CAEECC Market Transformation Working Group

NRDC, 111 Sutter St # 20, San Francisco, CA 94104

Monday, January 14, 2019, 9 a.m. – 5:30 p.m.

Meeting Summary

Facilitator: Dr. Jonathan Raab, Raab Associates LTD, Ellen Zuckerman (Independent)

On January 14, 2019, from 9:00 a.m. to 5:30 p.m.., the California Energy Efficiency Coordinating Committee (CAEECC) hosted its second working group (WG) meeting on Market Transformation (MT) at the Natural Resources Defense Council office in San Francisco. Twenty-eight individuals participated in-person, and approximately 13 more participated via BlueJeans webinar. A full list of meeting registrants is provided below in Appendix C: Attendees.

Meeting facilitation was provided by Dr. Jonathan Raab (Raab Associates LTD) and Ellen Zuckerman (Independent). Meeting materials and presentations are available on the CAEECC website at https://www.caeecc.org/1-14-19-wg-mtg-market-transformatio

During the meeting, key themes and major discussion points were captured in documents edited in real time by the facilitation team. This document can be found on the website at above address [*CAAEEC MTI Proposal 1-14-18 redline*]. Next Steps, at the end of this document, list all action items agreed upon at the meeting.

**Introductions and Meeting Objectives**

CAEECC Facilitator J. Raab opened the meeting by reviewing the agenda (see link above). He explained that the primary focus of the meeting is to solicit feedback and, where possible, identify areas of convergence and divergence on the proposals developed by each of the six Sub-Groups that have been meeting since December. He reviewed the ground rules that the WG agreed upon at its first meeting and the composition of the overall WG including one new Member Resource Innovations (Margie Gardner lead) (see Appendices A and B, respectively).

**Market Transformation Principles, Characteristics, and strategies**

J. Raab reviewed Market Transformation Principles (a) through (f), which the WG developed at its first meeting in December (see Redlined Compilation at link above). The WG reconfirmed its support for these principles as written except it added “equity” into the first principle. [*Help drive incremental savings to achieve the state’s energy efficiency,* ***equity,*** *and GHG reduction goals*].

J. Raab then reviewed Principles (g) through (k), which include three new principles on equity, transparency, and data developed by the MT Principles Sub-Group. The WG agreed to the following new principles:

* Integrate strategies wherever applicable to ensure equity
* Be informed, measured, and evaluated by data and information
* Be vetted in an inclusive, open, and transparent manner
* Ensure that the energy efficiency workforce is adequately trained and skilled

It also identified the need to develop two new principles on (1) metrics and (2) conflicts of interest; and to revisit the lead-in phrase for this section of the report—specifically whether each MTI “must” or “should provide the opportunity to” conform to the principles.

Due to time constraints, the Sub-Group’s proposed revisions to the Market Transformation Guidelines and Strategies were not discussed. Instead WG Members agreed to review and comment on these strategies, including areas where they can be cut down or better aligned with the WG’s overall MT Principles.

**Stage Gate Approach**

Phases, Stages, and Gates

Kevin Thompson (Southern California Edison) briefly summarized the work of the Stage Gate Sub-Group to refine the stage gate approach (see link above). Following this introduction, J. Raab confirmed that the WG generally supports the overall stage gate framework inclusive of three phases and seven stages. He then solicited clarifying questions and feedback on each of the seven stages.

During this discussion, key points of feedback from WG Members included the following:

* Ideally, the overall stage gate framework (and its description) should be agnostic of the MT Administration model.
* The MT Administrator (regardless of who it is) should play an active role in surfacing possible market transformation initiatives (MTIs) while also not biasing the process toward any particular outcome.
* To ensure fair treatment, criteria for evaluating MTIs throughout the process must be clear and transparent.
* Off-ramps can occur at any time in the stage gate process, and when an MTI is “off-ramped, the rationale must be provided and clearly explained.
* Proposed MTIs may overlap. Where appropriate, the MT Administrator should work to integrate these MTIs, while also protecting intellectual property issues.
* Stage gates may not uniformly apply to all MTIs, depending on the nature of the MTI. As a result, activities and deliverables may vary by stage depending on the MTI.
* The pace of any one MTI moving through the stage gate process could vary (particularly stages post-Phase 1). Flexibility is especially important in Stages 3 and 4.
* An MT Accord is meant to support transparency and to ensure that third-party actors are on board with a proposed MTI. Any MTI that moves past Stage 4 must have formal documentation supporting it.
* The cumulative cost of developing a MT Accord should be considered in cost-effectiveness calculations.

