Discussion

Joe Desmond
October 3, 2024

SGIP working group presentation 8/28

- Background
  - In D.24-03-071, the CPUC adopted a DR participation requirement for new recipients of SGIP energy storage technology incentives, but limited the qualifying DR programs to the Capacity Bidding Program (CBP) and Critical Peak Pricing (CPP)
  - A joint Application for Rehearing (AfR) was filed by Leapfrog Power, CPower, Nostromo, CEERT, CEDMC, OhmConnect, Qcells, and Voltus on 4/19 seeking to expand the qualifying DR programs to include third-party DR Resource Adequacy (RA) contracts and CCA programs
  - CPUC rejected the AfR in D.24-06-027 but reaffirmed its direction in D.24-03-071 that SGIP program administrators can add more qualifying DR programs via Tier 2 advice letter
- On 8/28, Leapfrog Power, OhmConnect, and the Council presented at the monthly SGIP PA WG where we requested they add third-party DR RA contracts to the qualifying DR program list
  - We explained that CBP and CPP were limiting SGIP participation because aggregators are either unable (CPP) or unwilling (CBP) to participate; also, CPP is not available to CCAs
  - We then explained that DR aggregators are already servicing RA contracts (which are compatible w/ definition of qualified DR programs in D.23-12-005)

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8/28 SGIP working group presentation 8/28 (cont.)

- Initial reaction of the SGIP WG
  - SDG&E supported our request; PG&E recommended this be expanded to all supply-side DR RA
  - There was some misunderstanding by the SGIP Program Administrators (PA) of their role and prerogatives in adding new qualified DR programs; they also questioned how non-IOU SGIP PAs can verify DR participation
  - Energy Division staff indicated that they would address the process for adding DR programs in its disposition letter for the SGIP PAs advice letter implementing D.24-03-071; we explained this decision already provided a process, and was affirmed in D.24-06-027
- On 8/29, Leapfrog, OhmConnect, and the Council had a call with CAISO staff who informed us that non-IOU PAs should be able to access Demand Response Registration System (DRRS) data; we informed the SGIP PAs of this
- Next steps: We are waiting to hear from the SGIP PAs

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Supply Side DR Qualifying Capacity Working Group Report

- The Energy Division/CEC Staff recently released its “Interim Report on the Incentive-Based Qualifying Capacity Solution for Supply Side Demand Response Study Period”
- Highlights
  - Discarded the CEC’s Bid-Normalized Load Impact (BNLI) proposal b/c the small no. of DR dispatches limits the data set; focused the report on the Bid Alignment Metric-Performance Alignment Metric (BAM-PAM) proposed by Demand Side Analytics
  - Explained in detail the steps applied when testing the BAM-PAM method using IOU and DR provider data
- Findings
  - BAM values were higher for DRPs b/c DR providers must show on supply plans
  - PAM values were higher for IOUs b/c they can bid according to their capabilities
- Next steps: Workshop held on 9/5 to review the study; final staff proposal in December 2024

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Modified Proxy Demand Resource: A New Tool to Credit Battery Exports in DR

