Energy Technologies Area Lawrence Berkeley National Laboratory

Coordinating Energy Efficiency (EE) and Demand Response (DR) Evaluation, Measurement and Verification (EM&V) Among Western State Agencies

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Webinar Facilitated By:

Lawrence Berkeley National Laboratory (LBNL) Electricity Markets and Policy Group
Western Interstate Energy Board (WIEB)

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Introduction

- Lawrence Berkeley National Lab (LBNL) is supported by the U.S. Department of Energy to conduct non-classified research, operated by the University of California. LBNL provides technical assistance to states—primarily state energy offices and utility regulatory commissions
- Western Interstate Energy Board (WIEB) is an organization of 11 western states and three western Canadian provinces, which are associate members of the Board. The purpose of the Board is to provide the instruments and framework for cooperative state efforts to "enhance the economy of the West and contribute to the well-being of the region's people." The Board seeks to achieve this purpose by promoting energy policy that is developed cooperatively among member states and provinces and with the federal government.

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Today's Webinar

Today we will cover:

- Introduction to EM&V coordination options, what are the benefits and why is this relevant
- "User/Participant" panel addressing the EM&V gaps/needs they face and benefits (and questions) they anticipate with regional EM&V coordination
- Regional coordination examples in place:
  - Northwest Regional Technical Forum
  - Other national efforts
- Next steps, how to participate
- Q&A with panelists

- The webinar is being recorded and will be posted on the WIEB website.
- Because of the large number of participants, everyone is in listen mode only.
- Please use the chat box to send us your questions and comments any time during the webinar.

Today's Speakers

- LBNL: Steve Schiller and Lisa Schwartz
- State and Regional Organization Representatives:
  - Deborah Reynolds, WA UTC
  - Stacey Donohue, ID PUC
  - Kamran Khan, AZ DEQ
  - John Goodin, CA ISO
  - Tina Jayaweera, Northwest Power and Conservation Council and Regional Technical Forum
- WIEB: Alaine Ginocchio

Background

- In 2015 WIEB requested technical assistance on exploring potential multi-state coordination on DSM EM&V
- LBNL prepared a brief titled "Coordinating Demand-Side Efficiency Evaluation, Measurement and Verification Among Western States: Options for Documenting Energy and Non-Energy Impacts for the Power Sector." The brief can be found at: https://emp.lbl.gov/sites/all/files/lbnl-1005776_0.pdf:
- The brief covered three approaches and several products for EM&V coordination among state and regional agencies addressing EE, DR and pollution prevention
- We followed up with WIEB and Western states -- SEOs, PUCs and air quality regulators
- There was significant interest, and thus we're hosting this webinar today to present the concepts to a broader audience and discuss potential next steps

EM&V – Quick Introduction

- EM&V for demand-side EE and DR includes a range of assessment studies and other activities aimed at determining the effects of EE and DR energy efficiency policies, portfolios, programs, projects or individual measures.
- EM&V is based on the importance of documenting results — i.e., *things that are measured tend to improve*.
- EM&V can document metrics such as efficiency activity performance (i.e., energy and demand savings, avoided air emissions), changes in energy efficiency markets, and cost-effectiveness.
- When defined broadly EM&V can also include estimating or projecting impacts, e.g., potential studies

What is EE and DR EM&V Coordination

- Fundamentally, EM&V coordination consists of effective interactions among public agencies and other organizations concerning the documentation of the potential and actual impacts of energy efficiency and demand response activities

- Public agencies that might be involved in such coordination are:
  - State PUCs, energy offices and air regulators
  - Local agencies such as city and regional governments with their own efficiency initiatives and community development offices - e.g., for the Clean Power Plan's (CPP) Clean Energy Incentive Program
  - Regional organizations

Why EM&V Coordination

Our sense is that EM&V coordination among Western states public agencies could:

- Facilitate and improve the quality of EM&V
- Facilitate interstate (and intrastate) benchmarking, disclosure, and tracking of EE and DR projects and their electricity savings by improving the consistency and quality of EM&V procedures
- Support trading of energy efficiency savings credits if used for pollution reduction programs or regulations
- Reduce EM&V development and implementation costs, thus reducing the cost of EE and DR program implementation and encouraging more energy savings

