SEE Action
STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Guide for States: Establishing and Maintaining Technical Reference Manuals for Energy Efficiency Measures

Why Technical Reference Manuals Are Important

Technical Reference Manuals (TRMs) provide information primarily used for estimating the energy and demand savings of end-use energy-efficiency measures associated with utility customer-funded efficiency programs. This information can include:

- Deemed (predetermined) energy and demand savings values (aka unit energy savings or stipulated savings vales) for measures
- Engineering algorithms to calculate energy and demand savings
- Variables and factors, such as measure life information and hourly load shapes used for calculating impacts
- Documentation to support the values, calculations, and assumptions for energy-efficiency measures, as well as applicability conditions for how the information is to be used
- Information about non-energy impacts and factors that are used to calculate and measure cost-effectiveness, among other uses

TRMs are subject to acceptance or approval by state utility regulators. TRMs are used extensively in the planning, implementation, and evaluation of utility customer-funded efficiency programs. High-quality TRMs with consistent savings values and methods can increase confidence in the quantification of impacts associated with efficiency actions and support increased implementation of cost-effective efficiency.

How to Use This Guide

The goal of this guide is to support the development, maintenance, and use of accurate and reliable TRMs. The information and recommendations in this guide can be used to help improve the quality of existing TRMs as they are updated and new TRMs as they are developed.

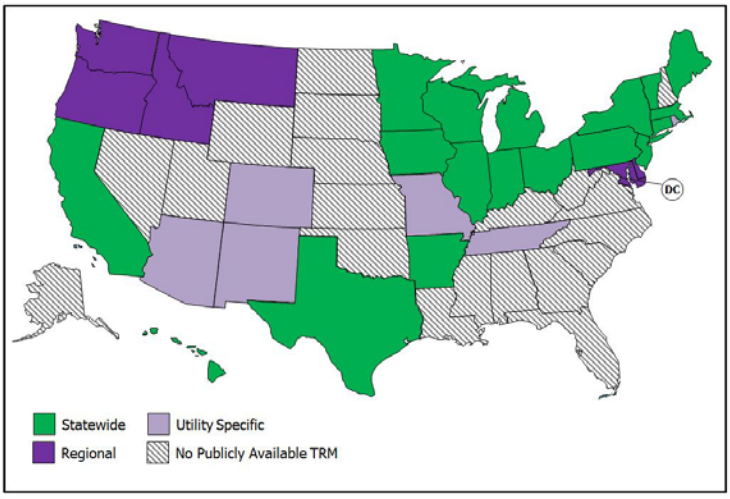
The intended audience is state utility regulators, administrators of energy efficiency programs (including publicly owned and investor-owned utilities and government and nongovernmental organizations), efficiency program implementers, evaluation consultants, and other stakeholders, such as industry representatives and consumer advocates.

This guide:

- Describes existing TRMs in the United States
- Provides recommendations for TRMs and deemed savings methods
- Provides related background information on energy efficiency, evaluation, measurement and verification (EM&V), and TRM basics.

Key Points

- This report contains TRM best practices based on state experience and industry standards.
- A TRM is a technical resource (in the form of a document, spreadsheet, searchable desktop, and/or online database) that contains energy-efficiency measure information used in program planning, implementation, tracking, and reporting, and evaluation.
- High-quality TRMs with consistent savings values and methods can increase confidence in the quantification of impacts associated with efficiency actions and support increased implementation of cost-effective efficiency.



Twenty-eight state or regional TRMs have been adopted.

Recommendations for Deemed Savings Methods

- Adopt and adhere to clear and transparent guidelines that emphasize using industry standard assumptions and calculation methods, current information, an independent peer-reviewed process, and thorough documentation in publicly accessible formats.
- Deemed savings values should be applied to measures that are well understood with documented experience and reliable data sources and analytical methods.
- Boundary conditions should be used that clearly describe the applications for which the measures' deemed savings value(s) do or do not apply.
- Deemed savings values and deemed calculations should be based on input assumptions that are realistic and not necessarily conservative or optimistic.
- Deemed savings values, variables, factors, and calculations should account for significant interactions with other measures and end uses at the site or facility in which they are installed.
- Deemed savings values, calculations, factors, and variables should be based on reliable, traceable, publicly available, and documented sources of information.
- Verification activities should confirm that the conditions and applications (e.g., installation specifications) defined for use of the deemed savings values are consistent with the actual conditions.

Recommendations for TRMs

- The roles, responsibilities, and processes for developing, approving, and maintaining a TRM should be clearly defined.
- It is usually best to develop TRMs with a public, collaborative process that includes program administrators, implementers, evaluators, and independent technical experts, as well as advocates and active regulatory staff.
- Regulatory agencies should approve TRMs that will be used by IOUs.
- TRMs should strive to use data and tools that are "best available," based on and/or informed by field measurements, impact evaluations, customer or market surveys, billing analysis, etc.
- Each TRM should have its own guidance document, preferably agreed to by those participating in the TRM development and indicating decisions on topics, such as public accessibility, guidance on balancing rigor of TRM content versus effort (and cost) to develop the content, quality control mechanisms, and documentation sufficient for replication of indicated values, baseline definitions, the process for TRM revisions, the TRM approvals process, and TRM format.
- TRMs are most useful when they are (1) well documented with transparent indications of calculations and assumptions (such as data used to derive values) sufficient for others to replicate the values and calculations found in the TRMs, (2) prepared using credible, standardized calculations and data-based assumptions, and (3) designed for ease of operation/compatibility with program tracking and reporting systems.
- TRMs should be developed, updated, and reviewed by independent bodies to avoid the potential for undue bias because of financial or other considerations.
- TRMs should have regular scheduled processes in place for periodically reviewing TRM content.
- Searchable, formatted TRMs are preferred with easily and publicly accessible documentation.
- Regional TRMs can be excellent opportunities for states that do not have their own or that are contemplating expansions of their TRMs.

Read the Full Report

http://seeaction.energy.gov/TRM

About SEE Action

The State and Local Energy Efficiency Action Network (SEE Action) is a state- and local-led effort facilitated by the U.S. Department of Energy and the U.S. Environmental Protection Agency. SEE Action offers resources, discussion forums, and technical assistance to state and local decision makers as they provide low-cost, reliable energy to their communities through energy efficiency.

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