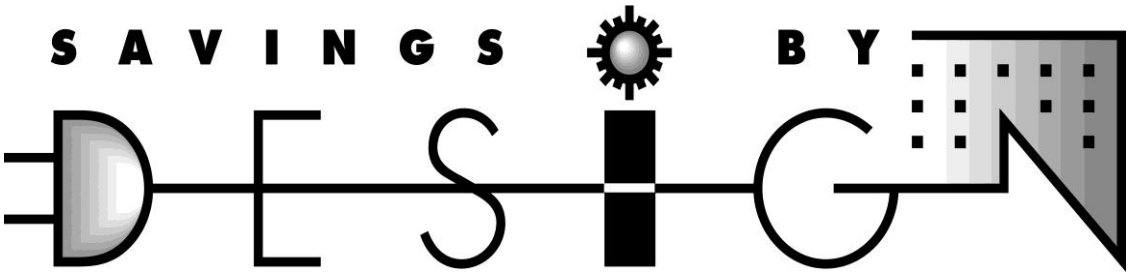


2010 - 2012 PROGRAM CYCLE PARTICIPANT HANDBOOK

POLICIES AND PROCEDURES

FOR PARTICIPATION IN THE STATEWIDE

SAVINGS BY DESIGN PROGRAM

Last Revised: 01/4/2010

www.savingsbydesign.com

This program is funded by California Utility customers and is administered by Pacific Gas and Electric Company, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, and the Southern California Gas Company- under the auspices of the California Public Utilities Commission.

TABLE OF CONTENTS

WHAT'S NEW FOR 2010?

Owner Incentive ***Whole Building Approach***	▪ **NEW Green Building Certification Incentive** ▪ **NEW End Use Monitoring Incentive** ▪ **NEW Enhanced Commissioning Incentive**
Design Team Incentive ***Whole Building Approach***	▪ **NEW Integrated Design Stipend offering**

1 PROGRAM OVERVIEW AND POLICIES

1.1 Introduction

Savings By Design (SBD) is California's nonresidential new construction energy efficiency program, administered statewide and funded by Utility customers through the Public Purpose Programs surcharge applied to gas and electric services.

Participating utilities are:

- Pacific Gas and Electric (PG&E)
- Sacramento Municipal Utility District (SMUD)
- San Diego Gas And Electric (SDG&E)
- Southern California Edison (SCE)
- Southern California Gas Company (SoCalGas)

This statewide approach offers the nonresidential building industry a multi-faceted program designed to consistently serve the needs of the building community throughout California. Savings By Design encourages energy-efficient building design and construction practices, promoting the efficient use of energy by offering up-front design assistance supported by financial incentives based on project performance.

Benefits of Participation. Projects participating in Savings By Design receive services including design assistance, Owners Incentives, Design Team Incentives, and Energy Design Resources. Services begin in the project design phase and continue through construction completion. Design assistance can range from simple plan review and efficiency upgrade recommendations to complete computer simulation analysis comparing a number of alternative systems and integrated building design options. Financial incentives, to help offset increased design interaction and potential costs of construction, are available for projects that exceed thresholds established by the program. Participation in the program brings additional benefits, such as reduced long-term operating costs, greater comfort, health and productivity for occupants, and conservation of natural resources and cleaner air due to avoided power generation

Designed for Nonresidential New Construction Projects. Savings By Design targets the primary decision-makers in new construction and renovation/remodel projects: building Owners, developers, architects, engineers, designers, contractors, builders, and energy consultants. Savings By Design analyses provide detailed technical and financial assistance data that allows Owners and Design Teams to make informed decisions regarding energy efficiency features. The program serves

commercial, industrial, and agricultural customers and utilizes the 2008 California Building Energy Efficiency Standards (Title 24, Part 6) as a reference baseline for comparison. The program encourages and moves energy savings within projects to perform better than mandated by Title 24. Other industry standards may be used where appropriate to determine reference baselines for comparisons.