As part of these discussions, the WG agreed to several modifications to the proposed stage gate text and schematic (see Redlined Compilation). Additional action items are captured in the Next Steps section of this document.

MT Framework Timing

J. Raab noted that the only timeframe mentioned in the text describing the stage gate approach is for a one-month intake and solicitation period during Stage 1. He asked the WG to reflect on the sufficiency of this one-month period, the mechanism that would cause Phase 1 to re-start, and if any other timeframes should be built into the stage gate framework.

During the ensuing conversation, the WG agreed that:

* An expected timeline for Phase 1 (through Review 1) should be determined and articulated, but that the in-take process should probably be 1-2 months in stage 1 and then the evaluation and ranking process several months in state 2
* The Administrator in consultation with the MT Advisory Board should establish criteria to determine how often Phase 1 should re-start based on what is submitted the first time through the process and other factors.

Criteria for Stage Gates

Carol Yin (Consultant to Southern California Edison) presented four proposed criteria and associated sub-criteria for evaluating MTIs during Phase 1 (as well as subsequent phases) of the stage gate process (see Slide 3 at link above). As C. Yin reviewed these criteria, J. Raab encouraged WG Members to consider whether or not the MT WG should finalize criteria for the CPUC report or if it would be preferable to provide directional guidance only.

While several WG Members agreed that the four proposed criteria have merit others were not convinced that it was appropriate to include “Portfolio Fit” as an MTI screening criteria. It was decided that the final detailed delineation of criteria and possible weighting of criteria would be best resolved by the future MT Administrator and MT Advisory Board. Additionally, WG agreed that the criteria should align with the MT principles as much as possible. Finally, the WG agreed that criteria should be used to rank order MTIs in Phase 1.

Additional feedback from the WG Members on the four proposed criteria included the following:

* Criteria are an important mechanism by which to provide feedback when MTIs are “off ramped.”
* Evaluation criteria may need to vary somewhat at different phases of the stage gate process; but should remain consistent throughout the life-cycle of an MTI.
* When establishing criteria, decision-makers should consider what type of information those criteria will solicit, whether that information is qualitative or quantitative, and whether that information is sufficient to support effective decision-making.
* “Equity” and “workforce” may need to be elevated as primary criteria.
	+ Criteria around “workforce” should be inclusive of both “workforce development” and “workforce standards.”
* The term “portfolio fit” has different interpretations and should be revisited.
	+ The term could mean MTI fit with the existing energy efficiency programs/ portfolio or MTI fit with energy system needs. These are different and important objectives. This term also has a different meaning in the third-party solicitation process.
* The proposed sub-criteria on “agreement of non-MT PA market actors” raised some concerns and should be revisited.

**Roles & Responsibilities**

J. Raab explained that there are many similarities on roles and responsibilities between the two administration proposals under consideration: (1) Option A - Existing Program Administrators; and (2) Option B – Independent Statewide Administrator (see Redlined Compilation)—separate from who the Administrator(s) should be. He said that the goal of the discussion is to review both proposals for convergence and divergence, with the aim of identifying administration features or an overall MT administration model that the WG can support regardless of the administrator type. Because both proposals appeared to call for the formation of a MT Advisory Board and MT technical sub-committees, the WG discussed these constructs first.

Stakeholders: MT Advisory Board/MT technical sub-committees

Adam Scheer (Pacific Gas and Electric) and Hayley Goodson (The Utility Reform Network) provided an overview of their Sub-Group proposals for the MT Board (see link above). As part of this discussion, the WG reached consensus on the following issues:

* The term “Market Transformation (MT) Advisory Board” should be used.
	+ The MT Advisory Board should serve in an advisory capacity to the MT Administrator.
	+ The MT Administrator should not serve on the MT Advisory Board.
	+ While the MT Administrator would have ultimate authority to bring issues to the CPUC, the level of consensus between the MT Administrator and MT Advisory Board would dictate the tier of advice letter brought forward.
* Further Sub-Group and WG discussion is needed on the composition of the Board; how the Board would give advice to the MT Administrator and by what mechanism; and where the Board fits in with the overall stage gate process.

