



# CALIFORNIA PUBLIC UTILITIES COMMISSION



## ENERGY EFFICIENCY POLICY MANUAL VERSION 2

**Prepared by the Energy Division  
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## Introduction

This document contains the California Public Utilities Commission's (Commission) policy rules in the development and evaluation of energy efficiency programs in California. The policy rules in this document guide applicants proposing energy efficiency programs to the Commission in designing program proposals, applying for funding, and implementing their programs.

This document, referred to as the Policy Manual (manual), shall apply to all programs commencing subsequent to the date of the adoption of this document by the Commission. This manual applies to energy efficiency programs funded through the following mechanisms:

- The electric public goods charge (PGC), as authorized by Public Utilities (PU) Code Sections 381 and 399<sup>1</sup>
- The gas PGC, as authorized by PU Code Sections 890-900.

The rules in this manual do **not** currently apply to:

- Low-income energy efficiency programs funded by the electric or gas PGC
- California Alternative Rates for Energy (CARE) for low-income customers funded out of electric or gas PGC<sup>2</sup>
- Interruptible rate or load management programs<sup>3</sup>
- Self-generation and demand-responsiveness programs developed in response to AB970 (PU Code Section 399.15(b)).<sup>4</sup>

This manual contains the most recent adopted Commission policy rules relating to energy efficiency as of this writing and is the revised version of the manual adopted in Decision (D.) 01-11-066. This manual replaces the "Adopted Policy Rules for Energy Efficiency Activities" adopted in Commission Resolution E-3592 and modified in subsequent decisions including D.00-07-017 and D.01-01-060. Those policy rules, initially recommended by the California Board for Energy Efficiency and adopted in Commission Resolution E-3592, are no longer in effect and are superseded by this manual and its subsequent editions.

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<sup>1</sup> Consistent with the provisions of AB117 (Chapter 838, Chaptered September 24, 2002), Section 381.1 was added to Public Utilities Code permitting community choice aggregators (CCAs) to apply to administer cost-effective energy efficiency and conservation programs. The Commission adopted certain procedures in Decision (D.) 03-07-034 (dated July 10, 2003) to implement portions of AB 117 affecting the allocation of energy efficiency program funds.

<sup>2</sup> A separate low-income rulemaking was initiated on August 23, 2001 (R.01-08-027).

<sup>3</sup> Interruptible and load management programs are primarily being addressed in Rulemaking (R.) 00-10-002.

<sup>4</sup> These programs were adopted in D.01-03-073, in R.98-07-037.

In addition, Appendix A details other materials and supporting documents that are incorporated into this policy manual by reference, and may include additional information on the application of these rules. Appendix B contains common terms on energy efficiency; Appendix C provides definitions in alphabetical order.

Finally, the rules contained in this manual do not apply to pre-1998 program commitments by the Investor-Owned Utilities (IOUs), which are to be funded using pre-1998 carryover funds, or to any shareholder incentives associated with those commitments, both of which remain subject to the demand-side management (DSM) policy rules that were in place at the time those commitments were made.<sup>5</sup>

This document is organized into the following sections:

1. Policy Objectives
2. Program Design Requirements and Eligibility Guidelines
3. Funding for Community Choice Aggregators (CCAs)
4. Cost-Effectiveness
5. Budgets and Compensation
6. Evaluation, Measurement, and Verification Requirements
7. Process and Procedural Issues

The Commission, or the Energy Efficiency Assigned Commissioner, Assigned Administrative Law Judge (ALJ), or the Energy Division may update this manual, in whole or in part, at any time. In addition, we may update or modify any supporting documents incorporated into these rules by reference, separately or alongside modifications made to this document.

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<sup>5</sup> See, for example, *Protocols and Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand-Side Management Programs*, in D.93-05-063, revised March 1998.

## 1. Policy Objectives

The Commission will select programs that are cost effective, achieve maximum energy and peak demand savings, provide access to energy efficiency alternatives to underserved or hard-to-reach, have the ability to overcome market barriers and take advantage of coordination with existing programs. When evaluating program proposals, the Commission will determine how well each utility or non-utility program proposal meets these objectives. These objectives are considered primary criteria in ranking proposals. The Commission will use the point values listed below for each criterion.

### **Primary Criteria For: PGC “Hardware” and Incentive Programs**

**(1) Cost-Effectiveness (30 points for program net benefits,  
10 points for benefit-cost ratio) 40 Points**

All proposals for energy efficiency programs will be required to provide an estimate of life-cycle benefits and cost from various points of view, using the assumptions detailed in Chapter 4. The Commission will use this information to compare and rank program proposals designed for similar uses, markets, or customer segments.

**(2) Long-term Annual Energy Savings 20 Points**

An important goal of any Commission energy efficiency program is to create permanent and verifiable energy savings over the life cycle of the relevant energy efficiency. Programs are not required to create immediate short-term energy savings, so long as there is a clear, logical, and verifiable link between program activities and eventual energy savings. In other words, the Commission will strive for sustainability in the consumption behaviors and investment choices its programs are designed to stimulate. In general, long-term energy savings are those that continue over at least a three-year period.

**(3) Electric Peak Demand Savings 15 Points**

Programs paid for by electric (PGC funds should emphasize long-term and permanent peak demand savings. Such programs may include, for example, installation of permanent measures to reduce peak demand, such as variable-speed drives on motors, but should not include programs that create peak demand savings only through temporary behavioral change, such as air conditioner cycling or programs that encourage consumers to turn off lighting or air conditioning.

**(4) Equity 10 Points**

The Commission will generally prioritize programs that provide access to energy efficiency alternatives for underserved or hard-to-reach markets. Although those customers contribute equally to the funds collected to support program activities, in the past, they have had access to fewer program alternatives than other customers. The Glossary (Appendix C to this manual) provides a more detailed definition of underserved and hard-to-reach markets, either from the point of view of customer class (e.g., multifamily building residents, small businesses) or geography (e.g., rural customers).

**(5) Ability to Overcome Market Barriers****5 Points**

Any program proposed for Commission approval should include a description of the type of barrier it is designed to address or overcome. The following examples of barriers are listed in order of importance; programs may also address other barriers not listed below:

- Higher start-up expense for high-efficiency measures relative to standard-efficiency measures
- Lack of consumer information about energy efficiency benefits
- Lack of financing for energy efficiency improvements
- Split incentives (between owners/landlords and tenants)
- Lack of a viable and competitive set of providers of energy efficiency services in the market
- Barriers to the entry of new energy efficiency service providers
- Lack of availability of high-efficiency products

**(6) Innovation****5 Points**

The Commission will prioritize programs that present new ideas, new delivery mechanisms, new providers or energy efficiency services, or new and emerging technologies to address new program areas, to overcome existing shortcomings, or to improve the effectiveness of existing programs.

**(7) Coordination With Programs Run by Other Entities****5 Points**

To minimize confusion and overlap for consumers, the Commission desires program proposals that take advantage of coordination with other existing programs, including those run by other state agencies, private entities, municipal utilities, or the federal government.

**Primary Criteria For: Information-Only and Statewide Marketing and Outreach Programs**

The Commission will support information-only programs that provide customers with general information on energy efficiency and conservation opportunities. Some information programs may provide training and educate industry participants; others may promote efficient motors or improving industrial processes. Some of the industry participants include lodging, convenience stores, contractors/subcontractors, schools, manufacturers, builders or inspectors.

For statewide marketing and outreach, the Commission will select programs that convey consistent statewide messages to individual consumers through mass-market advertising campaign. The statewide messages should (1) be on simple things individual consumers can do to reduce their bills and risk of rolling blackouts and /or to increase consumer awareness and participation in energy efficiency programs available to them throughout the state; (2) focus on energy efficiency rather than conservation; and (3) persuade consumers to make permanent changes to their homes and businesses so that energy savings are not dependent on temporary or impermanent behavioral change.

Information-only and statewide marketing and outreach programs will be evaluated using criteria most relevant to these programs; thus, cost-effectiveness or demonstration that programs will reduce peak demand will not be required. These programs will be evaluated using the following criteria:

<b>(1) Ability to Overcome Market Barriers</b>	<b>25 Points</b>
<b>(2) Equity</b>	<b>25 Points</b>
<b>(3) Innovation</b>	<b>25 Points</b>
<b>(4) Coordination with other Program Implementers</b>	<b>25 Points</b>

In addition, the Commission will consider the following secondary criteria and use the point values for each criterion.

