

Initiator	Draft Report Page Number/Reference	Comment/Request	Evaluation Team Response
Randall Cole, Bob Ramirez	N/A	Ensure that report recognizes that ET can go into Deemed, NMEC or Custom or Custom-with-a-path-to-deemed.	Edited Figure 1 to reflect this, and added a footnote to Figure 1 on NMEC as it is different from the other programs in that technologies do not need to be pre-approved
Statewide (SW) IOUs	N/A	Recommendations should be more specific about who and what actions are needed	Addressed in revised report
Carol Yin	<a href="https://pda.energydataweb.com/api/downloads/1399/IESR_Guidelines_Memo_FINAL_11_30_2015.pdf">https://pda.energydataweb.com/api/downloads/1399/IESR_Guidelines_Memo_FINAL_11_30_2015.pdf</a>	Would it be possible for the evaluation team to include an appendix with recommendations presented using the table from the CPUC Energy Division Impact Evaluation Standard Reporting Guidelines? Thank you!	The full tabular format for recommendations as indicated in the IESR is not being followed as the IESR applies to impact evaluations. All the recommendations are listed in Section 4.
Mark Martinez	N/A	Engineering staff should be included in idea generation stage	Added as secondary actors
Edwin Hornquist	N/A	Use "technology developers" instead of "market" when referring to technology intake	Addressed in revised report
Edwin Hornquist	N/A	Distinguish between tracking metrics (just informational) vs goals metrics	Addressed in revised report
Statewide (SW) IOUs	Page II	The IOUs greatly value the participation of these external ETP programs. Can the evaluation team tell us whether your interviewees have had an opportunity to review this draft to make sure their programs are represented correctly? Thank you.	These were not reviewed by the programs, however all the information is based on the interviews and from documentation from these organizations.
SW IOUs	Page 5	The figure on p. 15 of the public presentation is excellent and should be included in the report.	Included
SW IOUs	Page 7	Please note that this subprogram has been sunsetted; see TRIP evaluation SDG0294.01 on Calmac.org.	This was not referring to a specific program, but rather to outreach activities generally. Specified in report that this specific program was ended.
SW IOUs	Page 8	Please clarify that although the TPMs contain this information, not all these fields are subject to investigation. Some of these are parameters that are considered when scoping ETP work, using best available estimates.	Added this clarification
SW IOUs	Page 8	Can you please clarify it was one IOU who made the comment? There may have been a misunderstanding because it is the specific intent and function of the TPMs to guide the selection of technologies that are submitted to ETP, without excluding any technologies currently not in the TPMs.	Edited to clarify that TPMs are not meant to exclude technologies from being considered by ETP, but making them publicly accessible could bias the technologies that are submitted.
SW IOUs	Page 8	Can you please explain what you mean by "natural market winners" in the context of emerging technologies?	Added an explanation that these are technologies submitted to IOUs without the influence of TPMs
SW IOUs	Page 8	To help ETP prioritize, can you tell us if any of these were suggested by more than one respondent?	Indicated with *
SW IOUs	Page 9	Please clarify that these statements refer to the 2017 TPM.	Addressed in revised report
SW IOUs	Page 9	Great to have the count.	n/a
SW IOUs	Page 9	It is extremely difficult to tell when a new paragraph starts, can you use first line indents, or double space between paragraphs?	As the template stands now, there is an 8pt space between paragraphs. We do not plan to update the existing report template.
SW IOUs	Page 11	Please explain what "financial favorability" means.	Edited to "Costs and Benefits to Utility"
SW IOUs	Page 12	Please use the singular throughout, if the evaluation team only interviewed one TD as indicated elsewhere.	Edited
SW IOUs	Page 13	We would appreciate getting the references to these sources. Can you please include a References section?	All the public documents the team drew upon for information are listed in footnotes in the sections discussing external entities. Please reference the footnotes for the files that are publicly available.
