Notes from Energy Efficiency Residential Sector Subcommittee

4/18/2016 9:00am-4:45pm

Location: Pacific Energy Center, Energy Resources Center, and by Webcast

Meeting Co-Chairs: Jenny Berg, Mabell Paine, and Lisa Schmidt

Facilitator/Notes: 2050 Partners/Lisa Schmidt

Click [here](http://www.caeecc.org/#!blank-25/tul9c) for meeting documents

*Notes: Presentations are not thoroughly summarized in these notes. Please see presentation slides on* [*www.CAEECC.org*](http://www.CAEECC.org) *website for context. Lack of attribution for meeting participant comments is intentional by agreement of Coordinating Committee.*

* Introductions – about 15 to 20 people in both facilities and 40 people on the phone.
* Lisa Schmidt and Jenny Berg at PG&E Energy Center, and Mabel Paine at SoCal Gas Energy Resource Center with introductions.
* Ted Pope with recap to process/goals for Committee
	+ Today’s objective is to define problem statements, identify key observations, propose high level strategies, identify metrics
	+ Webcast Q&A next Monday, 4/25 as follow-up for this meeting. Allow time to develop questions/comments from 4/18 meeting. Details will be posted at [www.caeecc.org](http://www.caeecc.org).

### Single Family

1. BayREN presentation on Residential Sector gaps - Natalie DeLeon
	1. Overview of BayREN residential programs.
	2. Uptake steadily increasing in HU (Home Upgrade) program in 2015, high rate of uptake continuing in 2016
	3. Map of uptake compared to targets
	4. Problem statement
		1. Cost/investment is high for HU
		2. Engagement with contractors slow in beginning – few contractors represent over 80% of the business. Contractor interest increasing. *What was done to increase contractor interest?*
	5. Emphasized HU Advisor success – one stop for energy advice.
	6. Home Energy Score – recently introduced rating system for homes.
	7. Have learned how to leverage partners
	8. Questions:
		1. Bob King – Is the Home Energy Score a BPI level certification? Natalie no, not quite as rigorous.
		2. Lisa Schmidt – how long has home energy score been available – recently expanded to other regions based on Berkeley program.
2. PG&E presentation on Residential Sector gaps - Joanne O’Neill
	1. Reviewed the word document, summary (refer to posted document for graphs, details, etc)
	2. Problem statement – how to meet state policy goals while scaling against flat budgets
		1. Expansion on behavioral
		2. mid-stream interventions with retailers
		3. Building efficiency for existing new
		4. Customer energy management tools
	3. KPI (Key Performance Indicators)
		1. Energy savings
		2. Cost-effectiveness
		3. Cost per unit of energy to drive scalability
	4. Demographic breakdown
	5. Customer demographic breakdown with participation in EE programs and average energy use.
	6. Breakdown of building stock
	7. Customer decision making
	8. Behavioral EE opportunity chart
	9. Problem Statements (refer to doc for more details and solution proposals)
		1. Gaining access to energy consumption
		2. Customers lacking understanding of EE opportunities at key trigger points
		3. Existing home retrofit issues (goal of existing building energy use by 40%?)
		4. Engage manufacturers and retailers to offer more efficient products
		5. Split incentive issue – target with behavioral interventions
	10. Questions:
		1. Jodi Pincus, Rising Sun Energy Center – asked for more detail on how the BP will address middle-income programs. Response from Lara Ettenson– focus on business plans but today not implementation.
		2. Bob King – falling short of strategic plan goal of 40% to retrofit buildings, are implementing T&D? Unclear response.
3. MCE represented but not providing presentation
4. Chad Ihrig, SDG&E (in the PG&E room so included in NorCal presentations)
	1. Market characteristics
	2. Interactive experience is their vision. Single point of entry that guides them along.
	3. Strategy Objective Matrix – Create demand, simplify offerings, improve affordability, promote innovation
	4. Problem statement 1 – how to get homes to ZNE
	5. Problem statement 2 – Drive deep savings through whole home approach
	6. Problem statement 3 – growth of plug loads
	7. Problem statement 4 – advanced lighting
5. Larry Tabizon, SCE (switched to ERC)
	1. Sample programs – lighting program, whole home approach
	2. TRC has been declining and hovering around 1 for 2013/14
	3. Strategies to address cost effectiveness
	4. Propose Home Advisor program – *similar to BayREN*?
	5. Focus on lighting measures
6. Carlos Ruiz
	1. Overview of customers
	2. Whole building programs. Participate with MOUs to reduce gas use. Low TRC
	3. Problem statement 2 – HU funding does not support true market transformation. Does TRC truly represent potential, value of program or are there other benefits from HU not reflected in TRC?
	4. Problem statement 3 – Retail programs have diminishing impact. Reduced store participation? Hard to get rebates.
	5. Problem statement 4 – New building not conforming to Title 24
7. Nancy Barba, SoCal REN -
	1. Energy Network – demographics, info on region. “most people can’t afford HU programs”
	2. Getting more traction in HU, similar to other HU programs.
	3. Table of measures giving greatest energy savings
	4. Problem statement 1 – whole house projects are more expensive and comprehensive that customers want.
		1. PACE far outstripping HU in participants and many of those programs may be saving energy
		2. Home owners don’t understand benefits of HU
		3. Program too difficult to participate in
		4. Solutions: streamline process, integrate with residential PACE, increase contractor participation, increase financing options, leverage marketing incentives and local governments for education, synchronize with local governments and their low income programs, train real estate professionals, look outcome of EM&V reports to improve program.
8. Jenny Berg, Home Upgrade Working Group –
	1. Review of the HU program – in year 3 of a 10 year program mandated by the CPUC
	2. Input from contractors/participants to improve program:
		1. Expand measures
		2. Create 1 program for customers to lower confusion but can maintain multiple programs for contractors to take advantage of contractor expertise. Consider multilevel incentive tiers for contractors.
		3. Customer journey – enroll once and continue engagement over time