The WG then discussed the two Sub-Group proposals for MT technical sub-committees. As part of this discussion, it reached consensus on the following issues:

* The term “Initiative Review Committees” (IRCs) should be used.
* An IRC would be specific to an MTI (or group of related MTIs) and formed only if needed
* An IRC would be a technical body that includes market experts (e.g., manufacturers, government agencies, independent technical experts).
* An IRC could be formed at any stage between stages 1-6 of the stage gate process.
* The Administrator can form an IRC as needed.
* The MT Advisory Board could also recommend the creation of an IRC as a condition of an MTI advancing through the stage gate process.
* If formed, an IRC’s recommendations must be shared with the MT Advisory Board.
* An IRC may include members who have potential conflicts of interest, as long as the potential conflicts are acknowledged and handled in a transparent manner.
* Additional Sub-Group and WG discussion is needed on whether or not there should be funding to support IRC participants and, if yes, what the funding source would be.

A. Scheer reviewed his Sub-Group’s proposal for Peer Review Groups (PRGs) and Independent Evaluators (IEs), which the other Sub-Group did not propose. He explained that this proposal mirrors the third-party solicitation process in terms of oversight. PRGs would be comprised of non-financially invested stakeholders (which could make them distinct from the MT Advisory Board and IRCs) and would play a role beginning in Stage 5 of the stage gate process. The IE would be involved early on in the stage gate process to ensure MTIs are being evaluated fairly and transparently. Daniel Buch (California Public Advocates Office) said that IEs would not be necessary under the Statewide Independent Administrator model unless a utility was leading the procurement process. Both Administrator Sub-Groups agreed to further explore the need, if any, for PRGs and IEs.

MT Administration

*Option A - Existing Program Administrators*

A. Scheer provided the rationale for and answered clarifying questions on employing the existing program administrators (PAs) as the MT Administrator.

During this discussion, key points of feedback from WG Members included the following:

* The budget for MT administration would come from the Rolling Portfolio budget.
* MTIs would be assigned to the PA that has expertise or that is best positioned to administer the MTI in question.
* There would be only one MT Advisory Board that would advise all the PA Administrators.
* Internal policies of the IOUs may prevent the IOUs from administering certain MTIs (like building code compliance programs that provide direct assistance to building department staff). In these instances, it may be possible for a Community Choice Aggregator (CCA) or Regional Energy Network (REN) to administer the MTI in question. A concern was raised that the non-IOU PAs were not positioned to administer statewide programs; and the statutory language granting them this authority should be confirmed.

*Option B – Independent Statewide Administrator (ISA)*

Beckie Menten (Center for Sustainable Energy), Lara Ettenson (Natural Resources Defense Council), and D. Buch (California Public Advocates Office) provided the rationale for and answered clarifying questions on employing an Independent Statewide Administrator (ISA) as the MT Administrator.

During this discussion, key points of feedback from WG Members included the following:

* Even if an ISA is employed, the existing PAs would play a pivotal role in MT, including through the sharing of data and by leveraging their relationships with key market actors, and being on the MT Advisory Board.
* Under the ISA model, the investor-owned utilities (IOUs) could propose MTIs.
* The ISA could play a more or less active ideation role depending on the MTI in question.

*Informal Straw Poll and General Discussion*

Following these presentations and clarifying questions, J. Raab conducted an informal straw poll to gauge the level of support for each proposal. The WG was roughly split in its support of the two approaches.

The WG then discussed potential ways to potentially bridge the gap between the two proposals and to find ways that each proposal could be modified to become more palatable to the overall WG. As part of this discussion, two additional administrative models were surfaced:

1. A hybrid model, wherein the roles and responsibilities would be split or bifurcated between the existing PAs and an ISA. This concept had limited-to-no support.
2. One existing PA administrator who would work statewide. Athena Besa (San Diego Gas & Electric) said this recommendation has been considered in the past. The WG acknowledged that this model could have some operational benefits over multiple existing PA administrators. However, numerous WG members pointed out that this would still not be an independent administrator.

Other key points of feedback from WG Members included the following:

* The ISA proposal raises concerns for the IOUs in four main areas: (1) Budget management; (2) Coordination and integration of MT with the Rolling Portfolio, Resource Acquisition programs, Codes and Standards, and Integrated Resource Planning; (3) IOU responsibilities for meeting savings, outsourcing, and cost-effective requirements; and (4) Commission management of a new entity, including related rules and regulations.
* Each administration model presents unique coordination challenges.
* The involvement of the PAs on the MT Advisory Board and/or as proposers of MTIs may help to address some of the PAs concerns with the ISA model.
* There may be legal or regulatory obstacles to the ISA model that would require Commission or legislative action.

Action items are captured in the Next Steps section of this document.