### **Secondary Criteria For: PGC “Hardware/Incentive and Information-Only/Statewide Marketing and Outreach Programs**

<b>(1) Quality and viability of program design</b>	<b>30 Points</b>
<b>(2) Distribution and reasonableness of budget</b>	<b>20 Points</b>
<b>(3) Program objectives and tasks clearly identified</b>	<b>20 Points</b>
<b>(4) Experience with successful delivery of similar programs</b>	<b>20 Points</b>
<b>(5) Alleviates transmission constraints in an area identified by California Independent System Operator</b>	<b>10 Points</b>

Although not a selection criteria, in order to execute the contract, parties who implement energy efficiency programs must demonstrate that they will comply with all local, state, and federal laws, and that they have or will obtain all necessary licenses.

Commission staff will review proposals and recommend the design of the portfolio as follows: (1) Staff will evaluate each qualifying proposal using the primary and secondary criteria as set forth above; (2) The proposals will be ranked in order of their scores on the primary criteria to create a short list of highest ranking proposals; (3) The proposals in this short list will then be ranked based on their combined primary and secondary criteria scores; and (4) Finally, a portfolio of programs will be assembled from this smaller pool of proposals. Staff will go through the ranked list of proposals from top to bottom and will consider each proposal's fit into the portfolio. The portfolio must adhere to available funding by utility territory and have a total resource cost (TRC) ratio greater than one. Staff will compile a portfolio of programs that balances the following goals:

- Maximized energy savings
- Strong cost-effectiveness
- Equitable geographic distribution
- Diversity of target markets
- Equity by rate class
- Equity between gas and electric program offerings and energy savings
- Diversity of program offerings
- Multiple languages offered to program participants

Staff will provide its recommended portfolio of programs to the Commission. The Commission will make the final determination on the programs that will qualify for funding.

## 2. Program Design Requirements and Eligibility Guidelines

Energy efficiency activities encompassed by this document are those that require permanent replacement of energy-using equipment with more efficient models. Only those activities that fall within this definition or support the ultimate goal (such as related information or education activities), will be considered for PGC funding.

### **Types of Activities Ineligible for PGC Funding**

- Cogeneration programs or projects
- Load-shifting programs that rely **only** on temporary or impermanent behavioral change (programs that install *permanent* equipment to manage load, such as energy management systems, are eligible)
- Distributed or self-generation
- Technology research and development
- Fuel switching

The above programs are excluded from funding to ensure maximum funding availability for energy efficiency programs, since other funding sources exist for the listed activities.

### **Types of Programs Eligible for PGC Funding<sup>6</sup>**

1. Statewide Programs
2. Local Programs
3. Statewide Marketing and Outreach
4. Market Assessment and Evaluation Activities

For each program cycle, the Commission may adopt different mix of programs depending on the types of programs proposed, how programs meet adopted criteria, and the potential for energy savings in relevant markets.

To assure the state receives the benefit of the best and most cost-effective package of energy efficiency programs, any party may propose any type of energy efficiency program for funding. Additionally, all programs selected for PGC funding will be considered on a program-by-program basis. Thus, if an applicant proposes more than one program as part of a portfolio, each program will be chosen individually on a case-

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<sup>6</sup> Detailed program descriptions are contained in D.01-11-066 and D.03-08-067.

by-case basis. It is because each program generally has a unique combination of objectives, target market or market segment, marketing approach, energy efficiency measures included, strategy for addressing a market failure, and plan for evaluation and savings measurement and verification.

## Required Program Elements

All programs considered for selection by the Commission will be required to include the following general elements:

- A defined market segment the proposed program serves (from the market segments listed in Appendix B)
- Program concept and rationale that includes objectives and a summary of the barrier(s) the program is designed to address
- A delivery strategy (list and choose from among the strategies listed in Appendix B)
- A description of the program process including implementation plan, eligible program participants, processes for equipment purchase and installation
- A defined set of energy efficiency measures or technologies included in the program and associated per-unit energy savings data and cost effectiveness inputs (if applicable).
- A marketing and outreach plan
- A program budget (using the workbook template provided by Energy Division)
- Cost-effectiveness calculations (using the workbook template provided by Energy Division)
- A set of indicators or benchmarks to be used to determine to what extent the program has been successful
- An evaluation and/or measurement and verification plan and recommended independent evaluation consultants
- A description of program implementers qualifications
- A work plan that includes proposed program staffing and timeline

## Double-dipping

Finally, programs should be designed to eliminate potential double dipping by program participants into more than one ratepayer- or taxpayer-funded public purpose program. The risk of abuse can be minimized through careful participant tracking and coordination among programs. Customers accepting financial incentives through any program approved by the Commission should be required to acknowledge the source of funds by signing an affidavit or other paperwork declaring that they have received no funds for the same activity from another program or source.

### 3. Funding for Community Choice Aggregators (CCAs)<sup>7</sup>

#### **Guidelines for Funding Application**

Any party that has been established by local authorities as a CCA pursuant to California Public Code Section 331.1 may apply for energy efficiency funding subject to the guidelines, criteria, schedules and EM&V that apply to third parties, as set forth in this Policy Manual and Commission rulings and orders. The CCA need not have Commission authority to aggregate electrical load or purchase energy on behalf of its customers in order to apply for energy efficiency program funding pursuant to Section 381.1.

In determining whether to approve an application to become an administrator, the Commission will consider the value of program continuity and planning certainty and the value of allowing competitive opportunities for potentially new administrators. The Commission will weigh the benefits of each party's proposed program to ensure that the program meets the following objectives:

- (1) Is consistent with the goals of the existing programs established pursuant to Section 381.
- (2) Advances the public interest in maximizing cost-effective electricity savings and related benefits.
- (3) Accommodates the need for broader statewide or regional programs.

The Commission may adjust the share of energy efficiency program activities directed to a CCA's territory to promote equity and cost-effectiveness. The Commission will maintain energy efficiency programs targeted to specific locations where needed to avoid or defer transmission or distribution system upgrades irrespective of whether the loads in that location are served by the CCA or an electrical corporation. The Commission may require program administrators to share information on program impacts with the CCA and to accommodate any unique community program needs by shifting emphasis of approved programs, provided that the shift in emphasis does not impact the effectiveness of overall statewide or regional programs.

For purposes of AB 117, CCAs may apply for energy efficiency program funding consistent with the timing of Commission authorized solicitations for energy efficiency proposals.

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<sup>7</sup> Commission D.03-07-034 adopted modifications to the energy efficiency manual to include provisions for CCAs.

## **CCA Applications for Program Funding Extensions and Renewals**

A CCA with program funding may apply to extend programs by submitting program implementation plan revisions to the Commission. The revised program implementation plans may propose existing or new programs. The program implementation plan revisions should consider evaluation, measurement and verification (EM&V) results from the previous term, if available or if required by the Commission. If the EM&V results are not final, CCAs should submit initial results.

The Commission may accept all, part, or none of the CCA's proposed programs. The Commission may condition additional funds on program changes. The CCA should be prepared to provide additional information on proposed changes.

## **Allocating the Proportional Share of Program Activities**

In cases where a CCA is established but does not administer energy efficiency programs pursuant to Section 381, the jurisdictional utility shall propose how to allocate the proportional share of funding to that CCA's territory. The utility serving the CCA's territory shall submit its estimate of the proportional share for review of the estimate's accuracy and reasonableness. That estimate should be made available to the CCA upon request and to entities considering whether to create a CCA.

Consistent with Section 381.1, the Commission may adjust the proportional share allocated to a CCA's territory as follows:

- (a) To the extent that energy efficiency and conservation programs are targeted to specific locations to avoid or deter transmission or distribution system upgrades, the targeted expenditures shall continue and
- (b) To accommodate any unique community program needs by placing more, or less, emphasis on particular approved programs to the extent that these special shifts in emphasis in no way diminish the effectiveness of broader statewide or regional programs.
- (c) To ensure an equitable and cost-effective allocation of energy efficiency program activities.

## **Non-CCA Administrator Roles and Obligations**

Any party may propose programs for all or part of a CCA's territory whether or not the CCA proposes energy efficiency programs for its customers.

Non-CCA administrators must coordinate with each other and the CCA to ensure that, to provide advance information where appropriate about the likely impacts of energy efficiency programs and to assure that CCAs are aware of existing programs for purposes of planning and avoiding duplication of program efforts.

Non-CCA administrators must provide implementation plans and impact forecasts to any party requesting those documents.

## **Utility Data**

Utilities are responsible to develop information that will assist cities, counties and CCAs in resource planning and determining whether to apply for Section 381 funding. Each utility shall provide an estimate of the proportional share as described herein for a CCA's territory or proposed territory. It shall provide all types of information required by the Commission in its most recent order addressing CCA information and shall work with CCAs, cities and counties to develop data resources and information that is relevant to CCA resource planning and program implementation

## 4. Cost-Effectiveness

Though not every program selected will necessarily be cost-effective given the variety of policy objectives being pursued, the Commission will select a cost-effective portfolio of programs.

