



Comparison of Post 2012 EM&V and 2010-2012 EM&V Work Plan



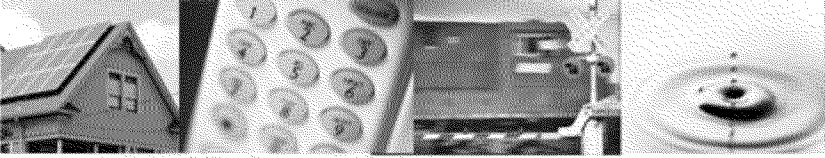
California Public Utilities Commission

January 14, 2011

Energy Division

Energy Efficiency Evaluation

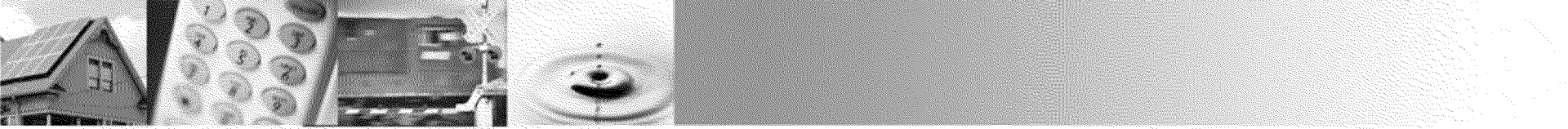




Discussion Questions

- Which elements of the Post 2012-EM&V issues (as described in (D. 10-10-033) appear to be partially or fully addressed by the 2010-2012 EM&V plan?
- Which elements of the Post 2012-EM&V issues are not yet covered and need further attention?
- Which Post 2012 EM&V topics should be covered first in the pending workshop series?





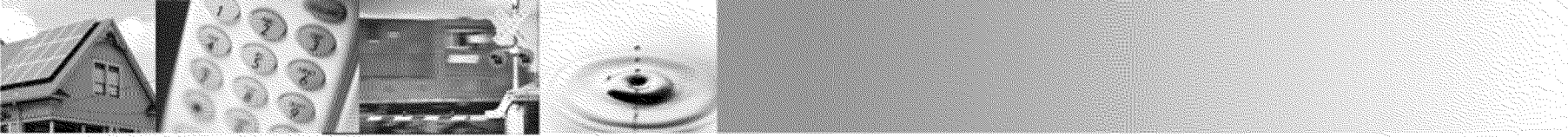
Background

Commission Directives for the Post 2012 EM&V in D. 10-10-033 identified several discrete topics to be covered in public workshops:

- **Macro Consumption Metrics**
- **Scalability of Experimental Design**
- **Application of Market Transformation Metrics**
- **Use of data collected by AMI (Advanced Metering)**
- **Expand EM&V activities that facilitate load forecasting and understanding of total market gross load impacts**

Information relevant to several of these topics were already included in the evaluation activities slated for the 2010-2012 program cycle.





Macro Consumption Metrics

D.10-10-033 Called for:

Expansion of D.10-04-29; Activities: Compile Historic record of impacts, methodologies for developing enhanced saturation studies that leverage AMI data and onsite information, longitudinal analyses to study energy use and energy efficiency in buildings over time. (pg.33)

2010-2012 EM&V Studies:

Macro Consumption White Papers : Assess pros, cons, and relative cost/data/time requirements of available "top-down" approaches to EM&V; \$150,000; ETA: Q3 2011

Macro Consumption Pilot Studies : Conduct a "proof of concept" pilot study of top-down EM&V approaches using existing data sets; \$500,000; ETA: Q2 2012





Scalability of Experimental Design

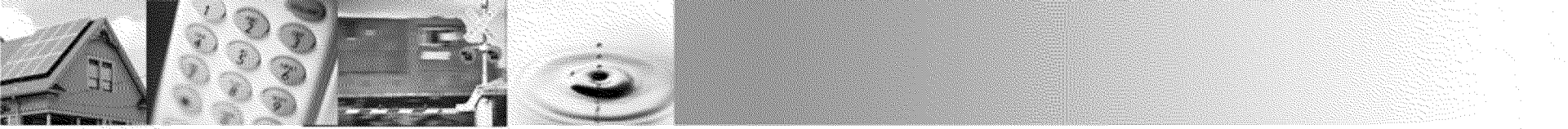
D.10-10-033 Called for:

Expansion from D.10-04-029 (develop protocol to measure and count savings from comparative usage programs, and review of best practices); prioritize the timing and scope of these activities so useful results are ready for next portfolio. Whole house retrofit in particular.

Relevant 2010-2012 EM&V Studies:

- **Evaluation of PG&E's OPOWER Pilot Program.** The goals of this study are to validate the methods being used to determine energy savings impacts from comparative energy use programs, including experimental design, sample frames, control group characteristics, random assignment and multivariate data analysis.
- **Overarching Best Practices Assessment.** Conduct best practices assessment for program-specific intervention strategies, as well as across programs targeting similar markets and/or technologies (may include research outside of CA). Include benchmarking approaches.
- **Whole House Market Assessment and Process Evaluation.** This study will include a market assessment and process evaluation for the Whole House Program. This study will be highly coordinated with other studies, including the residential sector potential, impact evaluation and measure cost studies.