SW IOUs	Page 16	Please clarify that SCE's ETP incorporates the input of program staff, workpaper development teams, and other stakeholders, at the initial scoping phase of projects. Furthermore, SCE's ETP holds regular check in meetings with this stakeholder group, to keep all members apprised on project status.	Incorporated these details
SW IOUs	Page 16	As explained by an IOU workpaper subject matter expert during the public webinar, the "handoff" process description leaves out the critical stage of market validation. The IOUs need evidence that an emerging technology has substantial market acceptance (e.g. minimum 5% penetration) before a workpaper is considered. This is because workpaper development and maintenance is costly. In addition, ETP often assess technologies that are so innovative they are only being produced by one manufacturer. However, workpapers cannot be developed for equipment that is only produced by one vendor; workpapers need to be vendor agnostic, and savings performance must be averaged across a class of products using a "preponderance of evidence" approach in order to arrive at a robust deemed savings value. It is therefore incorrect to say that ETP "hands off" technologies to the workpaper process. Please include this important clarification about the measure development process. The IOU workpaper subject matter expert is available for further discussion if the evaluation team wishes to follow up.	It was not the intention to suggest that workpaper development is initiated for all technologies tested by ETP, however, the simplified figures in the presentation may have given this impression. "Technology Investigation" is meant to be an encompassing term to indicate not just ETP testing activities, but also additional analyses (e.g. market validation) and decision making occur after ETP results are generated and before a technology is recommended for measure development. . The text in the report and Figure 1 is edited to reflect this.
SW IOUs	Page 18	This description doesn't align with the Commission's definition of TFPs. Please use verbatim Decision language, since that's what ETP is following.	This is part of the recommendation. A brief description of TFPs is added earlier in the paragraph, and the reference for the description is added as a footnote.
SW IOUs	Page 19	Please note that ETP is not the only source of data used by the workpaper teams.	Addressed in revised report
SW IOUs	Page 21	Please note that PG&E's ETP and program managers do meet on an ad hoc basis when needed.	Addressed in revised report
SW IOUs	Page 21	Please note that PG&E no longer uses this title; the PG&E workpaper team manages the measure development process.	Addressed in revised report
SW IOUs	Page 21	Please note that SCE conducts Kickoff meetings, Midstream check in meetings, and engagement with resource programs and other stakeholders throughout.	Updated to include these details as they pertain to coordination between ETP and incentive programs.
SW IOUs	Page 21	Please note that with the corrected statement that SCE engages with program and workpaper stakeholders through Kickoff meetings, midstream check-in meetings, and other meetings throughout the life of a project, all IOUs do coordinate prior to an ET evaluation, per Table 6.	The program staff interviewed were not as involved in all the check-in meetings throughout ET evaluations, and perhaps there are other program staff we did not interview that were more involved. Updated the discussion to reconcile interview findings with this comment
SW IOUs	Page 22	How many recommended this?	Clarified count
SW IOUs	Page 23	How many said this?	Clarified count

SW IOUs	Page 23	Please clarify that ETP may not know, because the CPUC determines the savings framework, and for truly innovative measures, there is no precedent to work with (see CPUC proposal and stakeholder discussion about Home Energy Reports, which used a behavioral measure).	Addressed in revised report
SW IOUs	Page 26	From SCE C&S: Going forward under the new "Statewide" framework, this work is largely done by 3P Implementers"	Addressed in revised report
SW IOUs	Page 26	From SCE C&S: This needs a lot of unpacking. First, this assumes that a measure is handed off like a baton in a relay race when in reality, there are many parts and pieces to an ETP evaluation and many parts and pieces to the development of a CASE report. Second, there are many intersections where these parts and pieces are coordinated between ETP and C&S. Much of this is informally done. Thirdly, in many situations, the same SME that is working on the ETP project are supporting a CASE study in similar areas. Fourth, there are many ETP/C&S/EM&T (Emerging Markets and Technology) projects that are jointly funded and, in many cases, coordinated with SCE's lab. Also, a single measure such as a VCHP (Variable Capacity Heat Pump) has been a focus of ETP, C&S, EM&T, lab testing and EE programs for many years as various aspects of VCHP performance, installation practices, operating practices, etc., are tested, modeled, and verified. There is no real "hand-off." Fifth, this handoff is not always linear. In the case of the VCHP example, ETP and C&S funded a field test and results of the field test were used to develop work papers for EE incentive program.	This is useful context and great detail. Some of these points are already covered in the final paragraph of this section. The text has also been modified to reflect that handoff is not linear and better resembles collaboration on projects and deliverables.