Measuring the cost-effectiveness of energy efficiency programs serves several purposes:

- To assist in determining whether a program is warranted (prospectively or on a continuing basis);
- To assist in determining prospectively what program activities are appropriate;
- To assist in understanding motivations for program participation by customers and service providers to customers;
- To assist in determining funding allocations for various programs;
- To assist in modifying programs during operation to increase their effectiveness;
- To assist in assessing retroactively to what extent programs have been successful in achieving the Commission's policy objectives.

### Methodology

Cost-effectiveness is an important measure of value and performance. In order to ensure a level playing field for multiple programs, the Commission will continue to use the standard cost-effectiveness methodologies articulated in the California Standard Practices Manual (SPM): Economic Analysis of Demand-Side Management Programs. See Appendix A of this manual for information on how to obtain a copy of the SPM.

Two cost-effectiveness tests identified in the SPM are particularly important to the Commission in evaluating energy efficiency programs on an ongoing basis. The first is the Total Resource Cost (TRC) test – Societal Version. This test, as defined in the SPM, is intended to measure the overall cost-effectiveness of energy efficiency programs from a societal perspective, taking into account benefits and costs from more than just an individual perspective. The Commission will primarily rely upon the results of this test in assessing program cost-effectiveness.

The TRC should be calculated by treating programs as multi-year (rather than single-year) activities so that programs explicitly designed as integrated, multi-year strategies, which may have modest benefits (and/or high start-up costs) in early program years, could be evaluated considering the expected larger benefits (and/or lower costs) in later program years.

The Commission will not rely on the TRC exclusively in making funding allocation decisions among programs, but instead will use cost-effectiveness as one criterion among many (as summarized in Chapter 1 above).

In addition to the TRC test, the Commission will rely on the Participant Test (also identified in the SPM) to evaluate programs that are aimed at inducing individual customers to make energy efficiency decisions. The Participant Test measures the cost-effectiveness of a program from the perspective of energy consumers participating in the program. Proposals for programs designed to provide financial incentives directly to customers should include the results of the Participant Test as well as the TRC.

In addition to the SPM, parties proposing programs should refer to the workbook template provided by the Energy Division.

## **Established Cost-Effectiveness Inputs**

Certain inputs to the cost-effectiveness tests identified in the SPM have already been established by the Commission. Parties should use these inputs presenting their cost-effectiveness analysis to the Commission in their program proposals. These established inputs, along with their sources, are given below. All of the values given below represent the best-available data at the time of adoption of this manual. The Commission will update these assumptions periodically.

### **Effective Useful Lives of Energy Efficiency Measures**

Standard values for effective useful lives (EULs) or measures are the standard assumptions used to determine the life-cycle savings associated with certain common energy efficiency measures. The EUL is generally an estimate of the median number of years that the measures installed under a given program are still in place and operable.<sup>8</sup> If a program proposal involves any of the measures listed below, the standard assumption should be used. If a proposed program involves a measure not listed below, the applicant should propose an appropriate assumption for the EUL, citing any relevant studies or other data sources. In order to minimize uncertainty, EULs will be limited to a maximum of 20 years, even if particular devices may be expected to survive longer.

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<sup>8</sup> Source: *Procedures for the Verification of Costs, Benefits, and Shareholder Earnings from Demand Side Management (DSM) Programs (MA&E Protocols)*. See also p. 26 of September 25, 2000 CALMAC report prepared pursuant to Ordering Paragraph 9 of D.00-07-017.

**Table 4.1. Effective Useful Lives of Energy Efficiency Measures**

<b>Measure</b>	<b>Lifetime</b>	<b>Measure</b>	<b>Lifetime</b>
<b>Lighting</b>		<b>HVAC</b>	
Ballast – Dimmable	16	Air Conditioners – High Efficiency	15
Ballast – Electronic	16	Boiler – High Efficiency	20
CF- Screw-in Replaceable Lamp (Modular)	8	Bypass/Delay Timer	15
Compact Fluorescent Hardware Fixture	16	Chiller – High Efficiency	20
Delamping/Fixture Modifications/Removal	16	Chiller – Variable Speed Drive	20
Exit Sign – CF Hardware Kid/LED/ Electro-Luminescent	16	Cooling Towers/Evaporative Condenser	15
Fluorescent Fixture – T8	16	Furnace – High Efficiency	20
Halogen Lamp	0.6	Glazing – High Shade Coefficient	20
HID Fixture	16	Heat Pump – Packaged	20
Occupancy Sensor	8	HVAC/Space Heating/ Efficiency (Gas)	15
Photocell	8	Insulation	20
T8 Fixtures – 17 Watt Lamp, 2ft or 32-watt Lamp, 4ft	16	Reflective Window Film/ Windows	10
Time Clock – Lighting	8	Set-Back Thermostat	11
Fixture: T8 Lamp & Electronic Ballast	16	Time clock	10
High Efficiency Lighting	16	Heat Pump – Split System	20
High Output T5 Fixture	16	AC Packaged Terminal Units	15
Induction Lamps	2	Adjustable Speed Drive	15
Induction Fixture	16	Ground Source Heat Pump	15
Indoor or Outdoor System Modification	16	Heat Pump with Integrated Water Heating	20
Lighting Controls	16	Packaged HVAC Systems	15
Daylighting Controls	16	Water Cooled Chillers	20
Lighting Power Density	16	Insulation Package	20
<b>Refrigeration</b>		Energy Management System	15
Auto Closer for Cooler/Freezer	8	Reduce Internal Load	15
Door Gaskets	4	Evaporative Coolers	15
Floating Head Pressure	16	HVAC/Refrigeration – SPC	20
Heatless Door	16	Nonresidential Gas – AC	20
Humidistat Control for Anti-Sweat Heater	12	<b>Hot Water</b>	
Insulation on Refrigeration Suction Line	11	Water Heater – Gas	15
Night Covers for Display Cases	5	Horizontal Clothes Washer	10

**Table 4.1 (continued). Effective Useful Lives of Energy Efficiency Measures**

<b>Measure</b>	<b>Lifetime</b>	<b>Measure</b>	<b>Lifetime</b>
PSC Evaporator Motor – Walk-in/Display	16	Efficient Dishwashing	5
Refrigeration Case Doors – Glass/Acrylic	12	Water Heater Controls	15
Refrigerator Case with Doors	16	Domestic Hot Water Boiler	20
Refrigerator Condensate Evaporator – Elec/Non Elec	8	<b>Miscellaneous</b>	
Strip Curtains for Walk-Ins	4	Cooking Equipment	12
Ballast: Electronic, for display case	16	High Efficiency Engine	15
Defrost	16	Kiln/Oven/Furnace	20
FHP & EFF Conditioner	16	Thermal Night Curtains	5
High-efficiency Liquid Suction Heat Exchangers	16	Custom Measures – SPC	15
Night Shields on Refrigerator and Freezer Cases	16	Local Government Initiatives	11
Refrigerator: Evaporative Fan Controller	5	Extrusion Equipment	15
Supermarket Systems	14	Audits	3
		Plug Load Sensor	10
		Information	1
		High Efficiency Motors	15
		Variable Frequency Drives	15
		Process Overhaul	20
		Pump Test	15
		System Controls	15

### Net-to-Gross Ratios

Net-to-gross ratios (NTGRs) are used to estimate free-ridership occurring in energy efficiency programs. Free riders are program participants who would have undertaken an activity, whether or not there was an energy efficiency program promoting that activity. An NTGR is a factor that represents the net program load impact divided by the gross program load impact. This factor is applied to gross program savings to determine the program's net impact.<sup>9</sup> This factor is important in determining actual energy savings attributable to a particular program, as distinct from energy efficiency occurring naturally (in the absence of a program).

Applicants should refer to the SPM to determine the appropriate manner in which to use NTGRs in submitting program cost-effectiveness information.

Program proposals should use the applicable NTGRs listed below. If a program is not listed below, or if a proposed program design deviates substantially from past design of related programs, program proposals may utilize a default NTGR of 0.8 until such time

<sup>9</sup> Source: p. 26 of September 25, 2000 CALMAC report, referencing D.00-07-017 ordering paragraph 9.

as a new, more appropriate, value is determined in the course of program evaluation. All existing programs not listed below shall also use a default value of 0.8.

