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Energy Efficiency Program Typology and Data Metrics: Enabling Multi-State Analyses Through the Use of Common Terminology

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Summary

In order to compile and analyze information about energy efficiency programs across the country, it is necessary to have a common categorization of program types as well as definitions of the metrics that define program performance and characteristics. As part of an effort to analyze the cost per unit of savings for utility-customer funded, end-use energy efficiency programs, LBNL developed a program typology with standardized program categories, as well as metrics and associated definitions that describe program characteristics, costs and impacts. These definitions and naming conventions facilitate meta-analysis of program results and could simplify the analyses and use of such information by a wide range of entities engaged in reporting and assessing the impacts of energy efficiency.

The program categories and definitions described in this policy brief are based primarily on LBNL's collection and review of several years of annual energy efficiency reports from 108 program administrators in 31 states for approximately 1,900 unique programs. The categories and definitions also were informed by a variety of sources including publications from the State and Local Energy Efficiency Action Network (SEE Action), the Consortium for Energy Efficiency (CEE), the Northeast Energy Efficiency Partnerships' EM&V Forum, and the American Council for an Energy-Efficient Economy (ACEEE). Program categories are defined first by seven sectors (including one for demand response programs), then by simplified program categories (27 for efficiency programs) and then into more detailed categories (62 for efficiency). This relatively large number of categories is necessary to cover the range of program types that are prevalent regionally and throughout the country. Having detailed program categories also provides flexibility for grouping programs by a variety of common characteristics for comparison and analysis (e.g., organizing programs by technology versus sector).

The detailed program categories and metric definitions have been adopted by LBNL for its research into the costs of saved energy and by the CEE for its annual industry report surveys. We have also shared this program typology with other researchers and are now publishing them via this policy brief in the hope that other entities may consider their adoption. Our plan is to gather feedback from stakeholders via an annual or biennial process to modify, add or subtract program categories as program offerings change or to address potentially needed clarifications in the definitions and categories.

This document is a part of LBNL's Clean Energy Program Policy Brief series. These policy briefs highlight emerging program models, important issues that programs face, and how these issues are being addressed. The work described in this report was funded by the National Electricity Delivery Division of the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability under Lawrence Berkeley National Laboratory Contract No. DE-AC02-05CH11231.To join the email list to receive briefs and papers from this series, please click HERE. Please direct questions or comments to Ian Hoffman (ihoffman@lbl.gov).

Introduction

In 2011, program administrators that manage electric and gas efficiency programs funded by utility customers spent about $6.7 billion (CEE 2013), with spending projected to possibly more than double by 2025 (Barbose et al., 2013). These programs are administered by well over a hundred administrators (utilities, state energy agencies, non-profit and for-profit companies). In addition, hundreds if not thousands of organizations implement the programs under the direction of the administrators; many of which have their own performance and costs reporting requirements.

Most program administrators report information annually (e.g., portfolio and program-level energy savings and costs). In some states, program administrators also provide information on other metrics (e.g., number of program participants, project-participant costs, and program marketing and evaluation costs). However, the state-by-state evolution of utility customer-funded energy efficiency programs has fostered diversity in their regulation, design and administration—and likewise, with respect to reporting, diversity in the basic terminology for naming programs and describing their characteristics and performance. The absence of a standardized language has made it difficult to categorize programs and their performance in a consistent way that enables formal analysis and the drawing of conclusions about energy efficiency as a resource from regional or national perspectives.

A number of organizations have collected data from efficiency program and portfolio annual reports and used them to compare or analyze program impacts on a regional or national basis. In many cases, the organizations conducting these studies have attempted to make program data reported by different program administrators comparable. These organizations and their efforts include:

- Consortium for Energy Efficiency's (CEE) annual industry reports. Since 2006, CEE has surveyed efficiency program administrators in order to document the industry's budgets, expenditures and savings.

- The Northeast Energy Efficiency Partnerships' (NEEP) Regional Evaluation, Measurement and Verification Forum (EM&V Forum) supports the development and use of common and/or consistent protocols to evaluate, measure, verify, and report the savings, costs, and emission impacts of energy efficiency. The EM&V Forum has developed the Regional Energy Efficiency Database (REED), launched in early 2013, which includes data from eight states, soon to be nine states and the District of Columbia. REED was informed by the Forum's "Common Statewide Energy Efficiency Reporting Guidelines," which were adopted by the Forum's Steering Committee in 2010.[1]

- The American Council for an Energy-Efficient Economy (ACEEE) has conducted industry surveys for many years, including a national review of the cost of energy saved through efficiency programs (Friederich et al 2009).

- U.S. Energy Information Agency (EIA) has collected data on energy efficiency programs administered by electric utilities on a voluntary basis for many years through their 861 Form. EIA (2013) has also released a "State Energy Efficiency Program Evaluation Inventory" that supported the National Energy Modeling System (NEMS) and provided cost information from state-mandated energy efficiency program evaluations.[2]

[1] See http://neep.org/emv-forum/about-the-emv-forum/index

[2] See http://www.eia.gov/efficiency/programs/inventory/

With funding from the Department of Energy, LBNL initiated its Cost of Saved Energy (CoSE) project to collect and analyze the cost of saved electricity and natural gas from utility-customer funded energy efficiency programs across the United States (see side bar). As part of this effort, LBNL researchers collected data from 31 states' energy efficiency programs, primarily for the years 2009, 2010 and 2011. As a result, cost and savings data on almost 1,900 unique programs, covering one or more program years (for a total of ~4,000 program-years worth of data), have been collected for reporting and analyses.

LBNL Cost of Saved Energy Project

The cost per unit of savings of energy efficiency actions as implemented by program administrators of utility customer-funded efficiency programs has been collected and analyzed at the state, utility and portfolio levels by several organizations using various methods and definitions. However, cost and savings data have not been collected or systematically analyzed at the program level on a national scale and thus comparisons of costs and performance have generally only been reported at the portfolio or market sector level. This has limited the ability of efficiency program planners to reliably estimate the cost of programs or determine how efficiency costs vary in response to factors such as administrator experience, changes in codes and standards, labor market costs, retail rate levels, and scale of efficiency investments. Using the program categories and definitions described in this policy brief, LBNL has developed a DOE-funded Cost of Saved Energy research project. Information and reports on this project will be posted as they become available at: http://emp.lbl.gov

Given the number of program administrators and implementers that report program data and the lack of a national standard for reporting formats and definitions, there are three key concerns for those who want to compile and analyze information on utility-customer funded energy efficiency programs on a regional or national basis:[3]

1. ***Energy savings and program costs are not defined consistently.*** How reported metrics are defined varies from state to state. The most common discrepancies can be found in the definitions of net energy savings. However, there are many other metrics for which differences are found, for example:
   - The term "annual energy savings" typically is understood as shorthand for annualized incremental energy savings, but some entities—including resource planners—apply a different meaning that includes savings resulting from prior years' activities.
   - Most program administrators do not count their own performance incentives among program costs, yet a few do. The definitions of other cost categories (e.g., marketing costs) also vary from state to state.
   - The definition of measure lives (e.g., how the term effective useful life is defined), how measure lives are determined, and the estimated measure life values for the same measures or program types often varies among states.