Identified Coordination Options

- **Information clearinghouse/exchange** – a relatively low level of coordination involving sharing of existing EM&V documents, procedural approaches and exchanging information and experience
- **EM&V product development** – mutual (voluntary) development of specific EM&V products that support consistent, cost-effective EM&V implementation
- **Regional EE and DR tracking system platform** – development and implementation by interested states of a regional entity that administers registry rules and reporting infrastructure. One possible option could involve expansion of the Western Renewable Energy Generation Information System (WREGIS) for efficiency tracking. The fundamental element of this infrastructure would be a tracking system (registry) for:
  - Supporting compliance with state, regional or federal pollution prevention programs
  - Disclosure and benchmarking of regional, state and/or local EE and DR efforts

Possible EM&V Products

- Standard EE and DR project and program reporting formats for energy/demand savings and other impacts/characteristics
- Regional database of consistent values for deemed (stipulated) energy savings and effective useful life (persistence values)
- Regional glossary of EM&V definitions and concepts
- Regional, standardized efficiency EM&V plans (methodologies)
- Regional EM&V professional standards

Suggested First Step: Regional EM&V Clearinghouse

- Focus is on sharing of information
  - Not necessarily developing new products, but
  - Sharing existing information, such as EM&V documents, procedural approaches and experience (such as case studies, best practices, and resources)

- Could be a springboard from which interested clearinghouse participants could jointly develop products or higher levels of coordination on EM&V topics

Examples of Efficiency EM&V Information That Could be Shared in a Clearinghouse

- EM&V methodologies and deemed savings values
- State evaluation framework documents and protocols
- Technical papers describing EM&V issues and techniques
- Examples of requests for proposals used to solicit accredited independent evaluators
- Links to regulatory filings and orders on energy efficiency EM&V
- Contact information for people conducting EM&V activities
- Glossary of EM&V terms
- Case studies and lessons learned from EM&V activities

Possible Formats for Clearinghouse

- **Web site** with public and password-protected information
- **Regular webinars, workshops or conferences** for formal presentation of information
- **Informal information-sharing and networking** among those involved in EM&V implementation, such as listservs and conference calls that connect state and other entity agency staff with each other to provide a venue for discussion of common issues and share experiences and solutions
- **Technical assistance network** that makes experts available to support agencies
- "**Meet-ups" for those wanting to jointly develop EM&V products** or other, more involved, EM&V activities

What Are We Defining as the West?

The U.S. States in WIEB organization

There is no particular reason why the region could not be defined differently and thus include other states, e.g. Hawaii

Considerations

- **In general, at higher levels of coordination (beyond the clearinghouse model)** there can be these challenges:
  - Potential for some loss of local or state control
  - "Lowest common denominator" products or services that do not meet the needs of some of the participating entities
  - Increased costs and delays through coordination inefficiencies or failures

- **Specifically for the Clearinghouse**, possible challenges are:
  - Cost and time required to organize and maintain the Clearinghouse
  - Just listing information is usually not sufficient for its use. There should be ways to find the right, quality documents, resources, etc.

While these potential disadvantages can be mitigated, they do require attention such as via a decision-making structure

Next Up In This Webinar

With the background so far, next up are:

- "User/Participant" panel addressing the EM&V gaps/needs they face and benefits (and questions) they anticipate with regional EM&V coordination
- Regional and national EM&V coordination examples in place
- Next steps, how to participate (with Alaine Ginocchio of WIEB)
- Q&A with panelists

User/Participant Panel

- Deborah Reynolds, WA UTC
- Stacey Donohue, ID PUC
- Kamran Khan, AZ DEQ
- John Goodin, CA ISO

EM&V Coordination Examples

- Northwest Regional Technical Forum
  - Tina Jayaweera, Northwest Power and Conservation Council and Regional Technical Forum
- Other national efforts
  - Steve Schiller, Berkeley Lab