**Table 4.2. Net-to-Gross Ratios**

<b>Program Area/Program</b>	<b>Net-to-Gross Ratio</b>
<b>Residential</b>	
Appliance early retirement and replacement	0.80
California Home Energy Efficiency Rating System (CHEERS)	0.72
Residential Audits	0.72
Refrigerator Recycling/Freezer Recycling	0.53/0.57 <sup>10</sup>
Residential Contractor Program	0.89
Emerging Technologies	0.83
All other residential programs	0.80
<b>Nonresidential</b>	
Advanced water heating systems	1.00
Agricultural and Dairy Incentives	0.75
Coin Laundry and Dry Cleaner Education	0.70
Commercial and agricultural information, tools, or design assistance services	0.83
Comprehensive Space Conditioning	1.00
Lodging Education	0.70
Express Efficiency (rebates)	0.96
Energy Management Services, including audits (for small and medium customers)	0.83
Food Services Equipment Retrofit	1.00
Industrial Information and Services	0.74
Large Standard Performance Contract	0.70 <sup>11</sup>
All other nonresidential programs	0.80
<b>New Construction</b>	
Industrial and Agricultural Process	0.94
Industrial new construction incentives	0.62
Savings by Design	0.82 <sup>12</sup>
All other new construction programs	0.80

### Discount Rate

In evaluating all energy efficiency program proposals, the Commission shall use a pre-established discount rate of 8.15%. This standard assumption, used as the default in

<sup>10</sup> D.03-04-055, Attachment 2, page 7 (Program Descriptions)

<sup>11</sup> "Improving the Standard Performance Contracting Program: An Examination of the Historical Evidence and Directions for the Future," XENERGY, Nov. 29, 2001, page E-6, footnote 2.

<sup>12</sup> "An Evaluation of the Savings By Design Program," RLW Analytics, March 31, 2003, page 3, Table 2 and page 5.

recent years, may be updated in the future. The discount rate is used simply to translate potential benefits in future years into current year terms.

### **Avoided Costs**

In order to estimate the value of the energy efficiency occurring as a result of program activities, parties will need to be able to estimate the “avoided cost” of the provision of that supply of energy. Avoided costs represent the value of the electricity or natural gas that, in the absence of a program, would need to be procured and delivered to an individual consumer. When an energy efficiency programs creates a reduction in demand for electricity or natural gas, costs are avoided from the perspective of the consumer, the utility, and society.

The Commission will continue to use six sets of avoided cost streams for the generation of electricity and the procurement of natural gas. These values should be used in the TRC-Societal Version Test, to apply to all program proposals on a statewide basis:

#### Electric

- Avoided generation costs
- Avoided transmission and distribution costs
- Environmental externalities

#### Gas

- Commodity procurement costs
- Transmission and distribution costs
- Environmental externalities

The Commission will use retail rates for the avoided cost streams used in the Participant Test, as prescribed by the SPM. These retail rates are specific to both the IOU territory and the program participant rate class in which an energy efficiency program is operating.

Not all of the above-avoided cost streams are necessary for all cost-effectiveness tests described in the Standard Practices Manual. Refer to that manual for more details on how to use the avoided cost streams.

Table 4.3 gives the Commission’s generation of electricity and procurement of natural gas avoided cost assumptions. Sources of each stream of values are given below the table. These estimates will be updated as necessary. Any new avoided costs will be utilized on a prospective basis for future program planning, and not applied retroactively to evaluate existing programs that were developed based on an earlier set of avoided cost assumptions.

Table 4.3. Electric and Gas Avoided Costs

Year	Electric (\$ per MWh)				Gas (\$ per therm)			
	Genera tion	Trans. & Dist.	Env. Ext.	Total Electric	Comm odity	Trans. & Dist.	Env. Ext.	Total Gas
2002	\$99.05	\$5.25	\$6.55	\$110.85	\$0.49	\$0.03	\$0.06	\$0.58
2003	\$56.71	\$5.50	\$6.80	\$69.01	\$0.37	\$0.03	\$0.06	\$0.47
2004	\$53.41	\$5.74	\$7.04	\$66.19	\$0.34	\$0.03	\$0.06	\$0.43
2005	\$54.51	\$6.00	\$7.20	\$67.71	\$0.35	\$0.03	\$0.06	\$0.45
2006	\$49.61	\$6.20	\$7.40	\$63.21	\$0.37	\$0.03	\$0.07	\$0.47
2007	\$51.55	\$6.50	\$7.60	\$65.65	\$0.39	\$0.03	\$0.07	\$0.49
2008	\$53.25	\$6.75	\$7.85	\$67.85	\$0.40	\$0.04	\$0.07	\$0.51
2009	\$55.10	\$7.04	\$8.14	\$70.28	\$0.42	\$0.04	\$0.07	\$0.53
2010	\$57.08	\$7.34	\$8.34	\$72.76	\$0.44	\$0.04	\$0.07	\$0.55
2011	\$58.96	\$7.60	\$8.60	\$75.16	\$0.38	\$0.04	\$0.08	\$0.49
2012	\$61.38	\$7.94	\$8.84	\$78.16	\$0.40	\$0.04	\$0.08	\$0.51
2013	\$63.99	\$8.30	\$9.10	\$81.39	\$0.42	\$0.04	\$0.08	\$0.53
2014	\$66.76	\$8.60	\$9.40	\$84.76	\$0.43	\$0.04	\$0.08	\$0.56
2015	\$69.76	\$9.00	\$9.70	\$88.46	\$0.45	\$0.04	\$0.09	\$0.58
2016	\$73.00	\$9.34	\$9.94	\$92.28	\$0.48	\$0.04	\$0.09	\$0.61
2017	\$76.49	\$9.74	\$10.24	\$96.47	\$0.50	\$0.04	\$0.09	\$0.63
2018	\$80.23	\$10.14	\$10.54	\$100.91	\$0.52	\$0.05	\$0.09	\$0.66
2019	\$84.28	\$10.55	\$10.81	\$105.64	\$0.54	\$0.05	\$0.10	\$0.68
2020	\$88.44	\$10.59	\$11.08	\$110.11	\$0.57	\$0.05	\$0.10	\$0.71
2021	\$92.87	\$11.12	\$11.36	\$115.34	\$0.59	\$0.05	\$0.10	\$0.74
2022	\$99.42	\$11.52	\$11.67	\$122.61	\$0.61	\$0.05	\$0.10	\$0.76
2023	\$102.22	\$11.91	\$11.98	\$126.11	\$0.64	\$0.06	\$0.11	\$0.81

## Data Sources

### Electric

1. **Avoided Costs of Generation.** These values are based on an August 2000 California Energy Commission forecast of market clearing prices using the MULTISYM model. Values for certain years were updated based on direction given in an October 25, 2000 ALJ Ruling on PY2001 planning in A.99-09-049, subsequently adopted by the Commission in D.01-01-060. Modifications to the CEC forecast were as follows:

**Table 4.4. Assumptions for Electric Generation Costs**

Program Years	Basis
2004-2010	CEC market clearing price forecast, plus 20%
2011-2020	CEC market clearing price forecast
2021-2023	CEC market clearing price escalated by growth rate over previous five years

In addition, the values reflected in Table 4.3 incorporate an “on-peak” multiplier, as ordered in the ALJ ruling of October 25, 2000 to account for the system value of reduced load on reducing market clearing prices, pursuant to AB970, Section 7,

Table B, Paragraph 8, and the September 14, 2000 and October 25, 2000 ALJ rulings in A.99-09-049. The on-peak multipliers are described in Table 4.5.

**Table 4.5. On-Peak Multipliers**

Program Years	Multiplier
2004-2005	2.0X
2006-2021	1.5X

- 2. Electric Transmission and Distribution Avoided Costs.** The T&D avoided cost value-stream is calculated based upon a statewide average of weighted forecasts of avoided T&D costs across utility service territories. This forecast was based upon 1996 sales for each utility, and converted from \$/kW to \$/MWh by assuming a 0.6 load factor. These values were adopted by the Commission in Resolution E-3592.
- 3. Electric Environmental Externalities.** These values were adopted by the Commission in Resolution E-3592.
- 4. Gas Avoided Commodity Costs.** Gas procurement costs are based on the CEC's August 2000 base case price forecast for electric generation.
- 5. Gas Transmission and Distribution Avoided Costs.** These values represent a weighted average of gas T&D costs in PG&E, SDG&E, and SoCalGas territories, as represented by each utility in their PY2000 annual reports.
- 6. Gas Environmental Externalities.** These values were recommended by the CBEE and adopted by the Commission in Resolution E-3592.

All values (2-6) have been escalated by their average growth rate over the previous five years for the years 2022-2023.

Table 4.6 gives the Commission's avoided cost assumptions used in the Participant Test. These avoided costs are based on current IOU retail electricity and natural gas rates, and will be escalated in Participant Test calculations based on the CEC's GDP deflator series.