CALIFORNIA Efficiency + Demand Management COUNCIL

Current PDR construct does not effectively accommodate BTM batteries

DR participants with battery storage do not receive credit for exported energy

Existing measurement options assign a zero value to intervals with exports

CAISO does not have visibility into exporting BTM assets participating in DR

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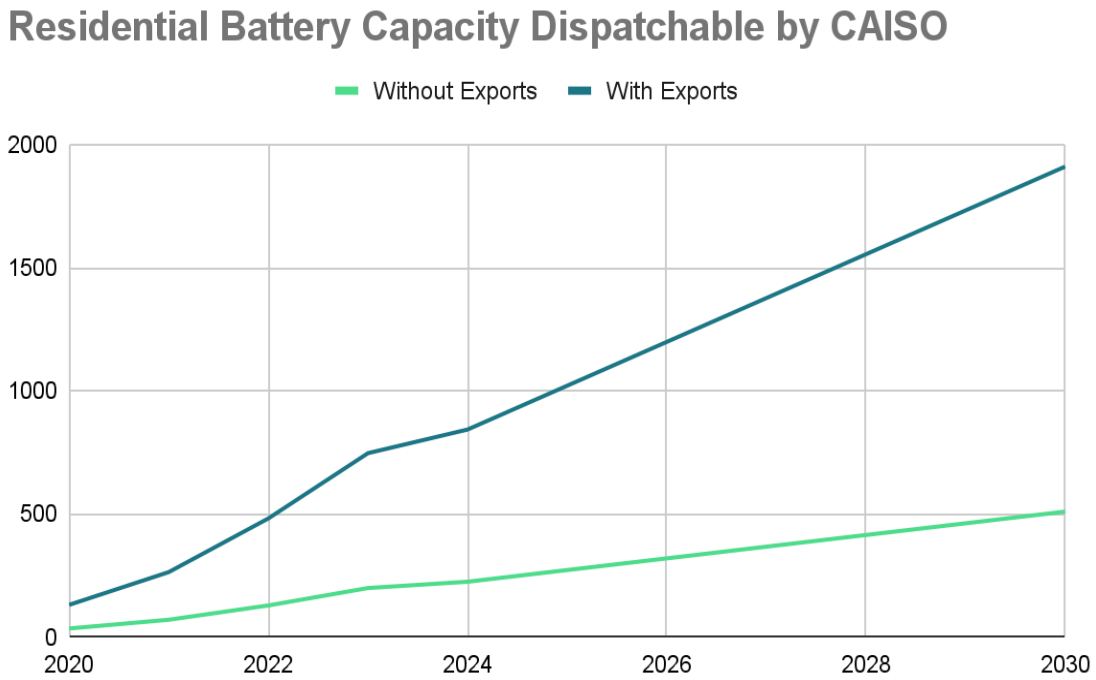
Battery capacity in CA is growing, but most of it will be hidden from the market



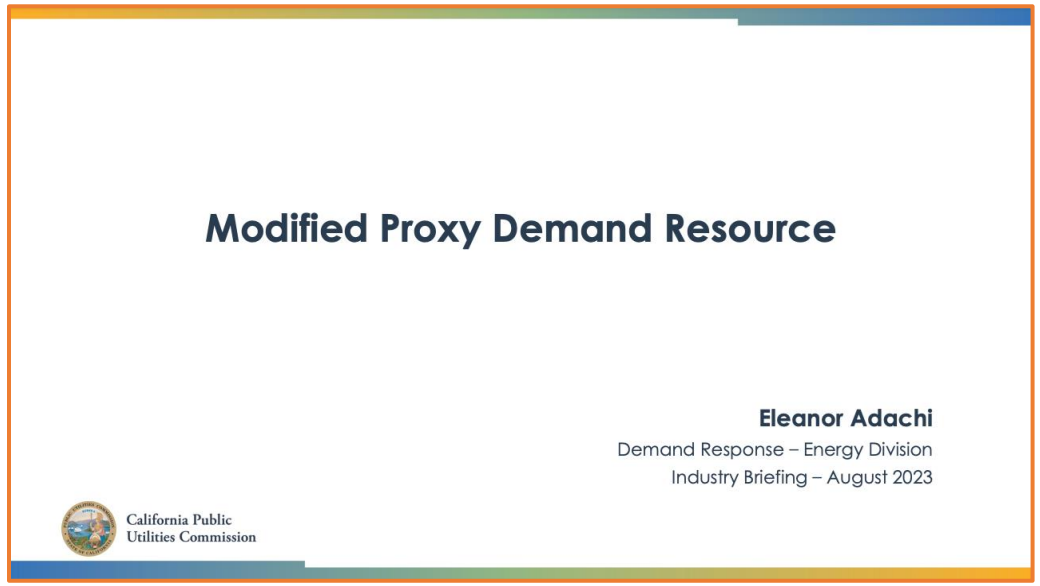
- Lack of export credits "hides" a substantial amount of residential battery capacity from CAISO
  - Even if all residential batteries participated in RA in 2023, roughly **620 MW** would be "hidden" from market
  - This "hidden" capacity is likely to grow to at least **1.4 GW** by 2030
- C&I batteries and bi-directional EVs likely to have an even larger impact
  - EVs expected to represent at least **5 GW** of "hidden" capacity by 2030

Modified PDR product provides a potential solution

- In August 2023, Energy Division introduced a proposal for a **Modified Proxy Demand Resource** (mPDR)
- mPDR would **allow individual Service Accounts to export** so long as the total load at the Sub-LAP level is ***positive***