1.2 Definitions

Alternative Calculation Method (ACM)	Official method for demonstrating performance compliance with California's Energy Efficiency Standards. The 2008 ACM Approval Manual (Publication #400-03-004F) is available from the California Energy Commission.
Alternative Delivery Method (ADM)	The ADM delivers the same services available to all customers through Savings By Design. The purpose of the flexible model is to provide a short term, focused offering of SBD services to promote the use of a new energy efficient technology or to cultivate participation from a particular market segment or customer type that may not have participated in the program previously.
Construction Document	Drawings and specifications created by an architect that set forth in detail requirements for the construction of the project.
Design Assistance	Consultative services that assist customers in integrating energy efficient recommendations into the design of their facility. Design assistance includes: integrated design facilitation, energy calculation analysis, life–cycle costing analysis, and other services.
Design Development	The preparation of more detailed drawings and final design plans, showing correct sizes and shapes for rooms. Also included is an outline of the construction specifications, listing the major materials to be used.
Design Team	The group responsible for the design and implementation of the systems in the building that use energy or affect the building's overall energy consumption. The Design Team will generally include the building Owner, project architect, mechanical and electrical engineers, lighting designer, energy consultant, contractor, and possibly others.
Design Team Application	A form submitted by the Design Team Leader to the Utility indicating interest in participating in the Design Team Incentives component of the Savings By Design program.
Design Team Leader	The person who, for purposes of this program, takes the lead in examining and implementing energy efficiency options; specifically, the person who signs the Incentive Agreement and represents the Design Team to the Utility. Generally, this will be the project architect, mechanical engineer, or energy consultant.

Gas Surcharge	An unbundled rate component included on gas customer's bills to fund public purpose programs including energy efficiency, low-income services, and research and development.
Incentive Agreement	An Agreement executed between the program participant and the Utility that documents the estimated electric and gas savings and the estimated incentive amount for the project. Funds are reserved for a period of 48 months upon execution of this Agreement.
Integrated Design	Design practices that consider energy use and financial impacts throughout the design process, involving all Design Team members, to make appropriate decisions.
Incremental Cost	Additional cost of: hardware, labor, change orders, and engineering resulting from the incorporation of energy efficiency measures.
Integrated Design Analysis	A comprehensive analysis that includes energy simulation and financial analysis to quantify the benefits associated with multiple energy efficient options and strategies.
New Construction	For this program, new construction includes any one of the following: • New building projects wherein no structure or site footprint presently exists • Addition or expansion of an existing building or site footprint • Addition of new load, as in the example of an existing site adding a new process • Construction that involves complete removal, redesign, and replacement of the energy consuming systems of a building or process • Projects that require design and selection of new systems based upon the needs of new or modified space function(s) • Major tenant improvements that add new load
Owner	The building Owner and/or developer of a project participating in the Savings By Design program.
Participation Letter/ Letter of Interest	A letter submitted by the Owner to the Utility showing their interest in participating in the Savings By Design program.

Project	The scope of work contained in one set of construction documents as submitted for permits. In the case of schools, includes all buildings per campus.
Public Goods Charge (PGC)	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.
Public Purpose Programs	Savings By Design is a Public Purpose Program, which is managed under the auspices of the California Public Utilities Commission and administered by the participating California gas and electric Utilities. These funds are directed toward a variety of efforts including low-income ratepayer assistance and energy efficiency.
Reference Baseline	Savings By Design uses the California state energy standard (Title 24 and Title 20) as a reference baseline, a benchmark from which energy savings are determined. If the ACM baseline does not accurately reflect design changes or technological advances, the Utility representative reserves the right to use a “standard practice compliant building” approach or similar baseline adjustment. Where energy standards are not applicable, but substantial energy savings are feasible, a standard practice baseline will be used. An experienced Utility engineer will determine or approve the appropriate baseline to be applied to such a building project and or process.
SBD Representative	The Utility representative responsible for establishing, facilitating, and maintaining the relationship between the Utility, the Owner, and the Design Team for the purpose of achieving the benefits of the program.
Schematic Design	The preparation of studies to ascertain the requirements of the project, consisting of drawings and other documents illustrating the scale and relationships of the project components for approval by the Owner. The architect also submits to the Owner a preliminary estimate of construction costs based on current area, volume, or other unit costs
Time Dependent Valuation	TDV, as the name implies, values energy differently depending on the time it is used. This means that electricity saved on a hot summer afternoon will be worth more in the compliance process than the same amount of electricity saved on a winter morning. The value assigned to energy