**Table 4.6 Avoided Cost Assumptions by Service Territory**

	Electricity (\$/kWh)			Natural Gas (\$/therm)		
	PG&E	SCE	SDG&E	SoCalGas	PG&E	SDG&E
Residential	0.13	0.14	0.16	1.07	0.89	1.31
Agricultural	0.14	0.11	0.15	0.74	N/A	N/A
Small Commercial	0.17	0.18	0.17	0.87	0.87	0.93
Medium Commercial	0.16	0.15	0.12	0.77	0.73	0.81
Large Commercial	0.14	0.13	0.12	0.63*	0.67*	0.63*

\* Large commercial gas rates are based on a \$0.50/therm commodity cost.

## Flexible Cost-Effectiveness Inputs

The Commission uses CEC's Database for Energy Efficient Resources (DEER)<sup>13</sup> for two crucial sets of inputs to the standard cost-effectiveness tests. These are:

- Incremental Measure Costs
- Per-Unit Energy Savings Estimates

This database is updated periodically and available over the Internet, (at <http://www.energy.ca.gov/forecasting/DEER.html>), but may not offer appropriate values for all circumstances. If information for cost-effectiveness test inputs is not available through this database, parties proposing programs must develop and include the necessary information using alternate sources. If the source of incremental measure cost or per-unit energy savings assumptions is not the DEER, documentation supporting the inclusion of the new information must be provided.

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<sup>13</sup> The California Public Utilities Commission provides funding for the CEC Database for Energy Efficient Resources.

## 5. Budgets and Compensation

### Budgets

The table below shows the amount of ratepayer funds collected annually in each IOU service territory to fund energy efficiency program activities. By statute,<sup>14</sup> funds must be spent in the service territory from which the funds were collected. Thus, for example, funds collected from PG&E customers may not be spent in SDG&E territory.

Proposals to implement programs on a statewide basis (or in more than one large IOU service territory), should estimate the amount of funding required from each utility using a proportional budget allocation.

**Table 5.1. Annual Collections by Service Territory**

Utility Service Territory	Electric Budget	Gas Budget	Total Annual Budget	Percentage of Total
PG&E	\$106,000,000	\$12,888,000	\$118,888,000	43%
SCE	\$90,000,000	\$0	\$90,000,000	33%
SDG&E	\$32,000,000	\$5,500,000	\$37,500,000	14%
SoCalGas	\$0	\$26,995,000	\$26,995,000	10%
<b>Statewide Total</b>	<b>\$228,000,000</b>	<b>45,383,000</b>	<b>\$273,383,000</b>	100%
Percentage of Total	83%	17%	100%	

Any program proposal submitted for Commission consideration should include an itemized budget. See the latest Instructions (accessible at the website mentioned in Appendix A) for the required budget elements and format provided by the Commission's Energy Division.

### Audit

The Commission retains the right to audit any and all expenditures for which the funding source is either the electric PGC or the gas PGC. The Commission and/or its agents may audit IOU expenditures, as well as any contracts or subcontracts utilizing this funding.

<sup>14</sup> Public Utilities (PU) Code Sections 381 and 399 authorize the electric PGC. Section 399.8 requires adjustment to this funding in future years, based on the growth of electric sales and the national Gross Domestic Product (GDP) deflator. Resolutions E-3792 and E-3807 provide utilities directions for the collection and tracking of electric PGC funds. PU Code Sections 890-900 authorize the gas PGC and collection associated with this charge is guided by these codes.

## Compensation

With the exception of the IOUs, program implementers will be operating under a signed contract with standardized terms and conditions (Appendix A provides a link to the current version of the Agreement for Non-Utility Energy Efficiency Implementers). The contract administrator shall review required reports and any accompanying invoices that are required by the terms of the contract. After completion of its review, the contract administrator shall make payment of the undisputed amount, less certain costs identified in the contract terms, within a specified time period. The amount withheld will be available for the implementer's final payment.

The Commission reserves the right to make proportionate reductions in implementer's final payment in the event the final report and/or EM&V report show that the implementer did not meet program goals. In general, the contract agreement details the cost reporting requirements, review process and other supporting documentation requirements for payments to be received by implementers.

## 6. Evaluation, Measurement & Verification Requirements

### Overall Requirements

All programs approved by the Commission for implementation must include evaluation and/or measurement and verification components. Information-only programs require an evaluation plan, but will not require the measurement and verification (M&V) components. Program implementers are required to have an independent EM&V consultant develop the evaluation plan for their program and conduct the program evaluation itself. All Commission funded programs must develop a plan for accomplishing some or all of the following EM&V objectives of the Commission:

- Measuring level of energy and peak demand savings achieved (except-information-only)
- Measuring cost-effectiveness (except information-only)
- Providing up-front market assessments and baseline analysis, especially for new programs
- Providing ongoing feedback, and corrective and constructive guidance regarding the implementation of programs
- Measuring indicators of the effectiveness of specific programs, including testing of the assumptions that underlie the program theory and approach
- Assessing the overall levels of performance and success of programs
- Informing decisions regarding compensation and final payments
- Helping to assess whether there is a continuing need for the program.

Not all of the objectives above may be applicable to all programs. Implementers or their EM&V consultants are free to propose an EM&V approach that is logical for their program, but any plan in which one or more of the above objectives is omitted should contain a strong supporting argument for the omission.

The Commission Energy Division will also work with an overall team of evaluators and M&V consultants to assist program implementers with planning and executing the finer points of their EM&V plans once programs are approved. For the M&V portion of the plan, implementers should adhere to the guidelines in the International Performance Measurement and Verification Protocol (IPMVP), available on the Internet at <http://www.ipmvp.org/>.

All EM&V plans, in addition to discussing and meeting the objectives above, should also include the components discussed below in detail. These components are not required to be delineated completely at the initial program proposal stage, but will be required to be included in the final approved EM&V plan.

**Table 6.1. Components of an EM&V plan**

<b>Baseline Information</b>
<ul style="list-style-type: none"> <li>Determine whether or not baseline data exist upon which to base energy savings measurement. Existing baseline studies can be found on the California Measurement Advisory Committee website (<a href="http://www.calmac.org/">http://www.calmac.org/</a>) and/or the California Energy Commission website (<a href="http://www.energy.ca.gov/">http://www.energy.ca.gov/</a>). Detailed sources of baseline data should be cited.</li> </ul>
<ul style="list-style-type: none"> <li>If baseline data do not exist, the implementer will need to conduct a baseline study (gather baseline energy and operating data) on the operation(s) to be affected by the energy efficiency measures proposed.</li> </ul>
<ul style="list-style-type: none"> <li>If the baseline data do not exist and the implementer can show that a baseline study is too difficult, expensive or otherwise impossible to carry out prior to program implementation, the contractor should then provide evidence that baseline data can be produced or acquired during the program implementation. This process should then be detailed in the EM&amp;V plan.</li> </ul>
<b>Energy Efficiency Measure Information</b>
<ul style="list-style-type: none"> <li>Full description of energy efficiency measures included in the program, including assumptions about important variables and unknowns, especially those affecting energy savings.</li> </ul>
<ul style="list-style-type: none"> <li>Full description of the intended results of the measures.</li> </ul>
<b>Measurement and Verification Approach</b>
<ul style="list-style-type: none"> <li>Reference to appropriate IPMVP option.</li> </ul>
<ul style="list-style-type: none"> <li>Description of any deviation from IPMVP approach.</li> </ul>
<ul style="list-style-type: none"> <li>Schedule for acquiring project-specific data.</li> </ul>
<b>Evaluation Approach</b>
<ul style="list-style-type: none"> <li>A list of questions to be answered through the program evaluation.</li> </ul>
<ul style="list-style-type: none"> <li>A list of evaluation tasks/activities to be undertaken during the course of program implementation.</li> </ul>
<ul style="list-style-type: none"> <li>A description of how evaluation will be used to meet all of the Commission objectives described above.</li> </ul>

## Reporting Requirements

### Reports

All implementers of PGC-funded energy efficiency programs will be required to submit reports on a regular basis (frequency as specified in the contract) to the IOU contract administrator and the Commission in order to monitor progress. These reports should also be made available to all interested parties in relevant Commission proceedings and/or posted electronically on a website for ready access by other members of the

public. The reports shall contain information on program budgets and expenditures; projects, measures, and/or activities that were funded; the amount of energy savings and peak demand reductions associated with the program expenditures; and other information necessary to monitor compliance with Commission guidelines.

In particular, the Commission will be interested in monitoring progress toward achieving energy and peak demand savings goals established at the beginning of the program implementation process. Reports should show a comparison of progress with ultimate program goals.