SW IOUs	Page 26	From SCE C&S: This is one utility's perspective and not SCE's. SCE has been and is organized to have ETP, EM&T and C&S work closely together that fosters coordination, communication, and mutual development of projects, strategies, approaches, test methods, savings calculations, DR capabilities, etc.	These points are included in the last paragraph of this section.
SW IOUs	Page 26	From SCE C&S: There may also be unreasonable expectations. For example, if ETP is to support the entire EE portfolio, and assuming that C&S addresses primarily new construction, ETP should only devote 1% of its efforts to C&S since in any given year, new buildings are 1% of the entire building inventory. Also, another misconception is regarding HVAC systems. ETP does a lot of work with advanced HVAC (VCHP included), but much of it is regulated by the US DOE which has a long 6-year plus cycle of updates. The DOE HVAC test requirements are generally administered by HVAC manufacturer's organizations that would prefer the same standards to be applied everywhere in the country to minimize a proliferation of products to suit each area of the country. As a result, the test procedures for federal regulations have been ill-suited to California and cannot be surpassed by California's building standards. Therefore, many of the climate-optimized HVAC systems that ETP is involved in cannot go into code, but is vitally important for EE incentive programs.	This is useful context, and the evaluation team agrees that ETP should not be expected to spend a disproportionate amount of effort to support C&S. The recommendations regarding ETP-C&S coordination do not contradict the sentiment from this comment.
SW IOUs	Page 28	Why is ETCC mentioned under External ETPs?	ETCC is mentioned because they collaborate with one of the external ETP groups interviewed.
SW IOUs	Page 30	Can you please report on the IOU responses to Q29 : "Are there opportunities for technology developers and TDAs to provide additional support, particularly with research tasks, data collection, and any other tasks supporting workpaper development?" In other words, did the IOUs report any needs that were not being met with their existing resources?	While IOUs did not mention specific aspects that they needed additional resources for, they noted that existing external collaborations have been beneficial and that they are open to additional collaboration from TDAs. Added this context to 3.3.1
SW IOUs	Page 30	It is interesting that some TDAs and TDs are *not* unclear on the scope of ETP's interests. Was there anything that would explain why some were and some were not clear?	TDAs that worked closely with ETP on technology investigations have a good understanding of scope, but organizations that fund technology research and are not as involved in ETP projects have less clarity
SW IOUs	Page 30	Can you please provide more information on what research is repeated? The CEC is an ETCC member and is at every single ETCC meeting and collaboration call at which research is coordinated. Energy Division staff have personally attended these collaboration calls and can attest that the CEC has been at these coordination meetings.	No specific projects were mentioned by interviewer since it was more of a general concern; reworded to clarify
SW IOUs	Page 31	What do you mean "projects funded by CPUC budgets"?	Removed reference to CPUC and clarified the interviewee was referring to ETP
SW IOUs	Page 31	Please clarify: which CEC staff are you interviewing? The IOU EPIC program is different from ETP, and is not intended to assess energy efficiency technologies for customer programs. If you've been interviewing the CEC staff who are involved with the IOU EPIC projects, these staff do not deal with ETP and are not appropriate interviewees for this study.	The evaluation team is aware of the difference between ETP and the IOU EPIC programs. We interviewed CEC staff that oversee CEC EPIC projects in the CEC's R&D Division.