2. ***What data are reported is not consistent.*** For example, some states report just gross or net energy savings whereas others report both. Similarly, many efficiency annual reports only indicate first-year savings and not lifetime savings.[4] With respect to cost data, program administrators often report a different combination of administrator costs, incentive costs, implementation contractor costs, participant costs, evaluation costs, and marketing costs, depending on state reporting guidelines or administrator practices.

3. ***Programs and sectors are not characterized in a universal or standardized fashion.*** Programs targeting specific building types or consumers can be included under different sectors from state

[3] Note that the three listed concerns do not address a potential fourth issue of the reliability (accuracy) of the reported data.

[4] LBNL found that only about a quarter of the program reports that we reviewed included information on measure lifetimes or lifetime savings, although this information is required to assess program cost effectiveness.

to state (e.g., multi-family residential structures are sometimes included in the commercial sector and sometimes in the residential sector portfolio). The types of activities and/or measures that are included under the same program title (e.g., custom vs. combination custom/prescriptive programs) also vary.

Usually, these inconsistencies do not cause much confusion within any single organization or state with respect to program-related definitions. However, when data are compiled from multiple states or program administrators, the "language differences" can produce an apples-and-oranges mix of data, which can distort any multi-state or multi-administrator observations about a particular program metric, type or sector. In summary, a common terminology and program typology is important for organizing program data into appropriate and consistent categories so that programmatic energy efficiency, as a regional and national resource, can be reliably assessed.

Program Categories and Metric Definitions

We developed a set of program categories and metric definitions for the CoSE project (see Appendices A and B for a list of program categories and metrics definitions). Energy efficiency programs are grouped and classified by sector (6), then by simplified efficiency program category (27) and then detailed program category (62) as illustrated in Figure 1.[5]

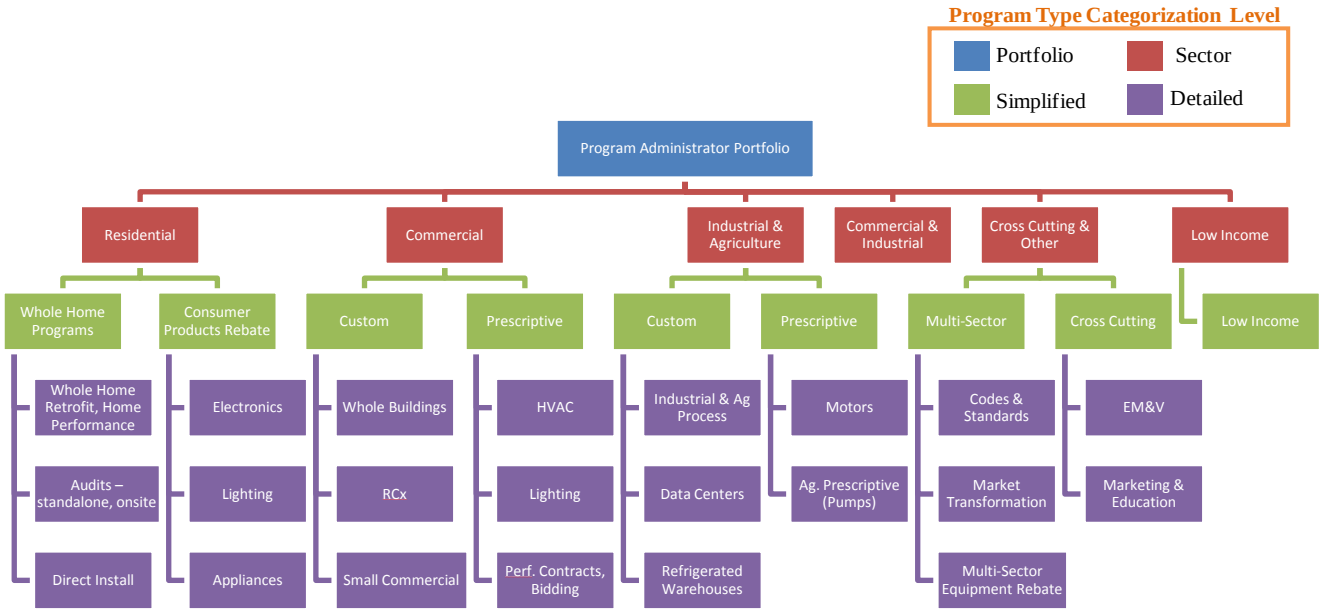

Figure 1: Selected Program Types in LBNL Program Categorization Scheme (note that not all simplified and detailed program categories are shown)

[5] Including demand response as a seventh "sector", there are 31 simplified program categories and 66 detailed program categories.

Program Categories and Typology

The primary source used for characterizing and defining the simplified and detailed program categories was the thousands of programs reviewed as part of the CoSE project. In addition to the LBNL CoSE effort, other sources, including the previously cited ACEEE, CEE and NEEP/REED efforts, were reviewed and utilized. For the demand-response program categories, we used the program categories defined by the Federal Energy Regulatory Commission for its national surveys (FERC 2012), although we are not compiling demand-response program data at this time.

We decided that a three-tiered hierarchy of (1) sector level, (2) simple program categories, and (3) detailed program categories was appropriate because it provided options for different levels of analysis, given two data availability issues. First, some cost data are only available at the sectoral or simplified program level. Second, even at a national level, the number of programs for which data is available can be small for certain detailed program categories. Nonetheless, we included certain program types in the detailed typology because they have regional significance (e.g., pool pump programs in the Southwest, data center programs in New York, Washington and California) or the program types appear to be emergent (e.g., financing and residential behavior).