Submittal dates for the required reports shall be detailed in the contract. The specific format and contents for these reports will be contained in the Reporting Instructions to be issued by the Energy Division before programs start.

During the term of the contract agreement, implementers shall respond to request for information from the contract administrator and Commission staff in a timely fashion but no later than five days after the date the information is requested, unless the implementer asks for an extension of time and such an extension of time is granted by the requesting party or parties.

### **Final Reports**

In addition to the regular reports described above, a final report will be required to be filed for each approved program. The specific format and contents for these reports will be contained in the Reporting Instructions to be issued by the Energy Division.

The contract administrator shall determine if the final report is correct and complete, including the completed EM&V report, and shall notify the Commission staff. (See contract terms on final report and receipt of final payment.)

## 7. Process and Procedural Issues

The Commission adopts the processes and procedures described below to obtain input from interested parties, customers, and market actors on the Commission's efforts to oversee, develop, and implement PGC-funded energy efficiency programs. The Commission, the assigned Commissioner, the assigned Administrative Law Judge, or the Energy Division may utilize both formal and informal procedural vehicles to (1) revise this policy manual and/or any of its referenced documents as needed, (2) review on-going programs and adopt mid-course changes if warranted, (3) plan and develop future programs, and (4) resolve disputes among or complaints from various market participants.

### **Revisions to Policy Manual and Referenced Documents**

The Commission may consider updates and revisions to this manual, in whole or in part, at any time, upon request by interested parties or on its own initiative, when deemed warranted. This manual may also be updated by the Assigned Commissioner, the Assigned Administrative Law Judge, or the Energy Division.

### **Review and Assessment of Current Programs**

The Commission delegates to the Energy Division the responsibility for conducting regular forums or workshops, as needed, for interested parties, customers, and market actors to provide input and feedback on energy efficiency programs during the year.

### **Dispute Resolution and Consumer Protection**

The Commission will require that any program proposal for energy efficiency funds describe a dispute resolution process to be used in dealing with complaints from end-use gas or electric consumers participating or attempting to participate in the program. In programs where the IOUs hold contracts with third parties, those contracts will also be required to include dispute resolution provisions.

The Commission's informal and formal complaint process through the Consumer Services Division is another venue, which customers and market actors may utilize to file complaints against IOUs, though this complaint process does not extend to other program implementers.

Finally, program implementers may use the name of the CPUC on marketing materials for their programs with the prior written approval from the CPUC Energy Division. In

order to obtain this written approval, implementers should send a copy of the planned materials to the Energy Division requesting approval to use the CPUC name and/or logo. Prior approval is not required if implementers use only and precisely the disclosure language required by the standard Agreement terms.

### **Procedural Schedule**

The Commission will allocate and award program funding beginning in year 2002 and continuing through at least 2011 (when the legislative authorization for the electric PGC sunsets). Program funding duration will be determined by the Commission and will be detailed in Commission decision(s) to be issued before the beginning of each funding period, which is assumed to start in January.

## Appendix A: Reference Documents

The following documents are referenced in this manual. Electronic (if available) or hard copies may be obtained by e-mailing a request, along with relevant contact information, to [ee@cpuc.ca.gov](mailto:ee@cpuc.ca.gov). Copies also may be obtained by calling the Commission's Energy Efficiency Hotline at (415) 703-2776 and leaving a voice mail message with the request.

<b>Title</b>	<b>Date of Publication</b>	<b>Available at:</b>
Database for Energy Efficient Resources (DEER)	August 1, 2001	<a href="http://www.calmac.org">http://www.calmac.org</a> or <a href="http://www.energy.ca.gov">http://www.energy.ca.gov</a>
International Performance Measurement and Verification Protocol (IPMVP)	October 1, 2000	<a href="http://www.ipmvp.org/info/download.html">http://www.ipmvp.org/info/download.html</a>
Standard Practice Manual (SPM): Economic Analysis of Demand Side Management Programs	October 1, 2001	<a href="mailto:ee@cpuc.ca.gov">ee@cpuc.ca.gov</a> ; (415) 703-2776; or at <a href="http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm">http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm</a>
Instructions for Submission of Requests for Extension and Submission of New Proposals	August 2003	<a href="mailto:ee@cpuc.ca.gov">ee@cpuc.ca.gov</a> ; (415) 703-2776; or at <a href="http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm">http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm</a>
Proposal Workbook	August 2003	<a href="mailto:ee@cpuc.ca.gov">ee@cpuc.ca.gov</a> ; (415) 703-2776; or at <a href="http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm">http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm</a>
Agreement for Non-Utility Energy Efficiency Implementers (Standardized Contract Terms)	September 2003	<a href="mailto:ee@cpuc.ca.gov">ee@cpuc.ca.gov</a> ; (415) 703-2776; or at <a href="http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm">http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm</a>
Reporting Instructions	To be available before programs start	<a href="mailto:ee@cpuc.ca.gov">ee@cpuc.ca.gov</a> ; (415) 703-2776; or at <a href="http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm">http://www.cpuc.ca.gov/static/industry/electric/energy+efficiency/rulemaking.htm</a>

## Appendix B: Common Terms on Energy Efficiency

As a guide in designing, developing and implementing energy efficiency programs, listed below are common program terms associated with energy efficiency. For definitions of terms, please refer to Appendix C (Glossary, definitions in alphabetical order).

### Who's Who

Administrator

California Consumer Power and Conservation Financing Authority (CPA)

California Energy Commission

California Public Utilities Commission (Commission)

Community Choice Aggregators (CCAs)

Customer

Implementer

Large Investor-Owned Utilities (IOUs)

Parties or Interested Parties

### Funding Sources

Electric Public Goods Charge (PGC)

Gas Public Goods Charge (PGC)

### Program Types

The following are various types of programs that may be undertaken to achieve a public purpose objective. Not all the program types mentioned below are subject of this manual.

Cogeneration

Cross-Cutting Programs

Demand Responsiveness (See also Load Management)

Demand Side or Demand Side Management (DSM)

Distributed Generation

Energy Efficiency

Load Management

Local Program

Market Assessment and Evaluation Activities (See Market Assessment)

Self-Generation

Statewide Marketing and Outreach

Statewide Program

## **Program Implementation Terms**

Energy Efficiency Measure  
Market Barrier  
Program  
Program Design  
Program Development  
Program Management  
Project

## **Program Strategies**

Energy Management Services  
Incentives  
Information Programs  
Rebates (Prescriptive/Customized)  
Standard Performance Contract (SPC) Program  
Upstream Programs

## **Market Segments**

Each program proposal considered by the Commission is required to identify the market segment(s) that it is designed to address. These market segments are listed below and are designed to help the Commission address how well its portfolio of programs is addressing the variety of markets for energy efficiency products and services in the state.

Agricultural  
Commercial  
Industrial  
Government  
Residential – multi-family  
Residential – single-family  
Institutional  
Schools  
New Construction

## **Customer Segments/Types**

Customers are generally divided into two major types: residential or nonresidential. Within those two broad categories, programs may be targeted to one or more sub-segments, as listed below.

**Residential**

Residential Customers  
Residential Hard-to-Reach

**Nonresidential**

Large nonresidential  
Medium nonresidential  
Small nonresidential  
Very small nonresidential  
Nonresidential Hard-to-reach  
Chain Account (Large/Small)

**Cost Effectiveness**

Basic terms associated with cost-effectiveness:

Cost-effectiveness  
Participant Test  
Peak Demand Period  
Total Resource Cost Test-Societal Version

## Appendix C: Glossary

(definitions in alphabetical order)

**Administrator:** A person, company, partnership, corporation, association, or other entity selected by the Commission and any Subcontractor that is retained by an aforesaid entity to contract for and administer energy efficiency programs funded in whole or in part from electric or gas public goods charge (PGC) funds. For purposes of implementing PU Code Section 381.1, an “administrator” is any party that receives funding for and implements energy efficiency programs pursuant to PU Code Section 381.

**Administrative Services:** The services to be provided by the administrator, separate from the limited implementation or other services an administrator may perform with prior approval of the Commission.

**Affiliate:** Any person, corporation, utility, partnership, or other entity 5% or more of whose outstanding securities are owned, controlled, or held with power to vote, directly or indirectly either by an administrator or any of its subsidiaries, or by that administrator’s controlling corporation and/or any of its subsidiaries as well as any company in which the administrator, its controlling corporation, or any of the administrator’s affiliates exert substantial control over the operation of the company and/or indirectly have substantial financial interests in the company exercised through means other than ownership. For purposes of these Rules, “substantial control” includes, but is not limited to, the possession, directly and indirectly and whether acting alone or in conjunction with others, of the authority to direct or cause the direction of the management of policies of a company. A direct or indirect voting interest of five percent (5%) or more by the administrator, its subsidiaries, or its Affiliates in an entity's company creates a rebuttable presumption of control.