SW IOUs	Page 31	Sufficient for the TDAs to do what?	For TDAs to have sufficient understanding into IOU processes and outcomes, which supports collaboration and research coordination efforts.
SW IOUs	Page 31	Please explain what you mean by "different jurisdictions." Different IOU service territories? Different states entirely?	Both; edited
SW IOUs	Page 31	Where any small businesses driven into bankruptcy? If not, please add "though this has not been known to happen." Also, which IOU are they talking about? Please also note that payment cycles are determined not by ETP or the EE programs, but by utility Accounts Payable policies.	This has not been known to happen; clarified in report. Added a footnote that states that the interviewee reported this challenge for all IOUs, but mentioned SCE in particular. While there were no official recommendations developed based on this finding since it was only reported on by a single interviewee, a related suggestion is outlined in Appendix E and has been edited to recognize that ETP and EE program staff are not responsible for contracting policies.
SW IOUs	Page 31	What kind of feedback? Contracting feedback?	General feedback on interaction with IOUs
SW IOUs	Page 32	This section is very confusing. Can the evaluators please provide a table listing all Business Plan metrics verbatim, and refer to them during the narrative using their number? The ETP Metrics are numbered using "ETP-M" and the ETP tracking metrics which were not intended to have targets are numbered using "ETP-T".	Edited to reference metrics with their number as listed in Appendix A of Decision 18-05-041. Provided a link to this document in the footnote and also included the table in Appendix E of this report.
SW IOUs	Page 32	Please cite the metrics verbatim so that the reader can see that the metrics track an association, but not a causal relationship. For this reason, and the fact that the outcome of these metrics is beyond ETP's control, these are not "handoff" metrics.	The interview question asked if any metrics indicating the effectiveness of the handoff are consistently tracked (examples could include those listed in SCE Business Plan, Appendix K).
SW IOUs	Page 32	Reviewed by whom at the CPUC?	Ex ante team; edited in report

SW IOUs	Page 32	Please correct this statement. ETP is not required to start tracking these "ETP-T" metrics until the ED Consultants develop a calculation methodology, so ETP has not begun to track these at all.	Edited
SW IOUs	Page 33	Can you please list these metrics verbatim? Your reference is not clear because ETP doesn't call any of the Business Plan metrics "handoff" metrics.	Referred these metrics using the official metric numbers (ETP-T, ETP-M).
SW IOUs	Page 33	Please provide this metric verbatim, it's hard to tell what metric you mean. Please also double check: most metrics are not on the overall portfolio, just % and # for the past year.	Broadened the description of metrics to include all tracking metrics, which no longer refers to metrics as calculated over the overall portfolio.
SW IOUs	Page 33	Can you please clarify what you mean by "promoted"?	Clarified to mean "handed off to programs"
SW IOUs	Page 33	This is very confusing, what 2 percentages are you talking about? Are you saying that for MT, IOUs ideally would "promote" all e.t.s?	These percentages are now listed and described in the first and fourth bullet of the list of metrics that PAs can consider when developing new metrics. Ideally, with the implementation of MT efforts, the metric in the fourth bullet would increase as ETP-originated measures that would have struggled in the portfolio would be able to claim savings within the MT framework.
SW IOUs	Page 33	Please clarify if this a conclusion drawn by the evaluators or an explicit recommendation for a cost- effectiveness proxy by the interviewee?	The interviewee mentioned this metric as a cost-effectiveness proxy for ETP.
SW IOUs	Page 33	What do you mean by "proposed metrics"? Do you mean the metrics recommended by this evaluation team? Who proposed those metrics?	Reworded to specify that these are metrics listed in Attachment A of Decision 18-05-041
SW IOUs	Page 33	Can you please make sure any metrics recommended by the evaluation team are written to follow the "Table 2. Metrics Guiding Principles" in the ALJ's 5/10/17 Ruling?	Revised metrics as needed to better align with these principles. The metrics presented are <u>examples</u> of metrics that PAs can consider when developing new ETP and handoff metrics.