**Other MT Framework Issues**

The WG discussed the interplay between MT and Resource Acquisition (RA) programs, codes and standards, and the movement to third-party implementation. It identified the following questions:

* What is the relationship between MT and RA over the short- and long-term?
* How will MT impact third-party programs and contracts?
* How will costs and savings be attributed when it comes to cost-effectiveness, meeting goals, and shareholder incentives?
* How do we ensure that MTIs are informed by the needs of the Rolling Portfolio?
* How does MT impact an evolving energy system that is shaped by the proliferation of other distributed energy resources?
* How should other proceedings (like the Integrated Distributed Energy Resources proceeding) inform MT?
* Will MT only happen through the MT framework or in other areas too?

The WG agreed that these topics are ripe for further conversation through a new MT Sub-group and should be expanded upon in a one-to-two-page section in the report. Action items are captured in the Next Steps section of this document.

MT Budget-related Issues

Due to time constraints, budget-related issues were not discussed. Action items are captured in the Next Steps section of this document.

**MT Cost-Effectiveness Framework**

H. Goodson summarized and answered clarifying questions on the Cost-Effectiveness Sub-Group’s three main recommendations: (1) to count codes & standards savings and costs; (2) to expand the timeframe for cost-effectiveness analysis to the expected life of the MTI (plus codes and standards if applicable); and (3) an MTI specific net-to-gross methodology (see Redlined Compilation). The WG agreed to the Sub-Group’s three cost-effectiveness recommendations for inclusion in the report.

The WG then discussed the Sub-Group’s questions and challenges on five unresolved issues: (1) Estimated useful life (EUL); (2) Discount rate; (3) Contingency Evaluations of Changes to the Energy System; (4) Dual test; and (5) Cost-effectiveness threshold.

The key screening criteria that the WG used while discussing these questions was whether or not each issue was sufficiently unique to MTIs (compare to RA) to warrant advocating that MTIs should be treated differently on the one hand; and whether or not changing the methodology would have a significant effect or not. The WG concluded the following:

* The EUL issue should not be pursued at this time.
* A lower discount rate might be justified and may or may not make a significant difference in the cost-effectiveness of individual MTIs—but probably will just note this and not pursue now.
	+ If the discount rate is adjusted for MT, a policy rationale should be provided to justify why MT warrants a discount rate that is different from other efficiency initiatives.
	+ MT’s upfront cost, long-term investment horizon, and significant potential to deliver benefits may justify a different, lower discount rate.
	+ An 8% discount rate can greatly attenuate savings in the 20-30-year timeframe
* Expected changes to the energy system should be taken into account for MTIs and RA programs, but there isn’t a unique justification for advocating for such a change just for MTIs
	+ When MT is evaluated for cost-effectiveness, all value streams should be considered including non-energy benefits.
	+ The energy system is evolving. The long-term nature of MTIs means that the benefits they deliver to the energy system may sometimes be hard to predict.
	+ The long-term nature of MTIs means that future avoided costs are an important consideration in cost-effectiveness, however, this issue of avoided costs are not unique to MT.
	+ Other CPUC proceedings are relevant to this discussion like the Integrated Distributed Energy Resources proceeding which is considering updates to the avoided cost methodology.
* The WG agreed to think a bit further about whether anything should be recommended related to the dual tests
	+ In practice, California’s dual test is a one-part Total Resource Cost test.
* The WG initially agreed that scenario runs and sensitivity analyses would help it to deliberate on issues like the cost-effectiveness threshold (and a possible recommendation on a different discount rate). However, after considerable discussion, it was determined that these analyses could not be performed due to time and resource constraints before the report is due. Instead the Sub-Group decided to make its recommendation(s) on the cost effectiveness through the same policy lens it had been applying to other cost-effectiveness issues (i.e., is there something sufficiently unique about MTIs to justify a different threshold then Ras).
	+ If the cost effectiveness threshold is adjusted for MT, a policy rationale should be provided to justify why MT warrants a threshold that is different from other efficiency initiatives.
	+ A lower cost-effectiveness threshold could be justified because of the significant benefits MT should theoretically deliver. On the other hand, a higher threshold could be justified due to the uncertainty and risk of MT.
* The existing Cost-Effectiveness Tool (CET) may not be designed to accommodate the cost-effectiveness evaluation of MTIs.

Action items are captured in the Next Steps section of this document.

**Planning for Next Meeting/Final Report**

Proposed Final Product and Filing Approach at the CPUC

Hal Kane (California Public Utilities Commission) updated the WG on the proposed final product and filing approach at the CPUC based on his conversations with the presiding Administrative Law Judge (ALJ).