Regional Collaboration on EM&V: The Northwest's RTF

Tina Jayaweera

Northwest Power and Conservation Council

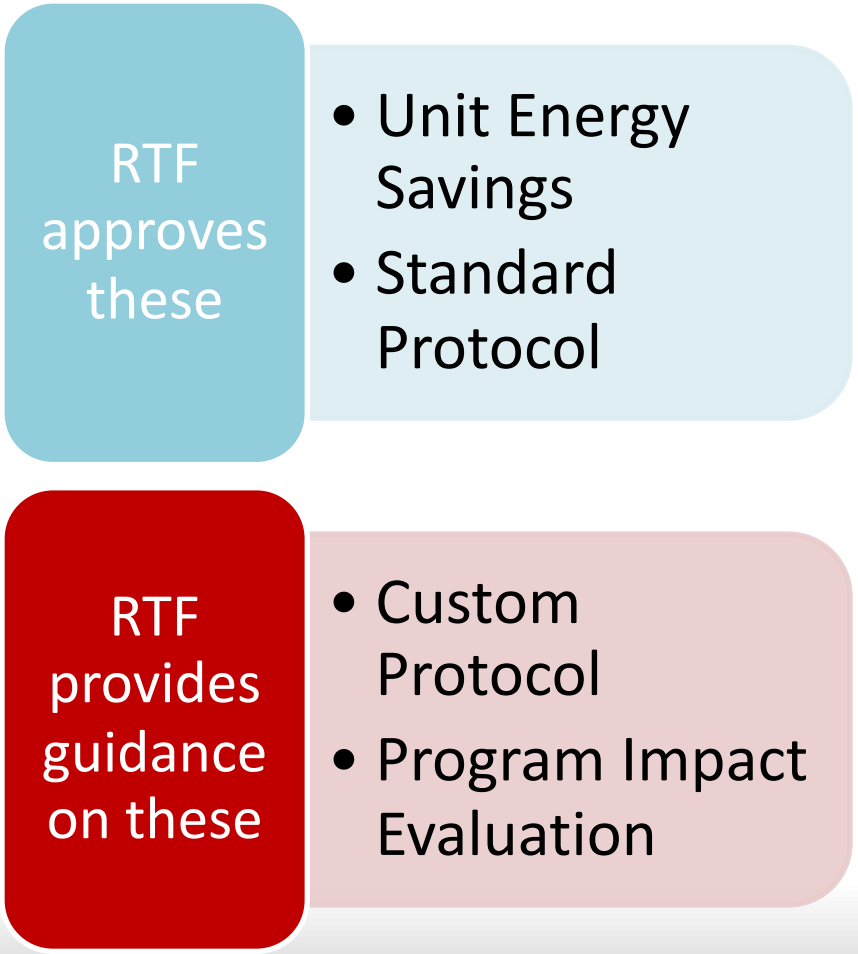

Columbia River Basin
Mica
Revelstoke
Arrow Lakes
Duncan
Kootenay Lake
Keenleyside
Canada
U.S.
Grand Coulee
Chief Joseph
Wells
Rocky Reach
Rock Island
Wanapum
Priest Rapids
Columbia R.
Albeni Falls
Libby
Hungry Horse
Noxon
Pend Oreille Lake
Flathead Lake
Kerr
Little Goose
Lower Monumental
Lower Granite
Dworshak
Seattle
WA
MT
N
The Dalles
Ice Harbor
Portland
Bonneville
McNary
John Day
Hells Canyon
Oxbow
Brownlee
ID
Cascade
Deadwood
OR
Willamette R.
Lucky Peak
Arrowrock
Anderson Ranch
Swan Falls
C.J. Strike
Upper Salmon Falls
Milner
Snake R.
Minidoka
American Falls
Jackson Lake
Palisades
Corps of Engineers Dams
Dams owned by Others
Bureau of Reclamation Dams
CA
NV

What is the Regional Technical Forum

- Regional Technical Forum (RTF)
  - Chartered by the Council (at the request of Congress) to help ensure reliable energy savings estimates
  - Members appointed for their technical expertise and experience (not constituency-based)
  - No Regulatory Authority
  - Funded by regional utilities and Bonneville
- Reports to:
  - Technically, RTF reports to the Chair of the Council
  - Pragmatically, RTF reports to BPA, utilities, Energy Trust of Oregon, & regulators – those that run efficiency programs (We work for "the region")

RTF Role and Goal

- RTF role depends on a measure's savings estimation method
- Goal: Produce savings estimates of "comparable reliability"
- Designed to ease program delivery & evaluation



Seeks Value Through

Open

- Findings used widely
- Learn from others
- Transparency

Peer Review

- Many eyes
- Yields high quality

Economy of Scale

- Big savers held in common
- Avoid duplication
- Seek synergies

Who Uses It?

