Notes from Codes & Standards and Emerging Technologies Subcommittee Meeting

3/15/2016 1:00PM to 5:00PM

Location: PG&E Pacific Energy Center, San Francisco

Meeting Co-Chairs: Lara Ettenson, NRDC; Meghan Dewey, PG&E

Facilitator/Notes: 2050 Partners, Inc.

*Notes: Presentations are generally not 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.*

Welcome and Background – Facilitator Ted Pope

* Facilitator helps CC Co-chairs run meetings, share and organize information, keep process impartial and transparent; and allow access for public input
* Purpose of Coordinating Committee
* Purpose of Subcommittee Meetings: deal with more technical topics including program design-related issues and strategy to help CC move forward with process
* Role of Subcommittee Participants
* 4 Stage Process
* Ground Rules
* Introductions around the room

Session 1: C&S Situational and Gaps Assessment – Pat Eilert (PG&E)

*See slides.*

*Questions and Comments*

Question: There seems to be a lot of grey in terms of modeled versus measured for the compliance factor equation. Can you address this?

Response: Evaluators are going into field to get as-built data.

Question: What is basis of savings claim? Are savings for all projects?

Response: Energy Division’s consultants draw a sample of permitted buildings and then extrapolate from that for all buildings. For commercial buildings, we believe all projects in the sample were permitted.

Question: What does the compliance process cover?

Response: All completed projects.

SCE Cross-Cutting: Codes & Standards Market Assessment and Gap Analysis

*See slides.*

Question: What do gaps/issues identified have to do with Code work?

Response: Gaps/issues are things that the Code can handle or address.

So Cal Gas Cross-Cutting: Codes & Standards Market Assessment and Gap Analysis

*See slides.*

[No discussion/comments]

SDG&E Cross-Cutting: Codes & Standards Market Assessment and Gap Analysis

*See slides.*

[No discussion/comments]

BayREN Cross-Cutting: Codes and Standards Market Assessment and Gap Analysis

*See slides.*

[No discussion/comments]

*General Discussion*

Question [for PG&E]: What are underlying drivers/motivations for addressing federal preemption?

Response: Whenever the Federal government sets a standard for equipment or technology, it sets a cap for that equipment or technology on a national level. California standards cannot exceed federally-mandated caps. Main point for addressing preemption is that we would like to (a) encourage the DOE to go further in setting standards so that not so many cost effective savings, from a California standpoint, are left on the table and (b) if they don’t, removing preemption would allow CA to go farther, saving Californians more energy. Preemption limits potential energy savings. We want to get more energy savings.

Question: What matters more – claimable savings or savings customers see?

Answer: We want to reach the key policy goals. If we can do better at a federal level, there will be more savings for everyone. If we think there are more savings available and are prohibited by preemption, we want to get more savings. This issue isn’t about attribution.

Question: Why does preemption matter to California?

Response: Federal codes are set on national level but they may not be relevant in California. For example, saving water is not a national issue but it is for California so Federal standards may not be as strict as they should be for California. On the other hand, in California due to mild climate, national goals for spaceheating equipment efficiency, for example, may be less compelling here.

Comment expressing disappointment that the question of whether savings below code are real had not been addressed by any of the C&S presentations, as they have been frequently referred to by PA reps in other subcommittee meetings. Every PA today in the C&S meeting has argued that code savings are being stranded because the code is not strict enough and they urge that code standards be pushed forward. At the same time, PAs in other CC subcommittee meetings and other venues argue that standards are not being implemented by customers because they are too expensive. If codes aren’t being met, why are PAs then pushing for more strict codes?

Agreement expressed that inconsistency arises because PAs think about programs in silos which look at codes and standards very differently. [action] C&S and other business plans need to highlight the crossover or differences.

Comment that the answer to the issue is not to stop pushing on code savings. There are two issues, one with retrofits not being retrofitted up to code. The second, is to continually advance codes so the new buildings, which are highly compliant, continue to capture more savings. Yes, this will widen the gap in retrofit code compliance potentially, but need to address that not slow down on code progress.

PG&E has a Code Readiness subprogram, the intent of which is to prepare the market better for compliance with codes and addressing the gaps. It confirmed that replacing equipment (HVAC, etc.) is expensive and will thus usually get put off by customer. Also noted we are in a recovering market. There are a lot of pieces to this and there is more to do; PG&E plans to work further on this issue to resolve.