	savings through TDV more closely reflects the market for electricity, gas, propane and other energy sources and provides incentives for measures, such as thermal storage or daylighting, that are more effective during peak periods.
Title 20	California Code of Regulations relating to appliance efficiency. It is also known as the Appliance Energy Efficiency Standards. Title 20 sets minimum efficiency requirements for appliances, such as package-units, exit signs, and other building elements in the state of California.
Title 24	California Code of Regulations relating to building design and construction. Part 6 of Title 24 is the Energy Efficiency Standards for Nonresidential Buildings. Title 24 sets minimum efficiency requirements for building construction materials and energy-consuming equipment in the state of California.
Warm Shell	In “warm shell” projects, the building envelope, central mechanical system, and core lighting systems are included in the design and Title 24 documentation. Future build out work or tenant improvements are typically permitted separately.
Utility	California electric and gas utilities who have chosen to participate in Savings By Design: Pacific Gas and Electric (PG&E), Sacramento Municipal Utility District (SMUD), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE), and Southern California Gas (SoCalGas).-

1.3 General Requirements and Eligibility

To be eligible for Savings By Design, projects must be:

- At a point where design changes are feasible, preferably in the conceptual or schematic design phase.
- Located in the service territory of a participating Utility and subject to payment of Public Goods Charge (PGC) for electric service and/or the gas surcharge for gas service.
- Within the definition of new construction.

1.4 The Basic Process[1]

1. Owners, architects, designers, engineers, contractors, or other project representatives initiate contact with a SBD Representative.
2. Once contact has been made, Owner submits a completed Participation Letter/Letter of Interest (using the appropriate form(s) provided by the Utility) indicating their interest in the program. When applicable, the Design Team must complete a Design Team Application during the conceptual or schematic design phase to establish their interest in participating, which will be reviewed and approved by the Utility. When applicable, the Design Team may apply for the Integrated Design Stipend.
3. A SBD Representative will work with the Owner and the Design Team to confirm that design changes are feasible. Projects with a substantially complete design may be required to implement additional energy efficiency enhancements to receive an incentive.
4. A SBD Representative will work with participants to determine which program path (Whole Building Approach or Systems Approach) applies and how to optimize the energy efficiency of the project. Specific design assistance services will depend on the program path selected.
5. At the earliest opportunity, Owner or Design Team submits plans, Title 24 compliance calculations, and other design documents to the SBD representative. Utility staff will analyze construction documents and recommend energy efficiency enhancements.
6. After the selection and design of the recommended energy efficiency enhancements is finalized, the SBD Representative issues an Incentive Agreement to the Owner/Design Team delineating the proposed project details, estimated incentive amounts, and terms and conditions.
7. Prior to ordering, purchasing, and/or installing the selected energy efficient options The Owner signs, dates, and returns the Agreement to the SBD Representative. By signing the Agreement, the Owner acknowledges that they

[1] For a schematic of the Savings By Design Process, see *Chart 1: Savings By Design Process* on page 12.

have read and agree to all program eligibility requirements. The Utility's counter-signature and date indicate funds have been reserved for the project for a period of **up to** 48 months. Program funding is "first-come, first-served." Owner must agree that they will not apply for or receive any other incentive offered by local or state entities or utilities for measures covered under Savings By Design.

