**CAEECC-Hosted sub-Working Group on Underserved Customers**

**Meeting with UC Davis Residential Research Team**

**December 2, 2020 1-2:30**

**Facilitators: Dr. Scott McCreary & Katie Abrams, CONCUR Inc**

**Meeting Summary[[1]](#footnote-1)**

# Attendees:

* *UC Davis Research Team presenters*: Professor Alissa Kendall, Kristen Bush, Sadia Gul, Jessica Dunn, Mark Lozano, Tobiah, Leslie Nelson
* *CAEECC Working Group Members*: Co Chair Jenny Berg, Co Chair Lara Ettenson, Anne Niederberger, Anthony Kinslow II, Anthony Segura, Carol Edwards, Ed Novy, Hal Nelson, Kaylee D’Amico,
* *Facilitators*: Dr. Scott McCreary and Katie Abrams

# Introductions & Agenda Review

Dr. Scott McCreary provided background on the meeting purpose and context. The purpose of this meeting is for the UC Davis research team to present early findings to the CAEECC Underserved Working Group. UC Davis anticipates finalizing their analysis in mid-December. The full CAEECC Underserved Working Group will meet in January 2021 to review the analysis in depth and propose next steps for translating the analysis into policy recommendations to be presented to the CPUC for consideration.

# UC Davis Presentation

Note, this is a high-level summary; details can be found in the UC Davis slide deck (which the Facilitators hope to post to the meeting page shortly, pending expected concurrence from the UCD research team).

Literature review highlights

* Observation: energy consumption is primarily driven by human behavior; and informed by spatial and socio-economic conditions, energy efficiency gap and energy efficiency financing coverage gap
* Key question of whether there are differences in the access to the residential energy efficiency program benefits across geographic areas and socioeconomic levels

Approach

* Access data from CEDARS
* Recognize Census data differs slightly from USC: removed certain variables, no filter for zip codes
* Investigate Program level, zip code level data
* Identify Response variables: claims data challenging; chose 7 variables: participation rate, lifecycle gross kWh/therm/net/gross incentive; end user rebate per household
* Apply Methods: spatial mapping, multivariate regression w/ variable selection, t-test
* Recap of Multivariate results:
	+ Gross kWh savings per household: white, Black, Asian and Hispanic have higher savings than areas with renters or older householders – counterintuitive results could be influenced by variable relations
	+ Conducted a step- wise reduction then a t-test to explore certain variables that produced results that didn’t sense
	+ Mean of bottom 20% showed $56,000 vs mean of top at $75,000 – also fewer renters, disability, younger housing, fewer mobile homes, and lower Native American population
* Looking into what happens if remove barrier to entry filters, to see if can find a more concrete relationship between variables
* What’s to come: summation of response variables at the program and zip code level, quantile regression, and explore interactions like median household income and population density
* Data limitations: numerous (to be detailed in final report)
* Spatial mapping: household or Census level resolution (not zip code level) would improve ability to analyze socio-demographics
* Points for discussion
	+ What is meant by underserved? What do people think about picking the lower 20% served as being underserved?
	+ Do these results provide evidence that certain program characteristics can be used as a means of providing more equitable service?
* Next steps:
	+ Week of 12/7 will complete statistical analysis and interpretation, complete graphics and visualization, and complete write-up of final report
	+ 12/14: deliver final project report

# CAEECC Member Discussion, Questions on Research and Suggestions for Future Analysis

* L. Ettenson: Very appreciative and impressed with preliminary analysis and approach. Suggest that students highlight CEDARS data wish list for next steps/recommendations section of their report
* J. Berg: Echoed Lara’s congratulations and appreciation. Suggested future studies leverage more granular data (than CEDARS) which is available to research institutions like UCD, recognizing that for this study, there was not ample time to procure the more detailed data
* E. Novy: Appreciated the analysis and presentation; noted that the slide with the spatial analysis map of California illustrated a correlation to American Indian tribal lands being underserved (dark blue shading); curious about future of EE incentives from trends like hydroelectric dam removals in Northern California; appreciated population density of urban vs. rural analysis
* A. Kinslow: Why did students choose 20%? Could a 30% and 40% threshold be added, to see if there’s a change?
	+ Tobiah: We will look into that in the final analysis
* A. Niederberger: Suggest discussing and elaborating on the “underserved” definition in report, because for example, fewer kWh savings could be a result of smaller/denser households, not from being underserved. Preliminary data on load disaggregation for low income in other studies shows that a majority of usage is from lighting and plug loads. The relevant question for this analysis is how many programs are designed to address the largest energy loads in households – are there program gaps? Echoed request for a list of data needs that would have strengthened the analysis, noting this is equally important to any observations that were made with the available data
* A. Kinslow: Will the analysis show program-level information?
	+ Leslie: This is available in certain instances, and we’ll highlight where this data is and is not available in our report
* Hal Nelson: Can we create an indicator for low-income direct install, and what’s the relative efficacy of these programs towards the portfolio total?
	+ L. Ettenson: Energy savings assistance program (for extreme poverty) is direct install; there is also a direct install program for middle-income (since a gap was observed). Most programs aren’t direct install (which means it’s 100% paid and installed).
	+ Leslie: Certain programs target certain communities, but we don’t know if that creates uniform and equitable program access and participation; we wrestled with whether to analyze targeted vs. portfolio – and concluded the whole portfolio was more valuable (but open to suggestions on this)
		- L. Ettenson: If it’s possible to analyze the impact of targeted programs, it could demonstrate the value of specific programs; this will help make the case for keeping programs that might otherwise be eliminated (usually due to cost-effectiveness concerns), leading to a gap
		- J. Berg: Echoed the value in adding in this analysis
		- Leslie: requested program examples
		- L. Ettenson: direct install, some multifamily
* Carol (SCE): Program income threshold is 200% of the federal poverty level. Need to be careful about delivery and targeting of programs; for example, if ESAP low-income direct install provides free measures, the analysis should make sure customers aren’t also getting marketing from programs w/ the same measures but higher incentives. ESAP has low savings but the goal is about reaching all low income customers – this is different from targeting higher usage households. The Disadvantaged Communities Pilot proceeding is doing a large-scale analysis that may be relevant to this analysis (it’s focused on the San Juaquin Valley)
* E. Novy: There may be a way to overlay data from PG&E w/ what’s collected by the city of San Francisco (esp. for multifamily). Is the overlap in the territories of the IOU and municipality impacting the analysis?
	+ UC Davis student: Believe the PAs offer EE services across jurisdictions served by multiple energy providers
* Kaylee (California Hub for EE Financing and Treasurer’s Office): recognizing that one of the variables was customers who received rebates or incentives, can the research also look into how customers are paying for energy improvements currently, and what are they doing for the upfront cost barrier, especially as incentives decline?
	+ Alissa: Great idea, but based on the data, there probably is not a way to look into this at this time

Scott McCreary adjourned the meeting, noting the deep appreciation across the board for the quality of preliminary analysis, encouragement to continue refining the analysis to the extent possible, and the request to pinpoint data gaps. The facilitation team will generate a concise meeting summary in the next few days and will follow up with the CAEECC as the analysis continues.

1. Note this is an informal meeting summary, as the CAEECC process does not require formal meeting summaries for sub-working group meetings. Name attribution is provided in some places to assist in research/analysis followups [↑](#footnote-ref-1)