Having the three tiers for different levels of collection and analyses, including a first tier of fairly detailed program categories, also allows flexibility in grouping programs for comparison and analysis (e.g., single-measure versus comprehensive programs, resource versus non-resource programs, or by technology such as lighting versus HVAC programs). In addition, in some cases, having the more detailed program category tier narrowed the range of installed measures for each program type and therefore reduced the uncertainty in derivation of program average measure costs, lifetimes and lifetime savings. For example, we have defined three detailed program categories for the simplified program category of "Whole Home Upgrades": Whole Home Audit Programs; Whole Home Direct-Install Programs; and Whole Home Retrofit Programs. The detailed program categories also enable some visibility into program design, e.g., differentiating among single-measure rebate programs, direct-install programs and multi-measure prescriptive programs. This visibility is limited by the nature of the reported program description and the program itself. Many administrators combine multiple strategies in a single program (e.g. offering both custom and prescriptive approaches within a generalized commercial program). However, detailed program categories narrow the number of programs in each category and therefore make it easier to focus attention or queries on the design and implementation of those programs of interest.

For the CoSE project, LBNL researchers used these categories and definitions to characterize program data compiled from the source reports (i.e., program administrator annual reports and impact evaluation reports) into sectors and then into detailed program categories. When the reported name of the program was ambiguous (e.g., EnergySaver) or otherwise not intuitive, we looked to the program description and, if available, measure-level savings as touchstones for program categorization. In the future, other practitioners can choose between the specificity of up to 66 efficiency and demand response program categories which provides an opportunity for more in-depth comparative analysis of different types of efficiency programs, or the very high level organization of seven sectors, or the middle ground of the 31 simplified program categories. It should also be noted that having multiple levels to the program typology also can enable data sharing, by allowing comparison or perhaps merging of data among different resolution data sets.

Metric Definitions

In preparing the metric definitions, our primary source was the State and Local Energy Efficiency Action Network's (SEE Action Network) Energy Efficiency Program Impact Evaluation Guide (State and Local Energy Efficiency Action Network 2012) which describes common terminology, structures, and approaches used for determining savings from energy efficiency programs. The guide was particularly important for defining energy metrics such as net and gross energy savings and lifetime energy savings. The SEE Action Network's committees included program administrators, regulators and others from multiple states and regions and the definitions in the guide incorporated input from a wide range of energy efficiency glossaries. The guide's terms and definitions thus represent a consensus among many stakeholders in different parts of the country.

Collaboration and Updating

We hope that the program categories and definition of program metrics described in this policy brief can improve the efficacy of the efficiency industry's efforts to compile, report, and analyze energy efficiency program information, if they are adopted by other entities. For example, program administrators that are required to report efficiency program data to state, regional or national entities may find value in the information that comes from the types of analyses made possible by consistent reporting, and thus they may also decide to adopt this sector and detailed program typology. To this end, LBNL has shared these program categories and definitions with the CEE, NEEP/REED, and ACEEE staff that are engaged in collecting and analyzing data for their own efforts. LBNL has conferred most closely with CEE. As part of its 2013 annual industry report survey, CEE is collecting program level energy efficiency and demand response program data from program administrators using the detailed program categories described in this policy brief and definitions derived primarily from the SEE Action Impact Evaluation Guide glossary. LBNL has also discussed the categories with EIA for consideration in future efficiency program inventories that they may undertake.

Our goal is to continue collecting annual data on efficiency programs implemented throughout the United States and to use the program categories and metric definitions for organizing, reporting and analyzing the information. We recognize that program category names and definitions may change and evolve as new programs are developed and new information becomes available to help refine the program categorization. Thus, prior to starting the next data collection effort for the CoSE project in 2014, we plan to send out a request for comments to stakeholders, conduct webinars, and then collect and utilize input from stakeholders to possibly revise the sector and program categories and definitions as needed. Thereafter, this input solicitation and updates process will likely be repeated every other year.

References

Barbose, G., Goldman, C.A., Hoffman, I.M. and Billingsley, M.A. "The Future of Utility Customer-Funded Energy Efficiency Programs in the United States: Projected Spending and Savings to 2025," Berkeley, CA: Lawrence Berkeley National Laboratory. January 2013. LBNL-5803E

Forster, H. J., Wallace, P., Dahlberg, N. "2012 State of the Efficiency Program Industry - Budgets, Expenditures, and Impacts" Consortium for Energy Efficiency. March 28, 2013 http://www.cee1.org/annual-industry-reports

Friedrich, K., Eldridge, M., York, D., Witte, P. and Kushler, M. "Saving Energy Cost-Effectively: A National Review of The Cost of Energy Saved Through Utility-Sector Energy Efficiency Programs." American Council for an Energy-Efficient Economy (ACEEE). September 2009. Report Number U092.

State and Local Energy Efficiency Action Network. 2012. Energy Efficiency Program Impact Evaluation Guide. Prepared by Steven R. Schiller, Schiller Consulting, Inc., www.seeaction.energy.gov.

U.S. Energy Information Administration (EIA) Survey data from Form EIA-861—Annual Electric Power Industry Report. http://www.eia.gov/electricity/data/eia861/index.html

U.S. Energy Information Administration (EIA) "State Energy Efficiency Program Evaluation Inventory" July 2013.

U.S. Federal Energy Regulatory Commission (FERC). "Assessment of Demand Response and Advanced Metering" Staff report. Dec. 2012 http://www.ferc.gov/legal/staff-reports/12-20-12-demand-response.pdf

Appendix A: Energy Efficiency Program Categories

In Appendix A, we describe and define simplified and detailed program categories for seven sectors: residential; commercial; industrial/agricultural; commercial/industrial; cross-cutting and other; low income; and demand response programs (see Tables A1-A7). For each sector, the left hand column of the table lists the detailed program category names, with detailed program definitions in the middle column, while the right-hand column indicates the corresponding simplified program category.[6]