SW IOUs	Page 34	Please explain what you mean by "accelerated commercialization", this is not an objective for the TFPs in the Decision.	We have removed the study of "accelerated commercialization" as a stated objective of the ETP2 report in response to this feedback. This report no longer refers to a goal of the TFPs being accelerated commercialization. Section has been updated to reflect the revised direction of ETP-2.
SW IOUs	Page 34	If you could, would you please tell the reader how the external ETPs define and/or calculate these metrics?	Added a description column
SW IOUs	Page 34	It would be very useful to understand better how these external ETPs track savings, and how they tie savings to their ETP's performance. For example, if they doubled their ETP's expenditures, can they double their savings?	The feedback loop from savings and ETP performance was not discussed, however this would be a valuable future investigation effort.
SW IOUs	Page 34	ETP tracks expenditures; it was in fact a research issue by ODC for the 2013-2014 evaluation.	Edited the table to reflect this omission
SW IOUs	Page 34	It would be really helpful if the evaluators could do some analysis of which factors are outside of ETP's control, and adjust their metrics recommendations to reflect that metrics shouldn't be put on those factors.	Ultimately, ETP SW administrators and PAs will be responsible for developing the list of additional metrics. For the list of metrics presented for consideration in the prior section, metrics that depend on external factors can be considered tracking metrics.
SW IOUs	Page 34	Do they have a metric on how many technologies they screened out? That would be useful to learn more about.	Yes; added discussion and a reference
SW IOUs	Page 37	Why was this question posed to interviewers when the Commission already allows 3P workpapers?	Historically, workpapers were developed by IOU engineering teams, however, independent third parties are now allowed to develop workpapers and submit them via an IOU for CPUC review. As this is a relatively recent development, this portion of the evaluation assesses the perspectives of IOUs and TDAs on the process and the direction of this decision
SW IOUs	Page 39	Can you please make clear who the recommendations are directed to, specifically making a distinction with regards to recommendations that are directed to the two SW ETP Administrators, vs all PAs (including RENs and CCAs), vs the 3P ETP implementers, vs the PA resource programs, etc. It would make all the recommendations much more actionable. In particular, please clarify when you say "ETP" whether you mean the two SW Administrators, or the 3P ETP implementers. The transition to 3P implementation makes consideration of recommendations tricky, and it would be useful to understand if the evaluators were recommending that the IOUs do more "program design", since that is one criterion that the Commission uses to determine whether a program is 3P or not. If you can put the recommendations in table, with one column indicating who the recommendation is directed to, that would make the recommendations more actionable (see the IESR for CPUC standardized evaluation reporting guidelines).	Revised to clarify which party or parties each recommendation pertains to, as well as distinguish between ETP administrators and implementers. The full tabular format for recommendations as indicated in the IESR is not being followed as the IESR applies to impact evaluations.
SW IOUs	Page 39	This sounds like a recommendation to the Third Party MT Administrator, who has not yet been selected by the CPUC? If yes, please state that clearly.	Recommendation for ETP and MT administrator
SW IOUs	Page 39	This is unclear: Are you saying pilots (ETFPs) should be ended before all the data has been collected, if preliminary data shows no savings? Please clarify.	No; activities like TFPs should support more flexible and adaptive incentive programs such that program adjustments can be made in response to market feedback
SW IOUs	Page 39	How does following this recommendation reduce risk? Please be specific on what measurable reduction of risk the resource programs can expect.	The evaluation team was not provided with the specific risk metrics used to assess resource programs.