**Analysis Agent:** An entity or entities selected to perform analytic functions such as strategic planning, market assessment, and evaluation.

**California Board for Energy Efficiency (CBEE):** An advisory board created by the California Public Utilities Commission in 1998 for overseeing energy efficiency programs. The board was subsequently disbanded in February 2000, but authored the previous version of the Commission’s energy efficiency policy rules.

**California Demand-Side Management Measurement Advisory Committee (CALMAC):** An informal committee made up of utility representative, the Office of Ratepayer Advocates and the California Energy Commission. The purpose of the committee is to: provide a forum for presentations, discussions, and review of Demand Side Management (DSM) program measurement studies underway or completed; to coordinate the development and implementation of measurement studies common to

all or most of the utilities; and to facilitate the development of effective, state-of-the-art protocols for measuring and evaluating the impacts of DSM programs.

**California Energy Commission (CEC):** The state agency charged with statewide power plant siting, supply and demand forecasting, as well as multiple types of energy analysis.

**California Consumer Power and Conservation Financing Authority (CPA):** The state agency charged with the responsibility to ensure sufficient electricity at reasonable market prices.

**California Public Utilities Commission (Commission):** The state agency charged with regulating California Investor-Owned Utilities (IOUs), and with overseeing ratepayer-funded public purpose energy efficiency programs.

**Chain Account:** A nonresidential customer with two or more accounts that have the same billing address and same customer name but with more than one service address.

**Large chain:** a chain whose total aggregated demand over all customer accounts is greater than 500 kW, or whose annual gas consumption is greater than 250,000 therms.

**Small chain:** a chain whose total aggregated demand over all customer accounts is less than or equal to 500 kW, or whose annual gas consumption is less than or equal to 250,000 therms.

**Cogeneration:** A process in which a facility uses its waste energy to produce heat or electricity.

**Comprehensive:** A program or project designed to achieve all cost-effective energy efficiency activities in individual buildings, usually including multiple energy efficiency measures.

**Community Choice Aggregators (CCA):** As provided in PU Code Section 331.1, a CCA is any of the following entities, if that entity is not within the jurisdiction of a local publicly owned electric utility that provided electrical service as of January 1, 2003:

- a) Any city, county, or city and county whose governing board elects to combine the loads of its residents, businesses, and municipal facilities in a community wide electricity buyers' program.
- b) Any group of cities, counties, or cities and counties whose governing boards have elected to combine the loads of their programs, through the formation of a joint powers agency established under Chapter 5 (commencing with Section 6500) of Division 7 of Title I of the Government Code.

**Cost-Effectiveness:** An indicator of the relative performance or economic attractiveness of any energy efficiency investment or practice when compared to the costs of energy produced and delivered in the absence of such an investment. In the energy efficiency field, the present value of the estimated benefits produced by an energy efficiency program as compared to the estimated total program's costs, from the perspective of either society as a whole or of individual customers, to determine if the proposed investment or measure is desirable from a variety of perspectives, e.g., whether the estimated benefits exceed the estimated costs. See Total Resource Cost Test – Societal Version and Participant Cost Test (below).

**Cream Skimming:** Cream skimming results in the pursuit of only the lowest cost or most cost-effective energy efficiency measures, leaving behind other cost-effective opportunities. Cream skimming is inappropriate when lost opportunities are created in the process.

**Cross-Cutting Program:** A program that involves any or all of the following: multiple customer types (residential and/or nonresidential), and/or multiple building types (retrofit, remodeling, and/or new construction).

**Customer:** Any person or entity that pays an electric and/or gas bill to an IOU and that is the ultimate consumer of goods and services including energy efficiency products, services, or practices.

**Customer Information:** Non-public information and data specific to a Utility Customer which the utility acquired or developed in the course of its provision of Utility Services.

**Demand Responsiveness:** See also, Load Management. Also sometimes referred to as load shifting. Activities or equipment that induce consumers to use energy at different (lower cost) times of day or to interrupt energy use for certain equipment temporarily, usually in direct response to a price signal. Examples: interruptible rates, doing laundry after 7 p.m., air conditioner cycling programs.

**Demand Side or Demand Side Management (DSM):** Programs that reduce the use of energy by the use of energy efficiency products, services, and practices, or that change the timing of energy use.

**Distributed Generation:** Small-scale electric generating technologies installed at or near an end-user's location. May also be referred to as "distributed energy resources" or "distributed resources."

**Double-dipping:** Taking advantage of multiple financial incentives offered by multiple programs for undertaking only one activity.

**Electric Public Goods Charge (PGC):** Per Assembly Bill (AB) 1890, a universal charge applied to each electric utility Customer's bill to support the provision of public goods. Public goods covered by California's electric PGC include public purpose energy efficiency programs, low-income services, renewables, and energy-related research and development. This manual applies only to energy efficiency PGC funds.

**Energy Efficiency:** The use of high-efficiency products, services, and practices or an energy-using appliance or piece of equipment, to reduce energy usage while maintaining a comparable level of service when installed or applied on the Customer side of the meter. Energy efficiency activities typically require permanent replacement of energy-using equipment with more efficient models. Examples: refrigerator replacement, light fixture replacement, cooling equipment upgrades.

**Energy Efficiency Measure:** Any product, service, or practice or an energy-using appliance or piece of equipment that will result in reduced energy usage at a comparable level of service when installed on the Customer side of the meter.

**Energy Management Services:** Programs intended to provide customer assistance in the form of information on the relative costs and benefits to the customer of installing measures or adopting practices which can reduce the customer's utility bills. The information is solicited by the customer and recommendations are based on the customer's recent billing history and/or customer-specific information regarding appliance and building characteristics.

**Evaluation:** The performance of studies and activities aimed at determining the effects of a program, including program-induced changes in energy efficiency markets, energy savings, and program cost-effectiveness.

**Gas Public Goods Charge:** Created by AB1002 in 2000, an unbundled rate component included on gas customer bills to fund public purpose programs including energy efficiency, low-income and research and development. This policy manual applies only to the energy efficiency portions of the gas PGC.

**"Hardware" Programs:** Programs primarily intended to provide measurable energy savings through installation of energy efficiency measures or provision of energy efficiency services.

**HVAC:** Heating, Ventilation, and Air Conditioning Systems. Used in discussing replacement of inefficient equipment with high-efficiency equipment.

**Implementer:** An entity or person selected and contracted with or qualified by a program administrator or by the Commission to receive PGC funds for providing products and services to Customers.

**Incentives:** Financial support (e.g., rebates, low-interest loans) to install energy efficiency measures. The incentives are solicited by the customer and based on the customer's billing history and/or customer-specific information. See also Rebates, SPC programs, and Upstream programs.

**Information Programs:** Programs primarily intended to provide customers with information regarding generic (not customer-specific) conservation and energy efficiency opportunities. For these programs, the information may be unsolicited by the customer. Programs that provide incentives in the form of unsolicited coupons for discount on low cost measures are also included.

**Large Investor-Owned Utilities (IOUs):** Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), and Southern California Gas (SoCalGas).

**Load Management:** Sometimes referred to as load shifting. Activities or equipment that induce consumers to use energy at different (lower cost) times of day or to interrupt energy use for certain equipment temporarily. Examples: interruptible rates, doing laundry after 7 p.m., air conditioner cycling programs.

**Local Program:** A program that provides services to customers in only one jurisdiction of the state (e.g., one county, city, or region). Local programs may be experimental and are designed to serve the needs of a particular geographic area.

**Lost Opportunities:** Energy efficiency measures that offer long-lived, cost-effective savings that are fleeting in nature. A lost opportunity occurs when a customer does not install an energy efficiency measure that is cost-effective at the time, but whose installation is unlikely to be cost-effective (or is less cost-effective) later.

**Market Actors:** Individuals and organizations in the production, distribution, and/or delivery chain of energy efficiency products, services and practices. This may include, but is not limited to, manufacturers, distributors, wholesalers, retailers, vendors, dealers, contractors, developers, builders, financial institutions, and real estate brokers and agents.

**Market Assessment:** An analysis function which provides an assessment of how and how well a specific market or market segment is functioning with respect to the definition of well-functioning markets or with respect to other specific policy objectives. Generally includes a characterization or description of the specific market or market segments, including a description of the types and number of buyers and sellers in the market, the type and number of transactions that occur on an annual basis, and the extent to which energy efficiency is considered an important part of these transactions by market participants. This analysis may also include an assessment of whether or not a market has been sufficiently transformed to justify a reduction or elimination of

specific program interventions. Market assessment can be blended with strategic planning analysis to produce recommended program designs or budgets. One particular kind of market assessment effort is a *baseline study*, or the characterization of a market before the commencement of a specific intervention in the market, for the purpose of guiding the intervention and/or assessing its effectiveness later.