Table A1: Residential Programs

Detailed Category	Detailed Program Definition	Simplified Category
Behavioral/ Online Audit/ Feedback	Residential programs designed around directly influencing household habits and decision-making on energy consumption through quantitative or graphical feedback on consumption, sometimes accompanied by tips on savings energy. These programs include behavioral feedback programs (in which energy usage reports compare a consumer's household energy usage with those of similar consumers); online audits that are completed by the consumer; and in-home displays that help consumers assess their usage in near real time. This program category does not include on-site energy assessments or audits.	Behavior/ Education
Consumer Product Rebate/ Appliances	Programs that incentivize the sale, purchase and installation of appliances (e.g., refrigerators, dishwashers, clothes washers and dryers) that are more efficient than current standards. Appliance recycling and the sale/purchase/installation of HVAC equipment, water heaters and consumer electronics are accounted for separately.	Consumer Product Rebate
Consumer Product Rebate/ Electronics	Programs that encourage the availability and purchase/lease of more efficient personal and household electronic devices, including but not limited to televisions, set-top boxes, game consoles, advanced power strips, cordless telephones, PCs and peripherals specifically for home use, chargers for phones/smart phones/tablets. A comprehensive efficiency program to decrease the electricity use of consumer electronics products includes two focuses: product purchase and product use. Yet not every consumer electronics program will seek to be comprehensive. Some programs will embark on ambitious promotions of multiple electronics products, employing upstream, midstream, and downstream strategies with an aggressive marketing and education component. At the other end of the continuum, a program administrator may choose to focus exclusively on consumer education.	
Consumer Product Rebate/Lighting	Programs aimed specifically at encouraging the sale/purchase and installation of more efficient lighting in the home. These programs range widely from point-of-sale rebates to CFL mailings or giveaways. Measures tend to be CFLs, fluorescent fixtures, LED lamps, LED fixtures, LED holiday lights and lighting controls, including occupancy monitors/switches.	
Appliance Recycling	Programs designed to remove less efficient appliances (typically refrigerators and freezers) from households.	

[6] The detailed program categories could be organized in other ways, such as by technology.

Detailed Category	Detailed Program Definition	Simplified Category
Multi-Family	Multi-family programs are designed to encourage the installation of energy efficient measures in common areas, units or both for residential structures of more than four units. These programs may be aimed at building owners/managers, tenants or both.	**Multi Family**
New Construction	Programs that provide incentives and possibly technical services to ensure new homes are built or manufactured to energy performance standards higher than applicable code (e.g., ENERGY STAR Homes). These programs include new multi-family and new/replacement mobile homes.	**New Construction**
HVAC	Programs designed to encourage the distribution, sale/purchase, proper sizing and installation of HVAC systems that are more efficient than current standards. Programs tend to support activities that focus on central air conditioners, air source heat pumps, ground source heat pumps, and ductless systems that are more efficient than current energy performance standards, as well as climate controls and the promotion of quality installation and quality maintenance.	**Prescriptive**
Insulation	Programs designed to encourage the sale/purchase and installation of insulation in residential structures, often through per-square-foot incentives for insulation of specific R-values versus an existing baseline. Programs may be point-of-sale rebates or rebates to insulation installation contractors.	
Pool Pump	Programs that incentivize the installation of higher efficiency or variable speed pumps and controls, such as timers, for swimming pools.	
Prescriptive	Residential programs that provide or incentivize a set of pre-approved measures not included in, or distinguishable from, the other residential program categories (e.g., direct install, HVAC, lighting). For example, if a residential program features rebates for a large set of mixed, pre-approved offerings (e.g., insulation, HVAC, appliances, lighting), yet the relative contribution of each measure to program savings is unclear or no single measure accounts for a large majority of the savings, then the program should be classified as a residential prescriptive program.	
Water Heater	Programs designed to encourage the distribution, sale/purchase and installation of electric and/or gas water-heating systems that are more efficient than current standards, including high efficiency water storage tank and tankless systems.	
Windows	Programs designed to encourage the sale/purchase and installation of efficient windows in residential structures.	
Whole Home/ Direct Install	Direct-install programs provide a set of pre-approved measures that may be installed at the time of a visit to the customer premises or provided as a kit to the consumer, usually at modest or no cost to the consumer and sometimes accompanied by a rebate. Typical measures include CFLs, low-flow showerheads, faucet aerators, water-heater wrap and weather stripping. Such programs may also include a basic, walk-through energy assessment or audit, but the savings are principally derived from the installation of the provided measures. Education programs that supply kits by sending them home with school children are not included in this program category; they are classified as education programs.	**Whole Home Upgrade (Incl. audits, retrofits, etc.)**

Detailed Category	Detailed Program Definition	Simplified Category
Whole Home/ Audits	Residential audit programs provide a comprehensive, standalone assessment of a home's energy consumption and identification of opportunities to save energy. The scope of the audit includes the whole home although the thoroughness and completeness of the audit may vary widely from a modest examination and simple engineering-based modeling of the physical structure to a highly detailed inspection of all spaces, testing for air leakage/exchange rates, testing for HVAC duct leakage and highly resolved modeling of the physical structure with benchmarking to customer utility bills.	**Whole Home Upgrade (Incl. audits, retrofits, etc.)** *(continued from previous)*
Whole Home/ Retrofit	Whole-home energy upgrade or retrofit programs combine a comprehensive energy assessment or audit that identifies energy savings opportunities with house-wide improvements in air sealing, insulation and, often, HVAC systems and other end uses. The HVAC improvements may range from duct sealing to a tune up to full replacement of the HVAC systems. Whole-home programs are designed to address a wide variety of individual measures and building systems, including but not limited to: HVAC equipment, thermostats, furnaces, boilers, heat pumps, water heaters, fans, air sealing, insulation (attic, wall, and basement), windows, doors, skylights, lighting, and appliances. As a result, whole-home programs generally involve one or more rebates for multiple measures. Whole-home programs generally come in two types: comprehensive programs that are broad in scope and less comprehensive, prescriptive programs sometimes referred to as "bundled efficiency" programs. This category addresses all of the former and most of the latter, but it excludes direct-install programs that are accounted for separately.	
Financing	Programs designed to provide or facilitate loans, credit enhancements or interest rate reductions/buy downs. As with other programs, included costs are utility costs, including the costs of any inducements for lenders, e.g., loan loss reserves, interest rate buy-downs, etc. Where participant costs are available for collection, these ideally will include the total customer share, i.e., both principal (the participant payment to purchase and install measures) and interest on that debt. Most of these programs will be directed toward enhancing credit or financing for residential structures.	**All Other Residential**
Other	Programs designed to encourage investment in energy efficiency activities in residences but are so highly aggregated (e.g., Existing Homes programs that include retrofits, appliances, equipment, etc.) and undifferentiated that they cannot be sorted into the residential program categories that are detailed in this document.	

