

Coming to Terms with DSM

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Introduction

The number, magnitude, and importance of DSM programs are growing rapidly. With the increase in DSM activity throughout the United States, there has been a comparable increase in the need for information on the results of utilities' DSM programs. Information requests come from a variety of sources using a variety of definitions and reporting formats. Utilities are frustrated by the amount of time required to respond to the myriad of requests for program data. Utilities are even more frustrated by an inability to draw useful conclusions from the data to gauge DSM program performance and to predict market response.

Approach

A national committee was formed to address program data collection and reporting concerns. The committee included DSM experts throughout the United States from utilities, state regulatory commissions, research organizations, government agencies, trade associations, national laboratories, and other entities. The committee was charged with the responsibility of developing a handbook to ensure more consistent reporting of DSM program information. The handbook sought to meet these needs by: (1) discussing concepts associated with key data elements including DSM-program types, participation, energy and load effects, and costs, (2) providing a glossary of terms, and (3) developing a sample reporting format for DSM programs.

The national committee provided ideas for and review of the handbook. In addition, an examination was completed of existing glossaries and reporting forms developed by PUCs, government agencies, research organizations, and other groups that collect information on utility DSM programs. The handbook discussed alternative definitions and reporting requirements.

Selected Findings

A list of the elements included in the DSM-program data reporting form is provided in Table 1. Some of the findings are discussed below by category of data.

Types of Utility DSM Programs

Utility programs are categorized in a number of ways including: program load shape objectives, customer class, target market segment, delivery agent, types of service, scope (pilot, full-scale, etc.), and life cycle stage. At a minimum, the reporting form should identify the type of program based on these characteristics.

Program Participation

A program participation rate is defined as the ratio of the number of participants or participating units to the number of customers or units being targeted by the program. Different types of programs use different definitions of participating units. For example, a commercial lighting program may define participating units as customers (accounts), buildings, lamps, fixtures, or floor area. It is important to clearly identify the reporting utility's basis for the participation estimate (target market or total customer class) and the specified participating unit.

Energy and Load Effects

Energy and load effects are often used as the primary indicators of program performance. In addition, those utilities without prior program experience rely heavily on the results of similar programs implemented by other utilities. Unfortunately, utilities do not use consistent definitions in calculating and reporting their results. Figure 1 illustrates the additional complexity introduced by applying factors such as free riders and free drivers to gross effects to estimate the net effects of DSM programs. The handbook defines the gross effect as the change in electricity use experienced by participants in a DSM program. The net effect is defined as the portion of the gross effect that can be directly attributed to the program.

Program Costs

Comparison of program costs from one utility to another is almost impossible without consistent reporting formats and definitions. The cost data reported by utilities are often incomplete and not sufficiently detailed to allow such cost comparisons. A review of reported program cost information indicated that utilities do not always: (1) report the same types of costs in the same reporting

Table 1. Elements Included in DSM-Program Data Reporting Form

Program Description

Name of Utility
Time Period For Which Data Apply
Program Description
DSM Technologies, Practices, and End Uses Promoted
Program Objectives(s):
 Energy efficiency, Peak clipping, Load shifting, Valley filling, and/or
 Load building
Program Types(s):
 General information, Site specific information, Direct installation, Incentives,
 Load control, and/or Alternative rates
Program Delivery Agent(s):
 Utility, Energy service company, Other contractor, and/or
 Government agency
Program Life-cycle Stage:
 Pilot program or Full-scale program

Program Participation

Eligibility Criteria:
 Used to define eligible market and participation
Eligible Market(s):
 New construction, Retrofit, Replacement, or Retirement
Customer Class(es):
 Residential, Commercial, Industrial, and/or Agricultural
Existing Market and Annual Participation (Annual and Cumulative numbers)
 Size of eligible market
 Size of applicable customer class
 Number of participants
 Participation rate (% of eligible market)
 Participation rate (% of applicable customer class)

Energy and Load Effects

Gross and Net Energy Effects (GWh/year):
 Annual, Cumulative, and Integrated
Lifetime of Programmatic Energy Effects (years)
Gross and Net Coincident Peak Demand (MW) Effects:
 Annual and Cumulative for Summer and Winter Peaks
Basis of Energy and Load Estimates:
 Data and Analytical methods