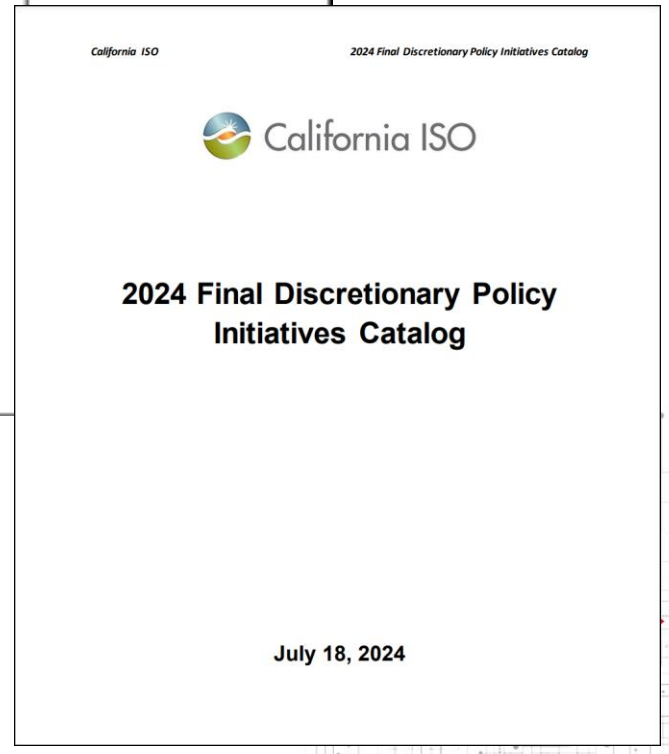
Benefits:

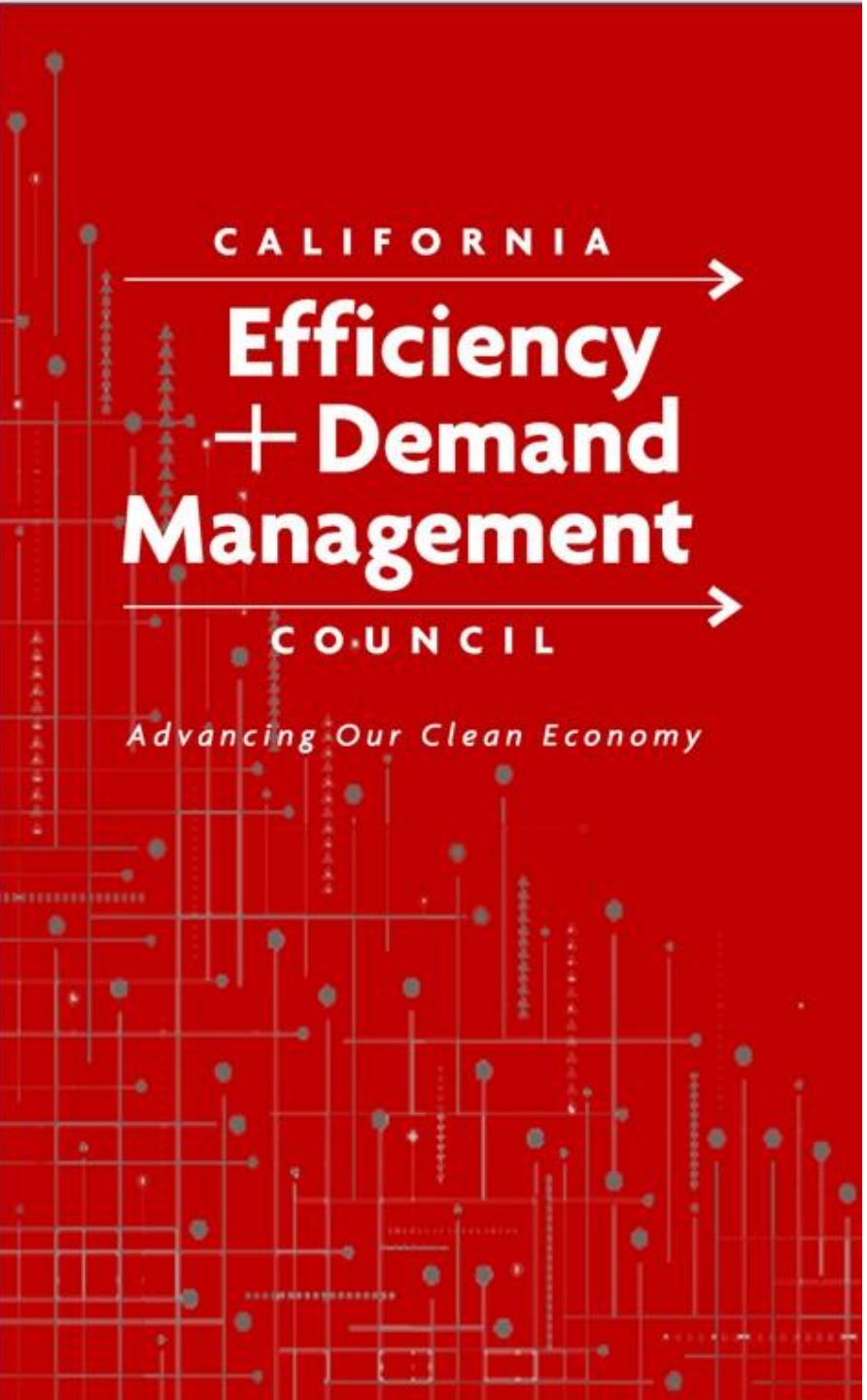
1. Gives CAISO visibility into exporting resources
2. Provides additional capacity
3. Addresses concerns about deliverability
   - No net export to transmission system, **so WDAT study should not be needed**
   - Rule 21 compliance addresses reliability concerns on distribution system