**Discussions:**

**Question**: Why are there 2 different groups of upgrade program HU and Advanced HU?

**Response**: The 2 groups represent the two different sources for improvements to HU, one list is existing measures from Advanced HU and the other are new measures.

**Question**: How will savings from plug loads and other new measures be measured?

**Response**: Not really thought out by the HU working group but recommend it be discussed based on positive input from 2/15 working group meeting.

**Question**: With these incremental tweaks, how do we address lowering the cost?

Response: The goal is to increase the energy savings for minimal cost. Program TRC would be increased by increasing energy savings and holding the cost nearly the same.

Question: Do we have a break out of the cost to do the various energy saving measures in the program? Would be helpful for decision making.

**Response:** Excellent idea but not available.

**Comment:** All support Home retrofit programs but let’s consider how we want the program to look. What do we want? Incremental improvement only? We need some blue sky thinking!

**Comment:** Need more blue-sky thinking. When is it most beneficial to introduce this program to various stakeholders? Real estate transaction? Contractor remodel? Moving?

**Question:** What at the metrics for HU? Some programs were told to increase participation. Will there be hard targets in the future?

**Response:** Yes, know we need to put together some targets.

**Response:** Agreed there will be metrics, not as part of the business plan but in the implementation.

**Comment:** – (1) are the PAs proposing incentives (or not) for the additional measures. (2) recommended adding thermostat shut off valve for therm savings, (3) Agreed also to look out of the box to make this a more sustainable model

**Comment:** IOUs still working under the method of how savings are calculated but from the CEC perspective 802 is driving changes in how energy savings are captured. CEC is working out how this will change. IOU still presenting the current method of calculating savings. State focus is to “reduce the middle man” make it more available to customer. CEC would like to see more focus on PA side to use the data to drive the market: “customer is the mini power plant.” Consider a model of getting a check back if customer stays below baseline. Need to think hard about how to get away from the status quo with goal to get away from the thinking that everything needs to be counted up front.

**Response:** Agrees that this is chance to look beyond past approach. Looking to rebate alternative, behavioral interventions, operating under 802. Do need some level of transition.

**Response:** We should be thinking out of the box. Include GHG emissions as a measure of success. What about getting rid of gas appliances? Reduces GHG and saving testing $s for gas appliances.

**Question:** is success measured across BPs in the same way?

**Response:** Co-chair says there are high level metrics per sector but actual metrics are to be determined.

**Comment:** PAs should consider counting the investments customer are already making (e.g., investing on their own in smart thermostats). Would help increase cost effectiveness. Try to give customers choice with other tools. Need to utilize, recognize these evolving tools.

**Comment:** NEBs(non energy benefits) are not included in measuring success of HU. Should these be considered?

**Response:** Co-chair said that cost effectiveness will be addressed in phase 3 of the CPUC rolling cycle. But we can highlight and make relevant now.

**Comment:** Home performance can sometimes be less effective in rural areas. Is anything proposed to address this issue?

**Response:** Co-chair noted that Courtney Kalashian of the San Joaquin Energy Coalition has added some info on this topic posted on the caeecc.org website.

**Response:** The issue of making different things available to different communities is important. Need to figure out to target HU to rural communities. Need a more “surgical” approach to delivering services.