* The ALJ believes that entities who are not parties to the proceeding could sign the report, but she is still confirming if this is correct. H. Kane noted that it is easy for an entity to become a party to the proceeding. It is also possible that entities who are not parties to the proceeding could be listed on the report under a separate category.
* It would be easiest for one party to submit the report as a joint motion.
* The report could be filed later in March if need be.

Next WG Meeting

The remaining MT WG meeting will be held from 9 a.m. to 5 p.m. on February 27, 2019, at the Pacific Gas & Electric Pacific Energy Center, in San Francisco, California.

To Do List and Assignments

At the close of the meeting, J. Raab identified areas that would benefit from further sub-working group discussion and work product development. MT WG Members volunteered or were assigned (pending their approval—since several members needed to leave early) to the sub-working groups below. The sub-working group lead is denoted in **bold** text.

Work products are due no later than February 18, 2019. Please keep J. Raab and E. Zuckerman in the loop on earlier drafts.

1. **MT Principles, Characteristic, and Strategies** — S. Appel, **M. Costa**, L. Ettenson
	1. Revisit Principles (c) through (e)
	2. Develop two new principles on: (1) metrics; and (2) conflicts of interest
	3. Revisit the lead in language on MT Principles
	4. Review/comment on MT guidelines/strategies (including where to cut them down and better align them with the proposed MT Principles) — **All WG members**
2. **Stage Gate Proposal** —M. Costa, J. Harris, **K. Thompson**
	1. Consider language distinguishing first time thru w/on-going process
	2. Make other edits commensurate w/feedback in meeting summary and redlined compendium
	3. Align criteria for stage gates in this section (and sync w/principles)
3. **Roles & Responsibilities** — J. Birkelund, **Merrian Borgeson** & **L. Ettenson, A. Scheer**
	1. Develop a new diagram/graphic on administrative structure including the relationships between the MT Administrator, MT Board, and IRCs
	2. Develop joint language on everything (but possibly who administers MT and whether or not PRGs or IEs are warranted and for what purpose)
		1. Work through the following issues:
			1. How the Board would give advice to the MT Administrator and the mechanism by which it would give this advice
			2. Composition of MT Advisory Board; including role of a possible Existing PAs
			3. Tasks of the MT Administrator
			4. Whether or not there is funding for IRC members, and, if yes, where that funding comes from
			5. Role of IEs and PRGs, if any
	3. **MT Administrator Options** —**H. Goodson, A. Scheer**
		1. Review and tighten up respective language for justification of the two proposed administration models A) Existing PAs; and B) Statewide Independent Administrator with #3 above (Roles & Responsibilities) extracted
4. **Relationship between MT and RA Programs, Codes and Standards, and Third-Party Solicitations** — A. Besa, **M. Gardner**, A. Haubenstock, T. Kisch B. Menten, and potentially S. Cole
	1. Road-test a few different scenarios of MT/RA potential interactions—with at least one scenario with and one scenario without much overlap
	2. Develop a one-to-two-page write-up for the report with a set of recommendations/principles on these relationships
5. **Cost-Effectiveness** — **L. Ettenson, H. Goodson**
	1. Update the text to reflect the WG’s agreement on its three recommendations
	2. Draft language related to the threshold (and any of the other five potential topics) through a policy lens and update text accordingly.
6. **Budget-related issues** — **Erin Brooks** (SoCalGas)
	1. Develop text on these issues for discussion at the next WG meeting.

**Next Steps:**

**WG Members:**

* Review meeting summary and comment by January 24, 2019 (send red line to J. Raab and E. Zuckerman)
* Complete homework assignments (outlined in section above), by February 19, 2019, at the latest.
* Review the work products from working groups and facilitator prior to the February 27, 2019, meeting.

**Facilitation Team:**

* Draft meeting summary (this document) for review by stakeholders and publication on the CAEECC meeting webpage five business days or less after the meeting.
* Draft agenda for February 27, 2019, CAEECC MT WG meeting
* Check in with sub-working groups and facilitate phone calls as needed
* Develop draft of WG report with work products of sub-working groups and an introduction drafted by facilitation team

**Appendix A: Ground Rules of the CAEECC MT WG on Decision-making**

**Substantive Issues (Discussing Issues, Developing Options, and Exploring Agreement)**

1. The goal of the process is to fully explore substantive issues before the CAEECC, define options, elicit constructive feedback, clarify and narrow points of divergence, seek consensus where feasible, and document points of convergence and any remaining divergence.
2. During the substantive discussions, if a Member cannot agree with a substantive option under consideration that member should explain why and propose a specific alternative that he or she can support.
3. Documentation of consensus and multiple options on any particular issue in the Working Group’s Final Report would include a clear description of each option and supporting rationale, and include the Members supporting each option. The Working Group Members will review and approve the wording in the Final Report, and those supporting each option on a non-consensus issue will be responsible for drafting the final description and rationale for the option.
4. The Working Group in consultation with the CPUC will determine the most appropriate way to file the Final Report at the CPUC.