CALIFORNIA Efficiency + Demand Management COUNCIL

	Highest Priority		High Priority		Oppose	
	Registered Stakeholders	New Stakeholders	Registered Stakeholders	New Stakeholders	Registered Stakeholders	New Stakeholders
Demand Response						
Modified PDR – hybrid PDR with BTM storage *Joint DR Parties*	**Voltus, Inc.** **Enel North America, Inc.** **Leap** **Sunrun** **Tesla** **Advanced Energy United** **Prologis** **Qcells** **CLECA** **Renew Home/OhmConnect, Inc.**	EnergyHub State government employee, energy division California Efficiency + Demand Management Council The Climate Center Nuvve Holding Corp Kaluza Swell Energy FranklinWH Energy Storage Inc Vehicle-Grid Integration Council Uplight Sunnova Energy Amped Solutions, Inc. sonnen, Inc. 127 Energy Stellar Solar Cobalt Power Systems, Inc Fortress Power ACR Solar Yotta Energy Ventura Energy LLC TerraVerde Energy LLC Palmetto Solar Custom Power Solar Pathion Kinetix Energy Storage CalSolarInc	**CPUC Public Advocate** **CPUC Energy Division** **Arizona Public Service** **Avangrid Renewables** **City of Palo Alto** **PG&E** **CESA** **Silicon Valley Power**	Central Coast Community Energy HES Renewables The Solaray Corporation Your SolarMate Powertree Services Inc. PearlX Infrastructure, LLC Mountain Microgrids Interwest Energy Alliance	**Vistra Corp.** **Terra-Gen, LLC**	





PG&E - CEDMC Business Forum

California's Energy Affordability Challenge

Joe Desmond
October 3, 2024

Recent studies are beginning to yield meaningful insights into how residential customers will evaluate electrification opportunities.

CALIFORNIA Efficiency + Demand Management COUNCIL

Income-qualified and Clean Energy Programs Workshop, Nov. 9, 2023

Areas of priority - Takeaways:

Consistency in determining bill impacts across programs.

Importance of leveraging remediation funding to expand program opportunities.

The importance of targeting to reach the right customers.

Improved collaboration between programs to minimize customer communications and confusion.

Identifying the appropriate metric(s), given the differing goals across programs.

Improving property owner engagement.

SPOC/Coaching. The single point of contact approach and structure has been proven valuable for program leveraging with multifamily property owners.

Early education opportunities/financial literacy.

· Source: Income-Qualified and Clean Energy Programs Workshop: November 9, 2023

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Results from the CPUC-authorized Pulse Check Survey

CALIFORNIA Efficiency + Demand Management COUNCIL

Table 29 Ways Respondents Monitor Their Home Energy Usage

	Overall	Utility			Housing Type		Income Status		Program Participation	
		SDG&E (a)	PG&E (b)	SCE (c)	Single family (d)	Mobile home (e)	Moderate Income (h)	Market Rate (i)	Participant (p)	Non-participant (q)
n	924	315	309	300	833	91	316	429	238	686
Monthly energy bills	86%	83%	84%	89%[a b]	86%	86%	87%	86%	84%	87%
Online real time utility accounts	18%	27%[b c]	19%	15%	19%	13%	16%	21%[h]	28%[q]	15%
Other web-based tools provided by utility	14%	19%[c]	14%	13%	14%	15%	14%	16%	21%[q]	12%
Other management or monitoring systems	15%	19%[c]	17%[c]	9%	15%[E]	8%	11%	18%[H]	24%[q]	11%
Other	3%	3%	4%	4%	3%	7%	4%	3%	4%	3%
Don't know	<1%	<1%	<1%	2%[a b]	<1%	2%	<1%	<1%	<1%	1%