**Question:** facilitator asked whether this will be in the BPs, or implementation plans?

Response: Yes, it will be touched upon in the BP but addressed in more detail in the implementation plans.

**Comment:** When considering if HU is the right program, don’t lose sight of the fact that contractors are becoming a larger engaged group that interact with customers. Asked people to recognize that a lot has been invested.

**Comment:** Contractors mentioned at the HU Working Group that they don’t want a whole lot of changes made to the program. Just getting the business plans set so don’t throw out or change significantly. Incremental changes are more workable.

**Question:** When is it appropriate to use energy metrics as opposed to market transformation metrics?

**Response:** Planning to include these details in program implementation plans. Trying to establish broader metrics at this level. Individual sectors will have more targeted metrics.

### Multi-family

1. Heather Larson, StopWaste –
	1. Overall view of the state – MF is a very urban population, mostly renter and 40% low income
	2. Energy use profile
	3. MF HERCC lessons learned – streamline the process; refine incentive structures, increase marketing effectiveness especially for market rate, increase operational savings, access to whole building energy data, include EV charging infrastructure, promote water savings.
	4. Wayne Waite, California Housing Partnership Coalition highlighted other legislation important to MF
	5. Lara Ettenson and Maria Stamas, both of NRDC explained that the BPs cannot address some of the legislation brought up but the BPs are encouraged to coordinate with these other programs – CARE, AB327, etc

**Question**: What about Cap and Trade program?

**Response**: Some portion going to low income CSD program.

**Question:** When can we solve this siloing problem? – ZNE working groups starting soon and addressing some of these issues. How do we coordinate? No specific answer but recognition of the problem.

**Response**: We cannot wait to silo “bust”. BP should envision what the future looks like.

1. Chad Ihrig, SDG&E
	1. Similar presentation to SF.
	2. Problem 1: Goal to hit new construction ZNE code but very slow uptake.
	3. Problem 2: energy consumption is not declining fast enough to hit long term strategic plan
2. David Meyers, SoCal REN –
	1. Small and medium units dominate
	2. Participation is increasing, particularly market rate
	3. Problem – low participation,
	4. Question

**Question**: Why do they divide up the units in they way they do? Particularly at the low end. **Response:** Based on experience of rolling together small (3 or so people) units together for a specific program

1. Jose Buendia, SCE -
	1. 40% energy reduction in MF by 2020.
	2. Market characteristics. – over 50% of buildings are 9 units or under
	3. Served about 600K units out of 1.7M
	4. Problem 1: fragmented and diverse market: market rate, condo, low income, public housing. Different code requirements
	5. Problem 2: hard to reach, split incentive, taking units out of the market looses money.
	6. Observation: EE relatively low priority to building owners
	7. Strategies: leverage benchmarking, simplify customer engagement process, seamless implementation – utilize contractors from ESA program and vice versa so one contractor can perform all the work, single enrollment for both ESA and MF.
	8. Stakeholders
	9. Metrics

**Question:** Where would public housing fall? If housing meets low-income housing will they get normal MF benefits described here? What about military housing or other public housing? Jose - not sure.

**Question:** Do you consider ESA in regular MF programs?

Response Working with governments, institutional. Hospitals. We are treating them more like state government. Public housing similar – stuff done for governments, stuff not done for governments. Is public house in the public sector or the MF sector Jose – coordinate with local government

**Comment:** – suggest we bump up to the CC level

1. Carlos Ruiz, SoCalGas –
	1. Hot water “biggest bang for our buck”
	2. Problem statement 5 – significant decrease in enrollment MF
	3. Strategies

**Question:** – What do split incentives look like?

**Response:** Examples include commercial restaurant program allowing for tenant receive an incentive and the owner would receive a benefit. Incorporate some incentives that encourage owners and tenants.

**Comment:** (re whether or not public housing belongs in the public or MF sectors) Currently participating in MF programs, not in the public sector.

**Response**: Co-chair agrees with comment but suggested PAs reference it in the public sector comments

1. PG&E Joanne O’Neill
	1. From posted doc, not a presentation. Problem statement and metrics same as above.
	2. 5 Problem statements and 25 solutions (in posted document)
	3. Split incentive problem (1/2 customers are renters) – expand behavioral opportunity, availability of efficient products. MF DIY

**Question**: Many of strategies are related to removing barriers for customers to manage energy use and remove rebates. Can you balance that direction with current focus on incentives?

**Response:**- Some proposals conflict with current policy but still worth putting them out there. But many within current scope. Pushing the boundary to some extent.