SW IOUs	Page 39	Thank you for linking the recommendations to the findings!	n/a
SW IOUs	Page 39	Is this a separate recommendation to the CPUC, to make the workpaper approval process more transparent? If yes, please clarify, because coordination and transparency are two different things.	Not a separate recommendation; reworded to focus on coordination and alignment
SW IOUs	Page 40	This sounds like a recommendation to C&S, per D.12-05-015? "The codes and standards program should engage in Emerging Technologies Program planning activities early on so as to be able to collaborate in the development of advanced technologies and practices that could be adopted in future codes." P. 249-250? "If yes, please identify which PA, and specify that this is for the C&S team."	Directed recommendation to both groups since collaboration cannot be the sole responsibility of one group.
SW IOUs	Page 40	Can the evaluation team please define "effectiveness"? What is an effective handoff process?	Added a definition in Section 3.4

SW IOUs	Page 40	Can you please include the clarification that Energy Division created these metrics and has responsibility for having ED's evaluators develop the methodology to calculate these, and that the IOUs are still waiting for that methodology (See ABAL notes for ETP metrics: "● Per ED: Baseline, methodology, and targets need to be determined by ED evaluation contractors. ED evaluators can make recommendations on what suitable targets would be.") . Can you direct this recommendation to ED and ED evaluators? ETP has already explained that the resource programs' decision to adopt an ETP recommendation is not within ETP's control.	Clarified that tracking will not commence until ED finalizes methodology; however, after that is done, ETP will be responsible for ensuring the metrics are tracked.
SW IOUs	Page 40	Please follow the ALJ "Metrics Guiding Principles" in the ALJ's 5/10/17 Ruling, and revise any metrics you recommend to comply with those principles.	Revised metrics as needed to align with these principles. The metrics presented are examples of metrics that PAs can consider when developing new ETP and handoff metrics.
SW IOUs	Page 46	Can you please report on the responses to all the questions in this section? The only response reported are to the questions marked "Not A Priority" but the other questions are of greater interest.	<u>First a general response:</u> All questions were asked of all interviewees. As the project went on after we observed respondents tend to have more specific feedback and input on certain questions compared to others. We adapted our conversations as such to extract as much information as possible on the topics the respondent was comfortable and most knowledgeable with responding to. Our report is structured around themes rather than responses to specific questions as each conversation with each interviewee provided varying depths of information across the questions. <u>Specifically for this comment:</u> For the questions we received substantial answers for, the responses are summarized in the "CA IOU" sections within 3.2.1 and 3.4. In some cases, respondents did not offer an answer.
SW IOUs	Page 47	Can you please provide the responses to this question?	Interviewees did not provide substantial responses or declined to state an opinion about optimal metrics.
SW IOUs	Page 51	Can you please report on the responses to this question?	Responses have been summarized within the materials in Section 3.3.1.
SW IOUs	Page 51	Can you please report on the responses to these questions?	Responses have been summarized within the materials in Section 3.3.2
SW IOUs	Page 52	Can you please report on the responses to these questions?	Responses have been summarized within the materials in the TDA section of 3.5.2
SW IOUs	Page 56	Can you please report on the responses to this question?	Strategies are mentioned in the External ETP section in 3.2.1
SW IOUs	Page 57	Can you please report on the responses to these questions? This would be useful information to know.	Responses have been summarized within the materials in the External ETP section in 3.2.1
SW IOUs	Page 57	Can you please report on the responses to this question?	Responses have been summarized within the materials in the External ETP section in 3.5.1
SW IOUs	Page 58	Can you please report on the responses to these questions?	BPA and NYSERDA do not have 3P ETP implementers so the question did not need to be asked.
SW IOUs	Page 59	Can you report on the responses to this question?	No substantial responses pertaining to ETP team specifically, but one interviewee noted that cross-functional teams are important.
SW IOUs	Throughout report	Comments requesting clarification or inclusion of additional details	Edited details and/or added clarification
Carol Yin	N/A	Would it be possible for the evaluators to provide a table breaking down how many people within each IOU and each IOU division were interviewed? It is important to know whether the evaluation team was able to interview at least one C&S staff from each IOU, one workpaper staff, and one resource program staff, etc, given the differences across IOUs.	Provided the requested detail in a newly added Appendix G.