Note: a/b/c/d/e/h/i/p/q indicates significant differences at a 90% confidence level and 0.10 alpha between the following tests: abc, de, hi, pq; A/B/C/D/E/H/I/P/Q indicates significant differences at a 90% confidence level and 0.01 alpha between the following tests: ABC, DE, HI, PQ

Note: Chi-squared tests revealed a significant relationship between this question and the listed subsegments; however, measures of effect size were not calculated

Pulse Check Survey Question: How are you tracking your home's energy usage? (Multiple responses permitted)

"**contrary to what PAs and implementers mentioned during their interviews, most customers do track their households' energy usage (95%) primarily by reviewing their monthly energy bill** and make changes as a direct response to tracking their homes' energy usage (79%); approximately 21% of respondents reported they did not make any changes as a direct response to tracking their home's energy usage. Results were similar across utility, housing type, income, and IOU sponsored program participation subsegments."

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Pulse Check Survey explored barriers that prevent customers from pursuing air-source heat pumps and HPWHs.

Barriers	Air Source Heat Pump	Heat Pump Water Heater
Lack of Awareness	60% of customers "never heard of" air source heat pumps before or "only knew the name"; renters and those who have not recently participated in an IOU-sponsored program were less familiar with the technology than owners and recent program participants (69% and 65% vs. 59% and 43%, respectively).	Half of customers "never heard of" HPWHs and an additional 25% were only "somewhat familiar." Market rate and recent IOU-sponsored program participants were more familiar with HPWHs than moderate-income participants and non-participants (29% and 37% vs. 21% and 21%, respectively).
Lack of Interest	Over half (55%) of customers were "slightly interested" or "not interested." Customers residing in mobile homes were less interested than those in single-family residences (69% vs. 53%).	Over half (51%) of customers were "slightly interested" or "not interested." Customers residing in mobile homes were less interested than those in single-family residences (58% vs. 50%).
No Need for Accelerated Replacement	Of those who were not interested in an air source heat pump, nearly half (49%) indicated it was because they simply were not in the market for a new system.	Of those who were not interested in an HPWH, 28% indicated it was because they simply were not in the market for a new system.
Cost	78% of customers cited cost as something that would keep them from considering energy-efficient HVAC in the future; moderate-income customers were more likely to cite this as a barrier than market rate customers (84% vs. 76%).	73% of customers cited cost as something that would keep them from considering an energy-efficient water heater in the future.
Need for Additional Construction	44% of customers cited the need for additional construction to install the unit as a barrier to them considering energy-efficient HVAC in the future.	38% of customers cited the need for additional construction to install the unit as a barrier to them considering an energy-efficient water heater in the future. Customers residing in a single-family residence were more likely to indicate this as a barrier than those residing in mobile/manufactured homes (74% vs. 67%).
Performance Information	One-fourth of customers felt that there was limited information on the performance of energy-efficient HVAC.	One-fourth of customers identified the capacity of HPWHs as a barrier.

Source:· The Energy Efficiency Residential Pulse Check Final Report November 1, 2023

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10,000 Households Surveyed for Regional Assessment of Energy Decision-making and Technology

Pacific Northwest National Laboratory (PNNL) researchers investigated how residents make home energy technology decisions based on household structure and income, motivations for making changes, and general home preferences.come-qualified and Clean

Using mixed methods, the authors asked three important questions:

1. How does decarbonization technology uptake differ regionally?
2. What factors increase the likelihood that a household would choose to purchase anduse a key technology associated with residential decarbonization?
3. Are there general household preferences external to technology choice that might influence technology uptake?

Regional Assessment of Household Energy Decision-making and Technology Adoption in the United States, was published in February 2024 in a special edition of the Energy Policy Journal.