1. BayREN Miya Kitahara?
	1. Problem statement requires a customized yet streamlined process. Upgrades over time. Multiple market drivers.
	2. Exceeded program goals. Participation is diverse. Incentivizing a wide range of measures.
	3. Solutions –
		1. continue successes, long-term planning and new drivers. Advising service is integral portion of the program
		2. Long term engagement. Upgrades take place over time. Again, emphasize advisors.
		3. Market drivers: local government policy, green labeling, financing
2. Ted Pope speaking for MCE. Encouraged input to the MCE plan.

**Open questions**:

**Comment**: Would like to hear about the problems MCE sees in the market place that informed strategies.

**Response:** Similar problems to other PAs split incentives, difficulty finding natural decision makers, customer had issues with previous programs, contractor access, continually improve programs.

**Comment:** BayREN portfolio approaches seem successful, are other PAs considering the same approach? Number of MF portfolio managers are participating in better building challenge. Working with portfolio managers seems like a good idea.

**Response**: Yes MCE is working with portfolios. Take a lot of lessons learned and best practices from other PAs.

**Response:** In addition to just engaging at portfolio level, BayREN technical assistance also begins up front.

**Response:** SCE--One you build the relationship with large owners then use portfolio approach.

**Comment:** It looks like we’re dancing around:

Very difficult to meet property owners where they are. Why are we trying to do a downstream meet the property owner requiring lots of specialized expensive systems? Why don’t we do an upstream work with manufacturers? Cost effectiveness, is it a valuable metric for this segment? Not addressed in any presentation except PG&E.

**Response**: Co-chair noted that CPUC reviewed decision that calls out cost effectiveness as a metric

**Comment:** re upstream or mid-stream approach. It’s important to stay engaged with end use customers.

**Response:** when we talk about education we’re talking about benefits. Looking to guide owners to ZNE path. Promote the value to the owner of having a green property.

**Question**: Logistical question: how do we provide feedback to individual PAs after we can consider the presentations?

Response: Co-chair noted that the 4/25 online webinar to give time to form questions. PAs will be there to answer questions. Send comments to facilitator@caeecc.org and we’re channeling all the info into a big spreadsheet containing all the issues raised.

**Question:** issue: lack of time owners have to engage in the process. Has there been any thought into consolidating all programs into one and have program coordination from the PAs? **Response:** this is something MCE is currently working on. Develop comprehensive database with assessment and measure data so MCE can do the nudging.

**Response:** How do you get the right program to the right customer at the right time? PG&E looking at the issue from multi program or single program aspect.

**Question:** Operation and behavioral savings, various date baselines etc… when can all this data realistically be used? Calendar year program cycles are problem. When will rolling portfolios start?

**Question:** One ED scoping study to look at MF building operator certificate program…trying to develop an impact evaluation…results in 12 months. Will this process work? Go through the standard workshop forces?.

**Response:** Co-Chair says 802 white paper was due out in March. Still in process, should be posted shortly and inform decision for meter savings. Rolling portfolio? Adopted 2 years ago but not implemented so now 1 year cliff instead of 3 year cliffs? If so, this was not what was intended.

**Additional response**: Same annual budget currently continues with rolling portfolio but to make changes increasing budget will require decision. Same programs with same budget should be able to continue. BayREN 1 year usage was unique not the norm.

**Question**: When do we expect to get the data from 802 (baseline data aspects of 802) to be available for program development?

**Response:** Utilities are required to provide data on 1/17, benchmarking 4/17 one other requirement, *building benchmarking 12/17* *(not sure I got this last date/event correct)*

**Question:** With respect to the issue of integration with other DERs. What types of support or assistance would you need for these integration issues? Specific interest in integrated solutions. Can we get to a one stop integrated solution that includes EV, battery storage, solar, etc?

**Response:** To that point, have a new initiative providing 350 sites for EV charging at MF to create a symbiotic pairing. SDG&E is starting to combine measures.

**Comment:** Other technologies beyond EE may have better GHG reduction impact. Overall program to do tradeoffs for biggest GHG reduction.

**Comment:** Breaking down silos in important. Successfully done on SF Home Upgrade side as well as SMUD. Look at those examples.

**Comment:** CPUC has been instructed to take a light touch but not sure what that means. Would like to harp … we’ve spent a lot of money evaluating current programs. Use those EM&V reports. Look at the recommendations, and pay attention to specific and small recommendations. Don’t ignore this resource.

**Comment:**– Rolling portfolio. We can engage with portfolios up front but if programs follow start/stop cycle this impacts interventions. Completing construction in 1 year does not work. Don’t understand how the rolling portfolio is being implemented. Would like to do long term planning with owners with portfolios of buildings. Long term planning implies more than 1 year to complete projects

**Closing Comment**: Facilitator reminded attendees of the 4/25 webinar and that written comments due at the end of the month.