**Appendix B: CAEECC-Hosted MT WG Composition**

*Note: an “A” designation is lead and “B” is alternate*

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| --- | --- | --- | --- |
| **Members** |   |   |   |
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|  |  |  |  |  |
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|  |  |  |  |  |
| **Facilitation Team** |   |   |   |
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| n/a | Independent | Ellen | Zuckerman | ezuckerman@gmail.com |

**Appendix C: Participation**

**January 14, 2019:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Organization:** | **First**  | **Last**  | **In-Person** | **Phone** |
| **Bluegreen Alliance** | Sam | Appel | **X** |   |
| **CEDMC** | Arthur | Haubenstock | **X** |   |
| **CEDMC** | Nate | Kinsey | **X** |   |
| **CEE** | Bernie | Kotlier | **X** |   |
| **CSE** | Rebecca | Menten | **X** |   |
| **CSE** | Stephen  | Gunther |   | **X** |
| **ClearResult** | Chad | Ihrig |   | **X** |
| **CodeCycle** | Dan | Suyeyasu | **X** |   |
| **Energy Solutions** | Brian | Barnacle |   |   |
| **Energy Solutions** | Teddy | Kisch | **X** |   |
| **NRDC** | Lara | Ettenson | **X** |   |
| **NRDC** | Merrian | Borgeson |   |   |
| **CA Public Advocates**  | Dan | Buch | **X** |   |
| **CA Public Advocates** | Sasha | Cole | **X** |   |
| **PG&E** | Adam | Scheer | **X** |   |
| **Resource Innovations** | Margie | Gardner | **X** |   |
| **SCE** | Derek | Okada |   | **X** |
| **SCE** | Jesse | Feinberg | **X** |   |
| **SCE** | Kevin | Thompson | **X** |   |
| **SCE (Consultant)** | Carol | Yin | **X** |   |
| **SDG&E** | Raghav | Murali |   |   |
| **SDG&E** | Athena | Besa | **X** |   |
| **SMW Local 104** | Dave | Dias |   |   |
| **SBUA** | Ivan | Jimenez |   |   |
| **SBUA** | James | Birkelund |   | **X** |
| **SoCalGas** | Erin | Brooks | **X** |   |
| **SoCalGas** | Elizabeth | Gomez (Baires) | **X** |   |
| **SoCalRen** | Lujuana | Medina |   | **X** |
| **SoCalRen** | Matt | Skolnik |   |   |
| **The Energy Coalition** | Marc | Costa | **X** |   |
| **TURN** | Hayley  | Goodson | **X** |   |
| **WHPA Inc.** | Elsia | Galawish |   | **X** |
| **WHPA Inc.** | Barbara | Hernesman |   | **X** |
|  |
| **Resources/Observers** |  |  |  |  |
| **NEEA** | Jeff | Harris |   | **X** |
| **NEEA** | Dulane | Moran |   |   |
| **CPUC** | Christina | Torok | **X** |   |
| **CPUC** | Hal | Kane | **X** |   |
| **CEC** | Brian | Samuelson | **X** |   |
| **CEC** | Nicholas | Janusch | **X** |   |
|   |   |   |   |   |
| **Observers** |   |   |   |   |
| **California State Assembly** | Jim | Metropulos | **X** |   |
| **Enervee** | Anne | Arquit  | **X** |   |
| **The Weidt Group** | Chris | Baker |   |   |
| **Friedmann Consulting** | Rafael | Friedmann |   | **X** |
| **Gemini Energy Solutions** | Anthony | Kinslow II | **X** |   |
| **PG&E** | Tim | Michel | **X** |   |
| **DAC** | Don  | Arambula |   | **X** |
|  | Loan | Nguyen |   | **X** |
| **CLEAResult** | Joanne | O'Neill |   | **X** |
| **SDG&E** | Evan | Frank |   | **X** |
|   |   |   |   |   |