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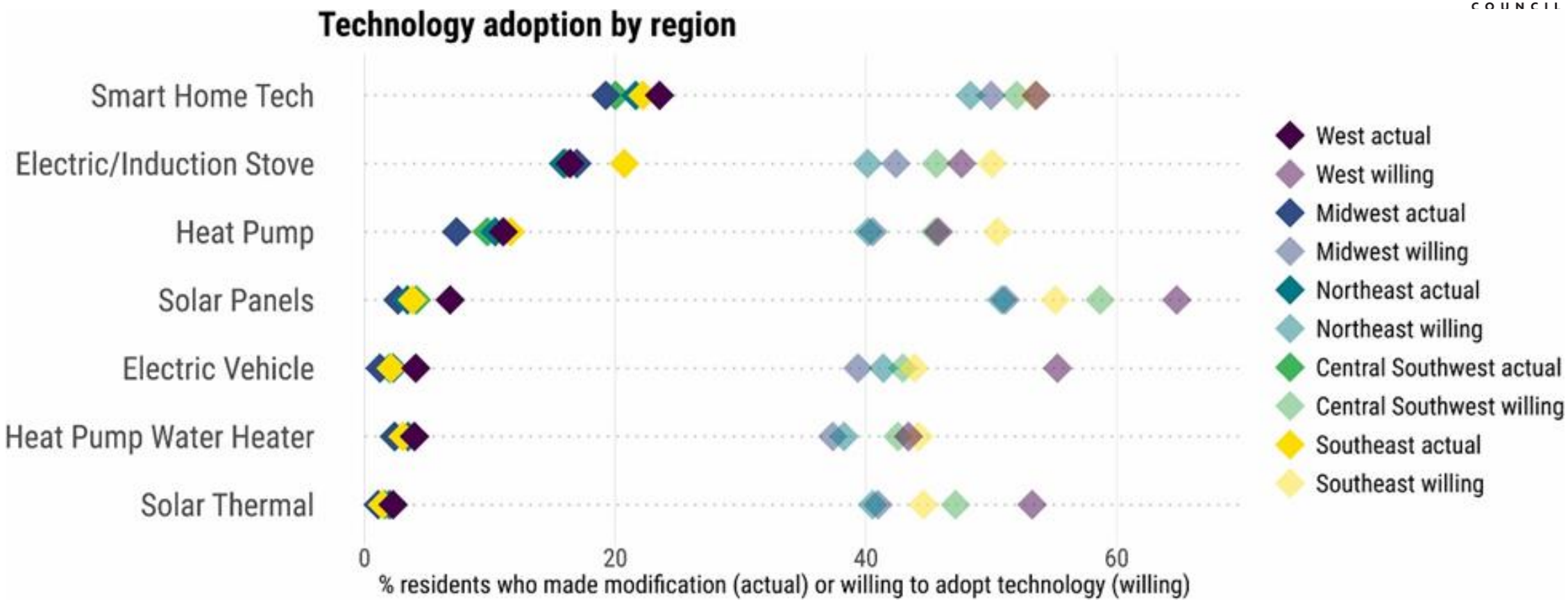
10,000 Households Surveyed (Cont.)

Actual decarbonization technology adoption vs. willingness to adopt



Four variables influenced resident decision-making in at least nine of 10 regional regressions: willingness to adopt decarbonization technology, being a renter, median household income, and improving comfort. Willingness to adopt, having a higher household income, and wanting to improve comfort were positively correlated with decisions to make any change and to adopt decarbonization technology, and being a renter was negatively correlated

Energy Efficiency and Electrification Work Together

In the April, 2023 report, *CLEAN ENERGY NOW FOR A SAFER CLIMATE FUTURE: PATHWAYS TO NET ZERO IN THE UNITED STATES BY 2050*, five strategies are put forth: Clean Power, Energy Efficiency, Electrification; Natural Carbon Solutions, and Decarbonized Fuels.

The authors point out that Energy Efficiency can alleviate the costs and pressures of increasing electricity demand.

- EE allows products to deliver the same services while using less energy.
- EE measures—such as leveraging efficient designs, technologies, and materials—can drive down the energy footprint of buildings, vehicles, and industry without compromising services, performance, or production.
- Electrification should be paired with ambitious EE investments to mitigate the costs and challenges of building new electricity infrastructure.

<u>Strategic Recommendation for Policy Makers:</u>

Invest in energy efficiency to the maximum extent possible. Implement and strengthen energy efficiency resource standards (EERS) and energy efficiency programs. Support innovation that continues to push the bounds of energy efficiency improvements available to appliances and EVs.

Incentivize demand reductions and flexibility. Energy efficiency can also take the form of demand reduction: Implement smart utility rate designs that can reduce energy demand during peak hours. Reduce EV-miles traveled by expanding bike, pedestrian, and transit infrastructure. Disincentivize the overproduction of fossil fuel–derived goods, such as plastics and hazardous chemicals, to avoid demand for new fossil fuel infrastructure.

NRDC clean-energy-pathways-net-zero-2050-report April 2023