Table A2: Commercial Programs

Detailed Category	Detailed Program Definition	Simplified Category
Audit	Programs in which an energy assessment is performed on one or more participant commercial facilities to identify sources of potential energy waste and measures to reduce that waste.	Custom
Custom	Programs designed around the delivery of site-specific projects typically characterized by an extensive onsite energy assessment and identification and installation of multiple measures unique to that facility. These measures may vary significantly from site to site. This category is intended to capture "whole-building" approaches to commercial sector efficiency opportunities for a wide range of building types and markets (e.g., office, retail) and wide range of measures.	
Commissioning/Retro-Commissioning	Programs aimed at diagnosing energy consumption in a commercial facility and optimizing its operations to minimize energy waste. Such programs may include installation of certain measures (e.g., occupancy monitors and switches), but program activities tend to be characterized more by tuning or retuning, coordinating and testing the operation of existing end uses, systems and equipment for energy efficient operation. The construction of new commercial/industrial facilities that includes energy performance commissioning should be categorized as "Com: New Construction". The de novo installation of energy management systems with accompanying sensors, monitors and switches is regarded as a major capital investment and should be categorized under "Com: Custom".	
Govt./Nonprofit/ MUSH	MUSH (Municipal, University, School & Hospital) and government and nonprofit programs cover a broad swath of program types generally aimed at public and institutional facilities and which include a wide range of measures. Programs which focus on specific technologies (e.g., HVAC and lighting) have their own commercial program categories Examples include incentives and/or technical assistance to promote energy efficiency upgrades for elementary schools, recreation halls and homeless shelters. Street lighting is accounted for as a separate program category.	MUSH & Govt.
Street Lighting	Street lighting programs include incentives and/or technical support for the installation of higher efficiency street lighting and traffic lights than the current baseline.	
New Construction	Programs that incentivize owners or builders of new commercial facilities to design and build beyond current code or to a certain certification level (e.g., ENERGY STAR or LEED).	New Construction
HVAC	C&I HVAC programs encourage the sale/purchase and installation of heating, cooling and/or ventilation systems at higher efficiency than current energy performance standards, across a broad range of unit sizes and configurations. Most of these programs will be directed toward commercial structures.	Prescriptive

Detailed Category	Detailed Program Definition	Simplified Category
Lighting	C&I lighting programs incentivize the installation of efficient lighting and lighting controls. Typical measures might include T-8/T-5 fluorescent lamps and fixtures; CFLs and fixtures; LEDs for lighting, displays, signs and refrigerated lighting; metal halide and ceramic lamps and fixtures; occupancy controls; daylight dimming; and timers.	**Prescriptive** *(continued from previous)*
Performance Contracting/ DSM Bidding	Programs that incentivize or otherwise encourage energy services companies (ESCOs) and participants to perform energy efficiency projects, usually under an energy performance contract (EPC), a standard offer or other arrangement that involves ESCOs or customers offering a quantity of energy savings in response to a competitive solicitation/bidding process with compensation linked to achieved savings.	
Prescriptive/IT & Office Equipment	Programs aimed at improving the efficiency of office equipment, chiefly commercially available PCs, printers, monitors, networking devices and mainframes not rising to the scale of a server farm or floor.	
Prescriptive/ Grocery	Grocery programs are prescriptive programs aimed at supermarkets and are usually designed around indoor and outdoor lighting and refrigerated display cases.	
Other	Prescriptive programs that encourage the purchase and installation of some or all of a specified set of pre-approved measures besides those covered in other measure-specific prescriptive programs (e.g., HVAC and Lighting).	
Custom	Custom programs applied to small commercial facilities. (See definition of custom programs for additional detail.)	**Small Commercial**
Prescriptive	Prescriptive programs applied to small commercial facilities. (See definition of prescriptive programs for additional detail.) Such programs may range from a walk-through audit and direct installation of a few pre-approved measures to a fuller audit and a fuller package of measures. Audit only programs have their own category.	
Financing	Programs designed to provide or facilitate loans, credit enhancements or interest rate reductions/buy downs. As with other programs, included costs are utility costs, including the costs of any inducements for lenders, e.g., loan loss reserves, interest rate buy-downs, etc. Where participant costs are available for collection, these ideally will include the total customer share, i.e., both principal (the participant payment to purchase and install measures) and interest on that debt. Most of these programs will be directed toward enhancing credit or financing for commercial structures.	**All Other Commercial**
Other	Programs not captured by any of the specific commercial program categories but are sufficiently distinct to the commercial sector to not be treated as a "Commercial/Industrial Other" program. Example: An EE program aimed specifically at the commercial subsector but is not clearly prescriptive or custom in nature.	

Table A3: Industrial/Agricultural Programs

Detailed Category	Detailed Program Definition	Simplified Category
Audit	Programs in which an energy assessment is performed on one or more participant industrial or agricultural facilities to identify sources of potential energy waste and measures to reduce that waste.	Custom
Custom	Programs designed around the delivery of site-specific projects typically characterized by an extensive onsite energy assessment and identification and installation of multiple measures unique to that facility. These measures may vary significantly from site to site. This category is intended to capture "whole-facility" approaches to industrial or agricultural sector efficiency opportunities for a wide range of building types and markets	
Custom/ Data Centers	Data center programs are custom-designed around large-scale server floors or data centers that often serve high-tech, banking or academia. Projects tend to be site-specific and involve some combination of lighting, servers, networking devices, cooling/chillers, and energy management systems/software. Several of these may be of experimental or proprietary design.	
Custom/Ind. & Ag. Process	Industrial programs deliver custom-designed projects that are characterized by an onsite energy and process efficiency assessment and a site-specific measure set focused on process related improvements that may include, for example, substantial changes in a manufacturing line. This category includes all EE program work at industrial or agricultural sites that is process focused and not generic (and thus would be in the custom category) and not otherwise covered by the single-measure prescriptive programs below (e.g., lighting, HVAC, water heaters).	
Custom/ Refrigerated Warehouses	Warehouse programs are typically aimed at large-scale refrigerated storage facilities and often target end uses such as lighting, climate controls and refrigeration systems.	
New Construction	Programs that incentivize owners or builders of new industrial or agricultural facilities to design and build beyond current code or to a certain certification level, e.g., ENERGY STAR or LEED.	New Construction
Prescriptive Industrial	Prescriptive programs that encourage the purchase and installation of some or all of a specified set of pre-approved industrial measures besides those covered in other measure-specific prescriptive programs on this list, e.g., industrial compressor programs.	Prescriptive
Prescriptive/ Agriculture	Farm- and orchard-based agricultural programs that primarily involve irrigation pumping and do not include agricultural refrigeration or processing at scale.	
Prescriptive/ Motors	Motors programs usually offer a prescribed set of approved higher efficiency motors, with industrial motors programs typically getting the largest savings from larger, high powered motors (>200 hp).	
Financing	Programs designed to provide or facilitate loans, credit enhancements or interest rate reductions/buy downs. As with other programs, included costs are utility costs, including the costs of any inducements for lenders, e.g., loan loss reserves, interest rate buy-downs, etc. Where participant costs are available for collection, these ideally will include the total customer share, i.e., both principal (the participant payment to purchase and install measures) and interest on that debt. Most of these programs will be directed toward enhancing credit or financing for industrial and/or agricultural facilities.	All Other IA