**Market Barrier:** Any characteristic of the market for an energy-related product, service, or practice that helps to explain the gap between the actual level of investment in, or practice of, energy efficiency and an increased level that would appear to be cost-beneficial to the consumer.

**Market Effect:** A change in the structure or functioning of a market or the behavior of participants in a market that is reflective of an increase in the adoption of Energy-Efficient products, services, or practices and is causally related to Market Interventions.

**Market Event:** The broader circumstances under which a Customer considers adopting an energy efficiency product, service, or practice. Types of market events include, but are not necessarily limited to, the following: (i) *new construction*, or the construction of a new building or facility; (ii) *renovation*, or the updating of an existing building or facility; (iii) *remodeling*, or a change in an existing building; (iv) *replacement*, or the replacement of equipment, either as a result of an emergency such as equipment failure, or as part of a broader planned event; and, (v) *retrofit*, or the early replacement of equipment or refitting of a building or facility while equipment is still functioning, often as a result of an intervention into energy efficiency markets.

**Market Participants:** The individuals and organizations participating in transactions with one another within an energy efficiency market or markets, including Customers and Market Actors.

**Market Segments:** Each program proposal considered by the Commission is required to identify the market segment(s) that it is designed to address. These market segments are listed below. These market segments are simply to help the Commission assess how well its portfolio of programs is addressing the variety of markets for energy efficiency products and services in the state.

- Agricultural
- Commercial
- Industrial
- Government
- Residential – multi-family
- Residential – single-family
- Institutional
- Schools
- New Construction

**New Construction:** Residential and non-residential buildings that have been newly built or have added major additions subject to Title 24, the California building standards code.

**Nonresidential:** Facilities used for business, commercial, agricultural, institutional, and industrial purposes. Nonresidential customers are further divided into the following subsectors, on the basis of annual electric demand or annual gas consumption:

**Large nonresidential:** Customers whose annual electric demand is greater than 500 kW, or whose annual or annualized gas consumption is greater than 250,000 therms, or both

**Medium nonresidential:** Customers whose annual electric demand is between 100 kW and 500 kW, or whose annual or annualized gas consumption is between 50,000 therms and 250,000 therms, or both

**Small nonresidential:** Customers whose annual electric demand is between 20 kW and 100 kW, or whose annual gas consumption is between 10,000 therms and 50,000 therms, or both

**Very small nonresidential:** Customers whose annual electric demand is less than 20 kW, or whose annual gas consumption is less than 10,000 therms, or both.

**Nonresidential Hard-to-Reach:** Those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, business size, geographic, or lease (split incentive) barrier. These barriers are defined as:

- Language – Primary language spoken is other than English, and/or
- Business Size – Less than ten employees and/or classified as Very Small (as defined above), and/or
- Geographic – Businesses in areas other than the San Francisco Bay Area, San Diego area, Los Angeles Basin or Sacramento, and/or
- Lease – Investments in improvements to the building benefit the business only during the lease period; landlords benefit longer.

**Participant Test:** A cost-effectiveness test intended to measure the cost-effectiveness of energy efficiency programs from the perspective of electric and/or gas customers (individuals or organizations) participating in them.

**Parties or Interested Parties:** Persons and organizations with an interest in energy efficiency that comment on or participate in the Commission's efforts to develop and implement ratepayer-funded energy efficiency programs.

**Peak Demand Period:** Noon to 7 p.m. Monday through Friday, June, July, August, and September.

**Performance Measurement:** The determination of the extent to which a person, organization, or program is successfully meeting specified goals and objectives.

**Portfolio:** All IOU and non-IOU energy efficiency programs implemented during a program year and funded through the PGC.

**Process Overhaul:** Modifications to industrial or agricultural processes to improve their energy use characteristics.

**Program:** An activity, strategy, or course of action undertaken by an implementer or administrator using PGC funds. Each program is defined by a unique combination of program strategy, market segment, marketing approach, and energy efficiency measure(s) included.

**Program Design:** The method or approach for making, doing, or accomplishing an objective by means of a program.

**Program Development:** The process by which ideas for new or revised energy efficiency programs are converted into a design to achieve a specific objective.

**Program Management:** The responsibility and ability to oversee and guide the performance of a program to achieve its objective.

**Project:** An activity or course of action undertaken by an implementer involving one or multiple energy efficiency measures, usually at a single site.

**Project Development:** The process by which an implementer identifies a strategy or creates a design to provide energy efficiency products, services, and practices directly to Customers.

**Proportional Share:** For purposes of implementing PU Code Section 381.1, "proportional share" refers to the average per capita share of all the utility's Public Goods Charge energy efficiency program funding that occurred statewide in the previous year times the population in a CCA's territory. The average per capita share shall be determined using the latest California population listed in E-1 City/County Population Estimates published by the California Department of Finance Demographic Unit.

**Rebates:** Energy efficiency programs consisting of an agreement between the administrator or implementer and a number of customers to install one or more identified energy efficiency products at the customer facility for an identified and pre-specified amount of money. There are two types of rebates:

**Prescriptive Rebate:** A prescribed financial incentive per unit for a prescribed list of individual products.

**Customized Rebate:** A program where the financial incentive is determined using an analysis of the customer's existing equipment and an agreement on the specific products to be installed.

**Remodeling:** Modifications to the characteristics of an existing residential or nonresidential building or energy-using equipment installed within it.

**Renovation:** Modifications to the characteristics of an existing residential or nonresidential building itself, including, but not limited to, windows, insulation, and other modifications to the building shell.

**Residential Customers:** Existing single family residences, multi-family dwellings (whether master-metered or individually metered), and buildings that are essentially residential but used for commercial purposes, including, but not limited to, time shares and vacation homes.

**Residential Hard-to-Reach:** Those customers who do not have easy access to program information or generally do not participate in energy efficiency programs due to a language, income, housing type, geographic, or home ownership (split incentives) barrier. These barriers are defined as:

- Language – Primary language spoken is other than English, and/or
- Income – Those customers who fall into the moderate income level (income levels less than 400% of federal poverty guidelines), and/or
- Housing Type – Multi-Family and Mobile Home Tenants, and/or
- Geographic – Residents of areas other than the San Francisco Bay Area, San Diego area, Los Angeles Basin or Sacramento, and/or
- Homeownership – Renters

**Retrofit:** Energy efficiency activities undertaken in existing residential or nonresidential buildings where existing inefficient equipment is replaced by efficient equipment.

**Self-Generation:** Distributed generation installed on the customer's side of the utility meter, providing electricity for that customer's on-site electric load without exporting electricity for sale.

**Small and/or Multi-Jurisdictional Investor Owned Utilities (IOUs):** Any or all of the following IOUs that serve customers in the state of California: Avista Utilities, Bear Valley Electric, PacifiCorp, Sierra Pacific Power, and Southwest Gas Company.

**Standard Performance Contract (SPC) Programs:** Programs consisting of a set of agreements between the administrator or implementer and a number of project sponsors (either Implementers or Customers) to deliver energy savings from the installation of energy efficiency measures and technologies at a facility or set of facilities. These agreements are for a pre-specified price per unit of energy savings, measured using a pre-specified set of Measurement and Verification (M&V) protocols. An SPC program is an open-ended offer with a pre-specified price and set of terms.

**Statewide Marketing and Outreach Programs:** Programs that convey consistent statewide messages to individual consumers through mass-market advertising campaign.

**Statewide Program:** A program available in the service territories of all four large IOUs, with identical implementation characteristics in all areas, including incentives and application procedures.

**Subcontractor:** A person or entity who has a secondary contract undertaking some obligations of another contract executed by another person or entity.

**Total Resource Cost Test – Societal Version.** A cost-effectiveness test intended to measure the overall cost-effectiveness of energy efficiency programs from a societal perspective.

**Upstream Programs:** Programs that provide information and/or financial assistance to entities in the delivery chain of high-efficiency products at the retail, wholesale, or manufacturing level.

**Utility:** Any public utility subject to the jurisdiction of the Commission as an Electrical Corporation or Gas Corporation, as defined by California Public Utilities Code Sections 218 and 222.

**Utility Services:** Regulated Utility Services including gas and electric energy sales, transportation, generation, distribution or delivery, and other related services, including, but not limited to, administration of Demand Side Services, scheduling, balancing, metering, billing, gas storage, standby service, hookups and changeovers of service to other energy suppliers.