Comment that the Energy Commission does not adopt anything that is not proven to be cost effective.

Comment that this discontinuity also creates an issue of double-counting of savings. Commenter expressed lack of confidence that this current Business Plan development process is going to make a difference in how these programs are run in the future if this issue isn’t addressed now.

Discussion followed about whether the “double-counting” issue has significant implications or not. CPUC and CEC is currently working on a white paper (in draft) on coordination with Codes & Standards that may help assessing situation.

CC Co-Chair Lara Ettenson confirmed this kind of dialogue and perspective is exactly why we have this CC forum. [action] PAs should be ready to address this issue at next meetings.

Comment that Program Administrators talk about the challenge presented by Codes & Standards. Suggestion that those in charge of running C&S programs should talk about the how they affect implementation and how they can address those challenges.

Comment that cost-effectiveness methodology for Codes & Standards is not the same as used for incentive programs.

Comment that because of great advocacy by utilities, codes get updated every 3 years. California code is best practice EE for statewide building code. C&S now needs to address new issues: it is hard to meet code requirements and extremely hard to exceed. Going forward C&S programs need to acknowledge that and look at their programs differently.

Comment expressing frustration that parties “just accept complexity of the code” without providing feedback to the CEC about frustrations with the code. Request made that parties provide “aggressive feedback” about what does not work in the code or it will never get better. (e.g., create a CASE about what’s broken and what should be fixed)

Comment that PG&E is doing some work with case authors to look at building code requirements and compliance manuals from user perspective.

Request made to be part of the feedback loop in this process.

Question: Has a cost benefit analysis on federal preemption issue been performed? What would it cost to get a DOE waiver compared with savings expected therefrom?

Response: No, but we will.

Comment that Pacific Energy Center has received a lot of feedback about this issue. It would like to investigate an EUI approach to building codes with CEC at some point that would get around this issue.

Question: Can you address the issue that we need to pay to get to code because the code does not work?

Response: This issue was addressed in PG&E’s proposal for Prop 39. As we put one in incentive bucket, we need to take one out of codes and standards bucket. Can’t transfer between buckets.

Follow up: Agreed that’s an immediate solution, but that just acknowledges the larger problem. Need a better accounting.

Comment: Agreed. CPUC (with CEC) is issuing a white paper on AB 802 in March. Hope is CC can provide collective input on that white paper, which will go to CPUC for decision on 802 guidance (proposed decision anticipated in June).

Question: Can you clarify the double counting issue?

Response: The count for existing buildings is based on turnover assumption (turnover on a certain schedule). Stranded savings claims are based on facilities not in reality renovating according to the model which results in savings being stranded. Can’t count the savings on turn over (part of C&S savings) and also then in incentives. If numbers are accurate, then where are the stranded to-code savings?

Comment: If the numbers are in fact accurate in terms of turnover, doesn’t necessarily mean they are being upgraded up to code or that everything is being upgraded. That’s where the stranded savings would be. But likely the rates are also not accurate.

Comment that the Potential Study estimates future savings including from Codes & Standards. Code subsequently sets further goals. That is not double counting.

Comment that there may be some validity to the “double-counting“ issue but, if it does exist, it is not that large of a piece of Codes & Standards. It is a measurement question: are assumed turnover rates accurate?

Comment that if the issue is really small, then there should be very few stranded savings and very little to justify stricter codes going forward.

Comment that CPUC hires code evaluators to look at savings from energy goals. Bigger issue is what is end goal: How can we find deeper savings in the State? For existing buildings, there is an opportunity to motivate people to make savings. Repairs are not covered by the code. It is important to understand what really happens in the market and how people really act. There is a place for both codes and incentive programs. Zero sum game is not the case. There are lots of places where upgrades are totally discretionary. Another issue is how we are going to feed the next generation of energy codes. We need to find what will be cost effective in the future. We need a lot of help from incentive and market transition programs to determine what measures can be added to code.

Comment that there may not be as widespread natural renovation/retrofitting adoption as assumed. We need to dig deep into assumptions about turnover and savings left on the table.