Detailed Category	Detailed Program Definition	Simplified Category
Self Direct	Industrial programs that are designed and delivered by the participant, using funds that otherwise would have been paid as ratepayer support for all DSM programs. These programs may be referred to as "opt out" programs, among other names.	**All Other IA** *(continued from previous)*
Other	Programs not captured by any of the specific industrial/agricultural categories but are sufficiently distinct to the industrial and/or agricultural sectors to not be treated as a "Commercial/Industrial Other" program. Example: An efficiency program aimed specifically at the industrial and agricultural sectors but is not clearly prescriptive or custom in nature might be classified as Other	

Table A4: Commercial/Industrial Programs

Detailed Category	Detailed Program Definition	Simplified Category
Custom	Programs designed around the delivery of site-specific industrial and commercial projects typically characterized by an extensive onsite energy assessment and identification and installation of multiple measures unique to that facility. This category is for programs that address **both** the commercial and industrial sectors and cannot be relegated to one sector or another for lack of information on participation or savings.	**Custom**
New Construction	Programs that incentivize owners or builders of new commercial and industrial facilities to design and build beyond current code or to a certain certification level, e.g., ENERGY STAR or LEED. This category should be used sparingly for those programs that cannot be identified with either the commercial or industrial sector on the basis of information available about participation or the source(s) of savings.	**New Construction**
Prescriptive	Prescriptive programs that encourage the purchase and installation of some or all of a specified set of pre-approved industrial and/or commercial measures but which cannot be differentiated by sector based upon the description of the participants or nature or source of the savings.	**Prescriptive**
Self Direct	Generally large commercial and industrial programs that are designed and delivered by the participant, using funds that otherwise would have been paid as ratepayer support for all DSM programs. This category is to be used for self-direct or opt-out programs that address both large commercial and industrial entities but which cannot be differentiated between these sectors because the nature and source of the savings is not available or is also too highly aggregated.	**All Other C&I**
Mixed Offerings	Programs that cannot be classified under any of the specific commercial or industrial program categories and span a large variety of offerings aimed at both the commercial and industrial sectors.	
Other	Programs not captured by any of the specific commercial/industrial categories but are sufficiently distinct to the industrial and/or agricultural sectors to not be treated as a "Commercial/Industrial Other" program	

Table A5: Cross-Cutting & Other Programs

Detailed Category	Detailed Program Definition	Simplified Category
Codes & Standards (C&S)	In C&S programs, the PA may engage in a variety of activities designed to advance the adoption, application or compliance level of building codes and end-use energy performance standards. Examples might include advocacy at the state or federal level for higher standards for HVAC equipment; training of architects, engineers and builder/developers on code compliance; and training of building inspectors in ensuring the codes are met.	Codes & Standards
Market Transformation (MT)	Programs that encourage a reduction in market barriers resulting from a market intervention, as evidenced by a set of market effects that is likely to last after the intervention has been withdrawn, reduced, or changed. MT programs are gauged by their market effects (e.g., increased awareness of energy efficient technologies among customers and suppliers); reduced prices for more efficient models; increased availability of more efficient models; and ultimately, increased market share for energy efficient goods, services and design practices. Example programs might include upstream incentives to manufacturers to make more efficient goods more commercially available; and point-of-sale or installation incentives for emerging technologies that are not yet cost effective. Workforce training and development programs are covered by a separate category. Upstream incentives for commercially available goods are sorted into the program categories for those goods (e.g., consumer electronics or HVAC).	Market Transformation
Workforce Development	Workforce training and development programs are a distinct category of market transformation program designed to provide the underlying skills and labor base for deployment of energy-efficiency measures.	
Marketing, Education, Outreach (ME&O)	ME&O programs include most standalone marketing, education and outreach programs (e.g., statewide marketing, outreach and brand development). In-school energy and water efficiency programs are also included in this category, including those that supply school children with kits of prescriptive measures such as CFLs and low-flow showerheads for installation at home.	Marketing, Education, Outreach
Other	This category is intended to capture all programs that cannot be allocated to a specific sector (or are multi-sectoral) and cannot be allocated to a specific program type.	Multi-Sector and Other
Planning/ Evaluation/ Other Programmatic Support	Non-ME&O support programs include the range of activities not otherwise accounted for in program-specific costs but needed for planning & designing a portfolio of programs and otherwise complying with regulatory requirements for DSM activities outside of program implementation. These activities generally are focused on the front and back end of program cycles, in assessing prospective programs; designing programs and portfolios; assessing the cost effectiveness of measures, programs and portfolios; and arranging for, directing or delivering reports and evaluations of the process and impacts of those programs - where those costs are not captured in program costs.	

Detailed Category	Detailed Program Definition	Simplified Category
Voltage Reduction/ Transformers	Programs that support investments in distribution system efficiency or enhance distribution system operations by reducing losses. The most common form of these programs involve the installation and use of conservation voltage regulation/reduction (CVR) systems and practices that control distribution feeder voltage so that utilization devices operate at their peak efficiency, which is usually at a level near the lower bounds of their utilization or nameplate voltages. Other measures may include installation of higher efficiency transformers. These programs generally are not targeted to specific end users but typically involve changes made by the electricity distribution utility.	**Multi-Sector and Other** *(continued from previous)*
Shading/ Cool Roofs	Shading/reflective programs include programs designed to lessen heating and cooling loads through changes to the exterior of a structure (e.g., tree plantings to shade walls and windows, window screens and cool/reflective roofs). These programs are not necessarily specific to a sector.	
Multi-Sector Rebates	Multi-sector rebate programs include providing incentives for commercially available end-use goods for multiple sectors (e.g., PCs, HVAC).	
Research	These programs are aimed generally at helping the PA identify new opportunities for energy savings (e.g., research on emerging technologies or conservation strategies). Research conducted on new program types or the inclusion of new, commercially available measures in an existing program are accounted for separately under cross-cutting program support.	**Research**

Table A6: Low-Income Programs

Detailed Category	Detailed Program Definition	Simplified Category
Low Income	Low-income programs are efficiency programs aimed at lower income households, based upon some type of income/means testing or eligibility. These programs most often take the form of single-family weatherization, but a variety of other program types also are included in this program category (e.g., multi-family/affordable housing weatherization, low-income direct-install programs).	**Low Income**

