

Weatherization & Intergovernmental Program

Benefits of EM&V

A primary benefit of the Evaluation, Measurement and Verification (EM&V) process is that it specifies which energy efficiency measures and/or programs have met their objectives, which ones are cost effective and what changes could help the programs be more successful. A properly designed EM&V plan will provide the project manager with the ability to adjust the direction of the project as issues develop, thereby proactively enhancing program performance.

From a financial perspective, EM&V produces verifiable results that should be used to make future projects better. The data available from the EM&V process:

- Provides the user with the information needed to identify measures with the biggest return on investment
- Identifies measures with the highest realized energy savings
- Highlights implementation issues that can be improved
- Confirms (cost) effectiveness of the measures

The EM&V process provides an overall risk assessment of a measure(s) to be used in the formulation of future endeavors that strive to develop cost effective energy efficiency programs or projects. An effective EM&V plan can also identify and quantify non-energy benefits such as the economic impact of spending on job creation, local economic spending, and tax revenue as well as improvements in air quality or other environmental attributes.

Balancing Costs and Benefits

It is important to note that the cost of performing EM&V must be included in the total program budget and influences the cost effectiveness of the program. The level of EM&V planned for a program should be commensurate with both the program's expected savings as a function of investment and the complexity of the technology used in the program. For example, the EM&V plan required to review a residential program with traditional established measures may require a less costly EM&V plan than that of a commercial program replacing numerous pieces of equipment, weatherizing the building with various energy efficiency measures, and replacing lighting throughout the building.

The data gathered during the EM&V process make it possible to analyze program performance and evaluate the success of the program. For example, if one objective is cost effectiveness, the data collected during the EM&V process must be sufficient to perform that analysis. The following table identifies the type of information to collect. Quantifiable costs and benefits

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resulting from the program should be included in the analysis. For example, if increases in productivity can be quantified as a result of increased comfort in the workplace, that is a legitimate benefit.

Program Costs

Program Benefits

<ul style="list-style-type: none"> • Material and installation costs of new equipment (net of government tax incentives or utility or manufacturer rebates) • Removal and/or demolition cost of existing equipment • Administrative costs of the program (includes program planning) • Implementation and evaluation costs 	<ul style="list-style-type: none"> • Energy savings associated with the program • Expected reductions to emissions levels • Expected reductions to water demand • Increased comfort levels in the workplace
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Who is TAP?

The Department of Energy's (DOE) Technical Assistance Program (TAP) supports state, local and Tribal communities in both the Energy Efficiency and Conservation Block Grant Program (EECBG) and the State Energy Program (SEP). TAP provides direct technical assistance, aggregated products like workshops and webcasts, tools and resources needed to implement successful and sustainable clean energy programs.