Comment that Codes & Standards is not a voluntary incentive program and is not optional. Code sets requirements required to be able to get a building built in California. We need to keep builders, architects, trade, etc. in mind when setting codes.

Session 3: Emerging Technologies (ET) Situational and Gap Assessment – Erwin Hornquist (SCE) and Mangesh Basarkar (PG&E)

*See slides.*

*Comments and Questions*

Question: What is an example of a measure that provides savings in ET portfolio?

Response: Lighting controls, VFDs, food service technologies.

Question: When talking about energy efficiency, are there weaknesses in retrofit in terms of EE versus DER? What is problem if DER is cheaper mode? Is there a difference in evaluation of these two systems?

Response: This is a broader questions than what we are looking at. What is loading order? Does it change based on location? No reason why DERs can’t be more cost effective in certain situations. If we are trying to help builders build most cost effective building, then we need to look at DER.

Comment that it is important to understand the importance of communicating challenges in integration. Bringing issues to light to guide policy will drive integration and adoption. The more work we do up front will lead to cost effectiveness.

SDG&E Cross-Cutting: Emerging Technologies Market Assessment and Gap Analysis

*See slides.*

[No discussion/comments]

So Cal Gas Cross-Cutting: Emerging Technologies Market Assessment and Gap Analysis

*See slides.*

*Questions and Comments*

Question: How much of problem with fryers was resolved by documenting other benefits? Were any of the problems related to supply chain?

Response: Great question. I don’t have complete answer right now. Customers didn’t know why they should buy the new fryers because they were so expensive. Market research showed that they should look at cost of oil.

Further response: Part of what happened with fryers is that commercial restaurants didn’t trust it. They needed to see it work.

Question: Does this mean that vendors are able to sell the products with a side note that it helps with EE? If we shift more toward performance-based system, then would pre-installation modeling result in confidence in market as well as investor confidence, to collapse the timeline for implementation of the new technology?

Response: We are looking at these questions and how we evolve the things we do today to a new approach. We need to understand if these systems save energy, and if so, how they do it. We need to leverage data generated from studies that can inform policy about claimed savings. Further response: A key deliverable from ET is generating data about how now technologies perform and how customers interact with them.

Question: Can your programs help us develop protocols for meter-based approaches?

Response: Yes, we are already doing that.

Further response: Ideally we could leverage the meter data. Data needs to go through another level of granularity. This leads to collaboration opportunities for managing data and determining how much is needed.

Comment encouraging ET programs to think about control group research.

Response: We are not looking at process of experimental design at this time. Agreed this was a good point. Considered whether there is a way to look at efficiency in the process as well.

Further response: We can’t change the program policy but data gathering is helpful.

Question: What are your strategies to addressing market gaps and barriers to ZNE goal?

Response: We support the policy goals of ZNE. Multiple demonstrations have supported code efforts. We are actively pursuing new demonstrations. Challenges are not technological but center on wide-spread adoption of practices in building community. We need to show technology is ready, costs are understood, and product is ready for the market. Ultimately, wider adoption is up to the market.

Further response: ZNE demonstrations are a big part to show that the technology is ready for market. We give a lot of support to verify that buildings are operating to ZNE. We want to show that the technology is there and you can get to ZNE.

Question: Where is the residential market today?

Response: Technologically speaking, there are multiple examples of builders building ZNE homes.

Further response: Study by \_\_\_\_\_\_ documents current adoption of ZNE: how many ZNE homes are built each year.

Question: What is preventing us from reaching 40% ZNE existing homes?

Response: Some builders see a market play.

Question: Is there discussion among PAs about formulating a clear data plan to share in BPs?

Response: Current action plan includes a subsection for addressing market data. We were very engaged initially saying this is an area of interest. There are issues in sharing data because of security concerns.

Challenge expressed asking PAs to think about data issues differently. The market does not have enough data to make good decisions. The market needs details about characterization of buildings and utilization of buildings so it can make determinations. There is exciting R&D that can happen with data in ET section. There must be ways to provide data to market such as masked or synthetic data.

Comment that utilities have protocols for data release.

Comment that data sharing is important but warning that data can be a strength and a weakness. We need to look at types of data, sources, and management of data to make PAs more nimble. PAs need quantifiable data to do their jobs.