Table A7: Demand Response Programs

Detailed Category	Detailed Program Definition	Simplified Category
Time-of-Use Pricing	Demand-side management that uses a retail rate or Tariff in which customers are charged different prices for using electricity at different times during the day. Examples are time-of-use rates, real time pricing, hourly pricing, and critical peak pricing. Time-based rates do not include seasonal rates, inverted block, or declining block rates.	Pricing
Critical Peak Pricing	Demand-side management that combines direct load control with a pre-specified high price for use during designated critical peak periods, triggered by system contingencies or high wholesale market prices.	
Critical Peak Pricing with Load Control	Demand-side management that combines direct load control with a pre-specified high price for use during designated critical peak periods, triggered by system contingencies or high wholesale market prices.	
Real-Time Pricing	Demand-side management that uses rate and price structure in which the retail price for electricity typically fluctuates hourly or more often, to reflect changes in the wholesale price of electricity on either a day-ahead or hour-ahead basis.	
Peak Time Rebate	Peak time rebates allow customers to earn a rebate by reducing energy use from a baseline during a specified number of hours on critical peak days. Like Critical Peak Pricing, the number of critical peak days is usually capped for a calendar year and is linked to conditions such as system reliability concerns or very high supply prices.	Rebate
Other	Load management programs that are not captured by the specific DR categories named on this list.	Other

Appendix B: Data Metrics Glossary

In Appendix B, we provide definitions for reporting various types of energy efficiency program data and metrics: number of participants, program activity (e.g. number of measures installed, buildings retrofitted), budgets, committed spending, actual expenditures grouped into various categories of program costs, measure lifetimes, and energy savings.

 # Participants: Total number of consumers who participated in the subject program. For new construction programs, we classify "number of homes or buildings" as the number of participants. In some programs, the number of participants will be the number of structures or multifamily units. For other programs, the number of participants is the number of people participating in the program.

 # Units: Total number of measures installed or credited with savings in the subject program (e.g., number of CFLs for which savings are claimed in a lighting program). If the number of units reported for a new construction or retrofit program is defined as structures built or retrofitted to a higher level of energy performance, then these are not counted as units but as participants.

Administration Costs ($): Actual spending by the Program Administrator (PA) on costs associated with planning, designing and implementing an energy efficiency program in a defined geographic area, unless some of those costs are specifically accounted for elsewhere. In general, these costs pay for the salaries, training and equipping of internal PA staff to administer and implement a program or oversee the work of an outside contract implementer. If evaluation, compliance and marketing, outreach & education costs are not reported separately, then they typically are included under among program administrative costs. When a program is being terminated, shut-down costs also should be included among administrative costs.

Average Measure Lifetime (Years): Average measure lifetime is the weighted average economic lifetime of all measures installed in a program year.

Detailed Program Categorization: One of about 70 unique and specific program categories described in detail in the Detailed Program Category Definitions tab.

Marketing/Education/Outreach Costs ($): Marketing, Education & Outreach (ME&O) costs are actual PA spending on efforts to gain access to potential participants (e.g., through recruitment of community leaders), the promotion of a program or the education of participants in conservation/efficiency behaviors as a part of a program. Note that in some cases, PAs treat ME&O as its own program or may have a separate statewide ME&O effort that is not program specific and addresses branding for the PA or portfolio.

Evaluation Costs ($): Evaluation costs are PA spending on any form of Evaluation, Measurement & Verification (EM&V) activity, whether internal, external or pass-through funding for regulator-guided EM&V. EM&V includes impact and process evaluations and may include an allocation of portfolio-level EM&V down to each program.

Lifetime Electric Gross Savings (GWh): The expected gross electricity savings over the lifetime of the measures installed as part of the subject program. For the purposes of this collection effort, these values are reported by the PA.

Lifetime Electric Net Savings (GWH): The expected net electricity savings over the lifetime of the measures installed as part of the subject program. These savings may be calculated by multiplying the annual energy use reduction associated with those measures by the lifetime of the measures. For the

purposes of this collection effort, these values are reported by the PA. Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects.

Lifetime Gas Gross Savings (therm): The expected gross natural gas savings over the lifetime of the measures installed as part of the subject program. These savings may be calculated by multiplying the annual energy use reduction associated with those measures by the lifetime of the measures. Gross savings are the change in energy consumption that results directly from program-related actions taken by participants in an energy efficiency program, regardless of why they participated, i.e., gross savings include savings from free riders who would have taken the program-related actions with or without the existence of the program. For the purposes of this collection effort, these values are reported by the PA.

Lifetime Gas Net Savings (therm): The expected net natural gas savings over the lifetime of the measures installed as part of the subject program. These savings may be calculated by multiplying the annual energy use reduction associated with those measures by the lifetime of the measures. For the purposes of this collection effort, these values are reported by the PA.Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects.

Market Sector: Market sector is the segment of the economy that is the source for most of the acquired savings of the program.

Other Costs ($): Other costs include those categories of spending that may not fit well into the other categories (i.e., are not administration, incentives, ME&O or evaluation costs).

Participant Costs ($): Participant costs are the spending by program participants who receive incentives, technical assistance, product installations, training, energy efficiency information or other services, or items from a program in a given program year. These participant costs are the participant share of the costs of a measure installation or project; they may also take the form of fees. In the case of financed projects, they should include principle and interest.

Participant Incentive Costs ($): Actual spending by the PA on financial strategies intended to encourage a change in behavior related to energy use. Incentives can take various forms, e.g., rebates, subsidies, financing, prizes. Customer incentives are commonly used in energy efficiency programs as rebates for individual measures or as buy-downs in more custom-oriented projects, although incentives can be monetary inducements to manufacturers, distributors, contractors, or retailers to increase the availability and affordability of energy efficient goods and services in the market.

Program Administrator Name: Name of the entity that administers the energy efficiency programs for which the data is provided (PA). These entities include traditional utilities; energy efficiency and clean energy utilities; quasi-state agencies (e.g., NYSERDA); and third-party administrators (e.g., Hawaii Energy).

Program Name: Name of the program as used in the report or evaluation.

Resource Program: A resource program is a program intended and designed for directly acquiring energy savings.

Simplified Program Categorization: One of about 30 general program categories that represent a higher level of aggregation among programs and a lower level than market sector. In general, simplified program

categories are characterized by a more detailed breakdown of sector, e.g., Industrial vs C&I, and an indication of whether the program is single measure or comprehensive and prescriptive versus custom.