Annual Program Costs

Utility Costs:
 Administrative, Marketing, Monitoring and Evaluation,
 Equipment, Incentives
Nonutility Costs
DSM-Measure Costs as % of Total Cost

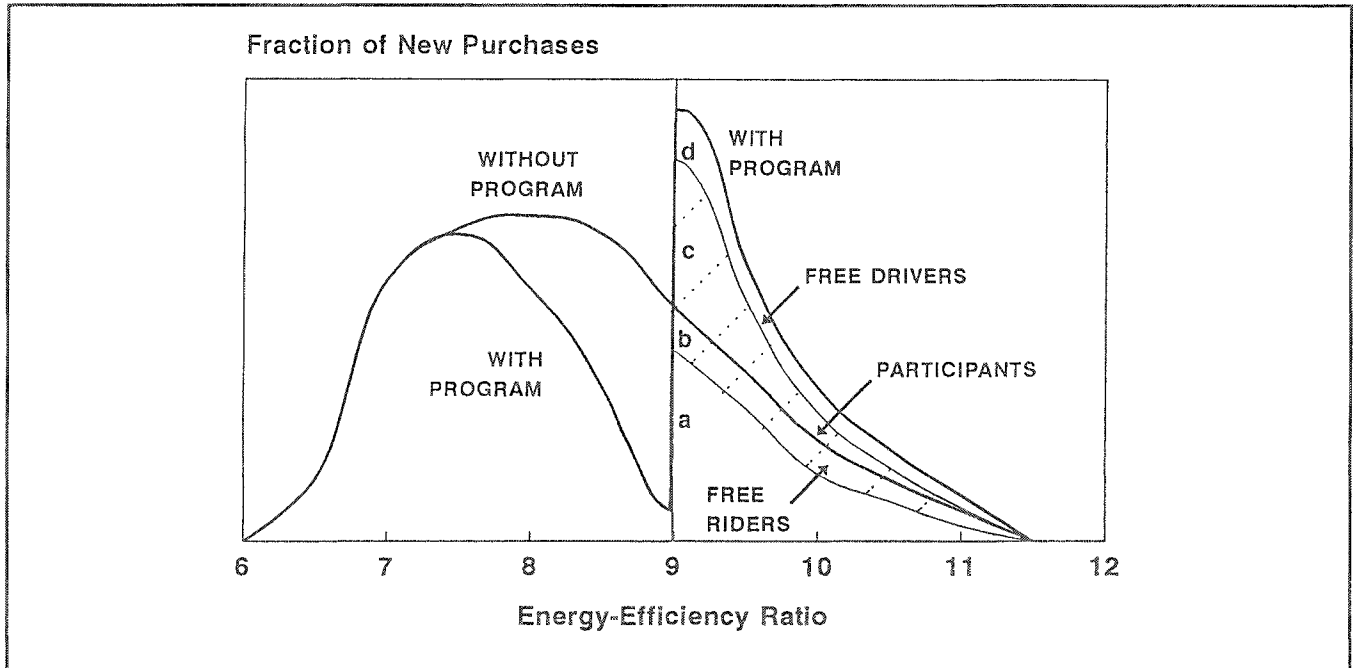


Figure 1. Room Air-Conditioner Efficiencies Affected by Utility Program

categories, (2) include all relevant costs, (3) allocate costs common to more than one program in the same way; and (4) use the same methods for estimating costs.

Next Steps

The handbook represents a beginning in the quest to standardize DSM-program reporting. A number of regional and national database projects are using the handbook to design their data collection forms. The next step is to test and further refine the definitions and reporting formats. Plans are underway to collect and analyze program data

using the formats. Other testing and feedback mechanisms include utility case studies, regional workshops, and coordination with organizations involved in development of program data collection and reporting standards.

Reference

Hirst, E., and C. A. Sabo. 1991. *Electric-Utility DSM Programs: Terminology and Reporting Formats*. ORNL/CON-337, Oak Ridge National Laboratory, Oak Ridge, Tennessee.