Utilities, ETO, BPA

- Reduce evaluation costs

Regulators

- Wide review
- Establish standards for reliability & methods

Planners

- Provides estimates for conservation potential assessments

Evaluators

- Conveys expectations
- Describe methods

Questions?

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National EM&V Coordination Examples

Four examples presented in next few slides:

- Northeast and Mid-Atlantic EM&V Forum
- The State and Local Energy Efficiency Action Network (SEE Action)
- U.S. DOE's Uniform Methods Project
- National Energy Efficiency Registry (NEER)

EM&V Forum (Northeast and Mid-Atlantic)

- Regional Evaluation, Measurement and Verification Forum (EM&V Forum) consists of nine jurisdictions across the Northeast and mid-Atlantic regions
- Goal is to develop and support the use of consistent savings assumptions and standardized, transparent guidelines and tools to evaluate, measure, verify, and report the energy and demand savings, costs, and avoided emission impacts of energy efficiency
- Guided by a regionally representative Steering Committee led by co-chairs including a Commissioner from a state public services commission. The Steering Committee guides the development and adoption of revisions to the Forum's operational guidelines, project agenda and funding
- Example projects/products: EM&V resource library, annual meetings, incremental cost studies, persistence studies, regional energy efficiency database of impacts, model EM&V methods, standardized reporting formats
- Initiated by resolutions of regional energy regulatory entities and supported with state, utility and U.S. DOE funds

National Examples

- **The State and Local Energy Efficiency Action Network (SEE Action) -** https://www4.eere.energy.gov/seeaction/
  - Offers resources, discussion forums, and technical assistance to state and local entities
  - Facilitated by US EPA and US DOE
  - Has an EM&V Working Group that supports investment in energy efficiency by working to improve the credibility and timeliness of the EM&V practice.
- **U.S. DOE's Uniform Methods Project** - http://energy.gov/eere/about-us/about-ump
  - Developing M&V protocols for determining energy savings for commonly implemented program measures.
  - Collaborating with energy efficiency program administrators, and stakeholders
  - Has national technical and steering committees
- **NEER** - https://www.theclimateregistry.org/thoughtleadership/energy-efficiency/
  - Six U.S. states, The Climate Registry and NASEO secured a DOE award to develop a national energy efficiency registry (NEER).
  - Registry would be intended to allow states to track their own initiatives as well as demonstrate progress towards energy goals and potential compliance with existing and future state and federal environmental regulations

Next Steps

- Let us know if you are interested - in learning more, participating and/or providing input on further refining the clearinghouse concept - by contacting Alaine Ginocchio at aginocchio@westernenergyboard.org
- Exploratory Group
  - Informal group
  - Discuss and recommend activities, structure and format for the clearinghouse
  - Provide input on funding/facilitator
- Funding of a coordinator/facilitator
  - If there is sufficient interest, LBNL may discuss with U.S. DOE the potential for funding to cover at least initial set up and facilitation of the clearinghouse
  - Initial facilitator – LBNL Future facilitator - TBD
- Timing
  - Obtain more stakeholder feedback on key aspects of the clearinghouse concept during Fall 2016/Winter 2017
  - If funding available, start clearinghouse during first quarter of 2017

EM&V Resources and Discussion Time

- For more EM&V information see:
  - Technical Brief: Coordinating Demand-Side Efficiency Evaluation, Measurement and Verification Among Western States: Options for Documenting Energy and Non-Energy Impacts for the Power Sector https://emp.lbl.gov/sites/all/files/lbnl-1005776_0.pdf
  - EM&V Webinars: https://emp.lbl.gov/emv-webinar-series
  - For technical assistance to state regulatory commissions, state energy offices, tribes and regional entities, and other public entities see: https://emp.lbl.gov/projects/technical-assistance-states
  - Energy efficiency publications and presentations – financing, performance contracting, documenting performance, etc. see: https://emp.lbl.gov/research-areas/energy-efficiency

Contacts for more information or to express interest in participating in the EM&V Clearinghouse Collaborative, contact:

- Alaine Ginocchio, Attorney/Policy Analyst, Western Interstate Energy Board, aginocchio@westernenergyboard.org
- Steve Schiller, Senior Advisor/Affiliate, Berkeley Lab, srschiller@lbl.gov