Total Claimed Gross Annual Electric Savings (KWh): Gross annual incremental electricity savings as reported by an implementer or administrator, using their own staff and/or an evaluation consulting firm, after the subject energy efficiency activities have been completed in the defined geographic area (e.g., a utility territory within a state). Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Gross savings are the change in energy consumption that results directly from program-related actions taken by participants in an energy efficiency program, regardless of why they participated, i.e., gross savings include savings from free riders who would have taken the program-related actions with or without the existence of the program. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Claimed Gross Annual Gas Savings (therm): Gross annual incremental natural gas savings as reported by an implementer or administrator, using their own staff and/or an evaluation consulting firm, after the subject energy efficiency activities have been completed in the defined geographic area (e.g., a utility territory within a state). Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Gross savings are the change in energy consumption that results directly from program-related actions taken by participants in an energy efficiency program, regardless of why they participated, i.e., gross savings include savings from free riders who would have taken the program-related actions with or without the existence of the program. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Claimed Net Annual Electric Savings (KWh): Net annual incremental savings as reported by an implementer or administrator, using their own staff and/or an evaluation consulting firm, after the subject energy efficiency activities have been completed in the defined geographic area (e.g., a utility territory within a state). Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Claimed Net Annual Gas Savings (therm): Net annual incremental natural gas savings as reported by an implementer or administrator, using their own staff and/or an evaluation consulting firm, after the subject energy efficiency activities have been completed in a specific geographic area (e.g., a utility territory within a state). Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Electric Budget ($): Total dollar amount that a program administrator budgeted or was projected to spend on an electric energy efficiency program over the defined program year in the defined geographic area where the program is to be implemented. The total program budget includes all program administrative costs, incentive costs, marketing & outreach costs and, often, evaluation costs. Performance incentives are not considered part of the program budget and should be excluded.

Total Electric Committed Spending ($): Total electric committed spending is program spending associated with measures and projects that are approved, contracted and often implemented during the program year but the actual outlay, e.g., payment of a rebate after installation, occurs after the program year has ended.

Total Electric Expenditures ($): Total dollar amount that a program administrator actually spent on an electric energy efficiency program over the defined program year in the defined geographic area where the program is implemented. Total program expenditures include all program administrative costs, incentive costs, marketing & outreach costs and, often, evaluation costs. Performance incentives are not considered part of the program costs and should be excluded.

Total Evaluated Annual Gross Electric Savings (KWh): Annual incremental gross electric savings estimates are generated by an independent, third-party evaluator after the subject energy efficiency activities have been implemented and an impact evaluation has been completed in the defined geographic area (e.g., a utility territory within a state). Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Gross savings are the change in energy consumption that results directly from program-related actions taken by participants in an energy efficiency program, regardless of why they participated, i.e., gross savings include savings from free riders who would have taken the program-related actions with or without the existence of the program. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Evaluated Annual Net Electric Savings (KWh): Annual incremental net electric savings estimates are generated by an independent, third-party evaluator after the subject energy efficiency activities have been implemented in the defined geographic area (e.g., a utility territory within a state) and an impact evaluation has been completed. Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Evaluated Gross Annual Gas Savings (therm): Annual incremental gross natural savings estimates are generated by an independent, third-party evaluator after the subject energy efficiency activities in a specific geographic area (e.g., a utility territory within a state) have been implemented and an impact evaluation has been completed. Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Gross savings are the change in energy consumption that results directly from program-related actions taken by participants in an energy efficiency program, regardless of why they participated, i.e., gross savings include savings from free riders who would have taken the

program-related actions with or without the existence of the program. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Evaluated Net Annual Gas Savings (therm): Annual incremental net natural savings estimates are generated by an independent, third-party evaluator after the subject energy efficiency activities in the defined geographic area (e.g., a utility territory within a state) have been implemented and an impact evaluation has been completed. Annual incremental savings are the difference between the amount of energy savings acquired or planned to be acquired as a result of energy efficiency activities in one year and the amount of energy savings acquired or planned to be acquired as a result of the energy efficiency activities in the prior year. Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Gas Budget ($): Total dollar amount that a program administrator plans to spend on a natural gas energy efficiency program over the defined program year in the defined geographic area where the program is to be implemented. The total program budget includes all program administrative costs, incentive costs, marketing & outreach costs and, often, evaluation costs. Performance incentives are not considered part of the program budget and should be excluded.

Total Gas Committed Spending ($): Total gas committed spending is program spending associated with measures and projects that are approved, contracted and often implemented during the program year but the actual outlay, e.g., payment of a rebate after installation, occurs after the program year has ended.

Total Gas Expenditures ($): Total dollar amount that a program administrator actually spends on a natural gas energy efficiency program over the defined program year in the defined geographic area where the program is implemented. Total program expenditures include all program administrative costs, incentive costs, marketing & outreach costs and, often, evaluation costs. Performance incentives are not considered part of the program costs and should be excluded.

Total Projected Gross Annual Electric Savings (KWh): Gross annual incremental electricity savings as estimated by an implementer or administrator before the subject energy efficiency activities have been implemented. Projected savings are typically estimates prepared for program/portfolio design and planning purposes, based upon pre-cycle estimates of factors such as per-unit savings values, operating hours, installation rates, and savings persistence rates. Gross savings are the change in energy consumption that results directly from program-related actions taken by participants in an energy efficiency program, regardless of why they participated, i.e., gross savings include savings from free riders who would have taken the program-related actions with or without the existence of the program. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Projected Gross Annual Gas Savings (therm): Gross annual incremental gas savings as estimated by an implementer or administrator before the subject energy efficiency activities have been implemented. Projected savings are typically estimates prepared for program/portfolio design and planning purposes, based upon pre-cycle estimates of factors such as per-unit savings values, operating hours, installation rates, and savings persistence rates. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

Total Projected Net Annual Electric Savings (KWh): Net annual incremental electricity savings as estimated by an implementer or administrator before the subject energy efficiency activities have been implemented. Projected savings are typically estimates prepared for program/portfolio design and planning purposes, based upon pre-cycle estimates of factors such as per-unit savings values, operating hours, installation rates, and savings persistence rates. Net savings are the change in energy consumption that is attributable to a particular energy efficiency program. This change in energy use may include, implicitly or explicitly, the influence of such factors as free ridership, participant and nonparticipant spillover, and induced market effects. Note that these are annualized, "full-year" savings, i.e., regardless of when measures were installed during the program year, the first-year cost of savings is derived for a full, 12-month first year.

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