
EE/RE Measurement and Verification and Emissions Quantification: General Considerations

State Technical Forum on EE/RE

Call #3 - December 16, 2004

Why Measure and Verify EE/RE Projects?

- ◆ Achieve an accurate estimate or measure of EE/RE electricity savings and generation
- ◆ Provide a credible basis for rewarding projects or programs for actual benefits
- ◆ Provide a basis for measuring the success of EE/RE policies and communicating with the public
- ◆ Provide a basis for estimating emissions avoided due to reduced generation from traditional sources

Measurement and Verification versus Emissions Quantification

- ◆ M&V refers to the determination of electricity savings or generation from an EE/RE project
- ◆ Quantification (also referred to as evaluation) is the process of estimating the emissions avoided due to reduced generation from traditional sources
- ◆ Today's call focuses on M&V but relates that energy topic to the environmental purpose of quantification

Key Policy Issues and Choices

- ◆ What is the policy need for the information, such as
 - General estimation
 - Awarding of incentives (direct financing, RECs, emission allowances)
 - Taking credit for emission reductions in an air quality plan
- ◆ The policy need should drive the decisions about the data quality objectives with respect to M&V and Quantification
- ◆ The data quality objectives may or may not be related, e.g.:
 - For EE/RE purposes, high data quality objectives may be needed to ensure equal treatment of projects applying for incentives, but for awarding NO_x allowances, a basic default emission conversion factor may be acceptable without actual analysis of quantifying the “true” emission impact
 - If a state seeks SIP credit for an EE/RE project, emissions quantification data quality will be important, and because the energy savings is the primary input to quantifying emission impacts, the data quality objectives for the M&V process are linked directly with the quantification process

What is EPA Doing to Assist States with M&V and Quantification?

- ◆ Climate Protection Partnerships Division has active projects on these issues, including:
 - An M&V guidance document (designed primarily for awarding set-aside allowances under the NO_x Budget Trading Program)
 - » The M&V guidance document is in draft form and currently undergoing an informal, external peer review process
 - An emission quantifications option paper
 - » This paper is in the beginning stages and expected to be completed in 2005
- ◆ Today's call can help EPA understand the different ways in which states want to use M&V and quantification, and the issues involved in selecting the appropriate technique for a given policy purpose

Other Information Sources: M&V

- ◆ Federal Energy Management Program M&V Guidelines: Measurement and Verification for Federal Energy Projects, U.S. DOE, Office of EE and RE, DOE/GO-102000-0960
<http://ateam.lbl.gov/mv/>
- ◆ International Performance measurement & Verification Protocol, <http://www.ipmvp.org>
- ◆ EPA Conservation Verification Protocols [for EGUs affected by the Acid Rain Program]
<http://www.epa.gov/airmarkets/arp/crer/cvpsumm.html>

Other Information Sources: Quantification

- ◆ EPA's Guidance on State Implementation Plan (SIP) Credits for Emission Reductions from Electric-Sector Energy Efficiency and Renewable Energy Measures, August 2004
http://www.epa.gov/ttncaaa1/t1/memoranda/ereseerem_gd.pdf
- ◆ 2002 Report prepared for Ozone Transport Commission: Predicting Avoided Emissions from Policies that Encourage Energy Efficiency and Clean Power <http://www.otcair.org>
- ◆ OTC's Emission Reduction Workbook <http://www.otcair.org>
- ◆ EPA's Average Displaced Emission Rate (ADER) modeling (based on Integrated Planning Model (IPM))
 - Web-based ADER tool not yet available on EPA's website