Application of Market Transformation Metrics

D.10-10-033 Called for:

A review of NEEA's market transformation metrics for potential application to the next cycle as appropriate. Should seek to determine how NEEA's approach to measuring market transformation compares with the PPMs currently being reviewed by Energy Division. How can NEEA's experience can be leveraged to enhance our own PPMs.

Relevant 2010-2012 EM&V Studies:

- Multiple market assessment studies are proposed in the plan and opportunities exist to scope them in such a way to inform the development of metrics or tracking against metrics.
- (See Section 7 Market Analysis)





Use of data collected by AMI

D.10-10-033 Called for:

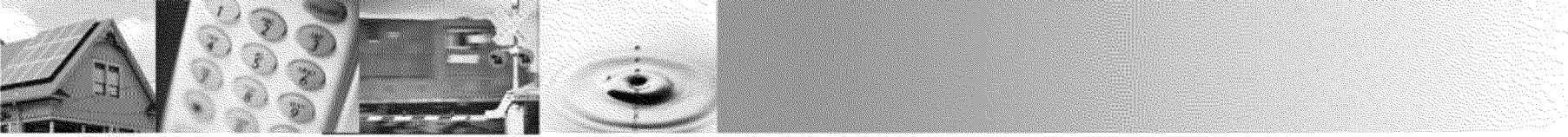
Workshop is supposed to explore: potential uses of the granular data collected by the unfolding AMI network for strengthening, simplifying, and reducing the cost of ratepayers for EM&V. Best uses for AMI collected data in EM&V should be explored.

The results of an AMI-EM&V focused workshop should be presented in a report no later than 120 days from the date of the workshop and incorporate these results in the EM&V Plan. Report should include: cost effective format for transmitting AMI-collected data to ED and its consultants for use in EM&V for the 2010-2012 and future program cycles; provide recommendations on how access to AMI generated data can improve the EM&V process currently used for EM&V in 2013 and beyond.

Possibly Relevant 2010-2012 EM&V Studies:

- HEES and Related Programs Process Evaluation
- Process Evaluation of MFEER and CMHP Programs





Expand EM&V activities that facilitate load forecasting and understanding of total market gross load impacts

D.10-10-033 Called for:

EM&V needs to expand to encompass a wider range of EE delivery mechanisms; Quantify non-IOU mechanisms; Enhance research of social trends, C&S, and energy prices. In addition: 1) tracking efforts of other agencies, 2) augmenting efforts of other agencies, 3) developing methodologies, approaches and data suited to integrated demand side resource effects and influences.

Collaboration to quantify load impacts from other sources other than IOU EE programs.

Relevant 2010-2012 EM&V Studies:

- All of the impact studies as well as several other studies will inform the understanding of impacts and potential in the state including IOU territories and otherwise.
- Market studies including market saturation and market effects studies will inform quantification of certain market elements of “total market gross”

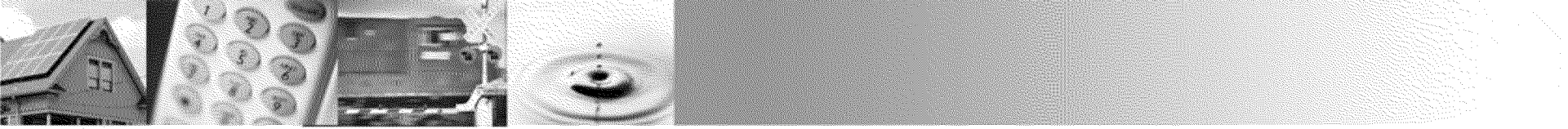




Which elements of the Post 2012-EM&V issues are not yet covered and need further attention?

- **Macro Consumption Metrics**
 - Develop the historic record of savings to inform the forecast
- **Scalability of Experimental Design**
 - Protocols for evaluation of experimental design
 - Whole house study may need to include comparative usage option
- **Application of Market Transformation Metrics**
 - Direction to further develop MTI's from resolution
 - Understand specific metrics
- **Use of data collected by AMI (Advanced Metering)**
 - Develop separate white paper or other analysis based on workshop
 - Limited provision of analysis included in the current EMV plan.
- **Expand EM&V activities that facilitate load forecasting and understanding of total market gross load impacts**
 - Multiple studies, but coordination of datasets and timing is critical





Which Post 2012 EM&V topics should be covered first in the pending workshop series?

All need to be ready before the portfolio planning commences in early 2013 (if a one year extension is granted).

[Discussion for each topic on which should come first]

- **Macro Consumption Metrics**
- **Scalability of Experimental Design**
- **Application of Market Transformation Metrics**
- **Use of data collected by AMI (Advanced Metering)**
- **Expand EM&V activities that facilitate load forecasting and understanding of total market gross load impacts**





Next Steps

Workshop regarding portfolio extension (1 yr. v. 2 yr), mid-cycle corrections and elements critical to that planning (goals, potential, cost effectiveness, etc.) will be scheduled for February.

Roadmap of each element involved in the Energy Efficiency proceedings is being developed by Energy Division staff and will be issued in advance of the February workshop.

Schedule for the D. 10-10-033 workshops will be forthcoming based on the feedback from today and refinement of the overarching planning schedules.

Questions?

Carmen Best cbe@cpuc.ca.gov

Ph. 415.703.1797

11