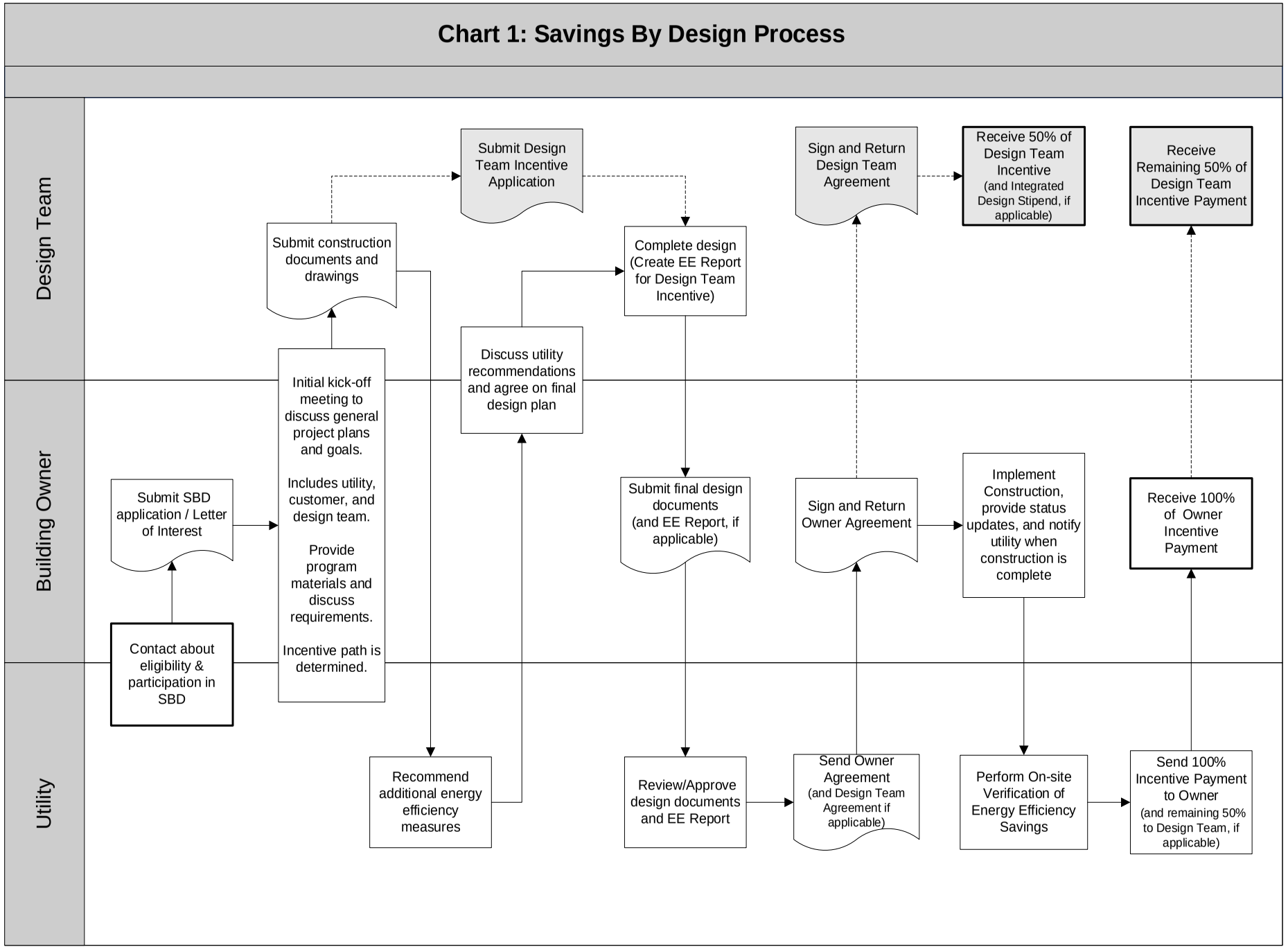
8. Once construction is substantially complete, the Owner or Owner's representative must contact a SBD Representative to request an on-site verification.
9. Allow access to the completed facility for on-site verification and, if selected, participate in measurement and evaluation studies. SBD Representative may request integrated design analysis reports, manufacturers specifications, equipment cut sheets, and incremental cost verification to verify completed project matches the design proposed in the Agreement.

If the project is built as agreed and the project meets all program requirements, the incentive will be paid. If the completed design differs from that outlined in the Incentive Agreement, the incentive may be adjusted to reflect the revised, estimated building performance. If ordering, purchasing and/or installing energy efficient equipment is initiated prior to Utility's execution of the Agreement, the Utility may disqualify the project

Construction must be substantially complete and program participants must submit all required documentation to the Utility within 48 months from the date of the Utility's execution of the Incentive Agreement. If the project's completion is delayed beyond the final date, the Agreement is voided, but the project may be eligible to reapply under the program guidelines in effect at that time. Subsequent eligibility will be considered on a case-by-case basis and will require Utility approval and execution of a new Incentive Agreement.

Funding is limited and available on a first-come, first-served basis. The Utility reserves the right to modify or discontinue this program without prior notice at its discretion, or by order of the California Public Utilities Commission (CPUC).

Chart 1: Savings By Design Process



Optional Process for Design Team Incentive

EE Report – Energy Efficiency Report

2 TWO PROGRAM APPROACHES TO ENERGY EFFICIENT BUILDINGS

Two performance-based design approaches - the Whole Building Approach and the Systems Approach - are available to identify and quantify energy-efficient design improvements. Jointly, the approaches provide the flexibility required to serve a large range of nonresidential projects and, whichever approach is taken, all services are available. After discussing project specifics, the SBD Representative will help select the most advantageous approach based on the phase of the project, as well as the goals of the project.

2.1 Whole Building Approach

Savings By Design promotes the use of integrated design analyses through the Whole Building Approach for large, complex projects or for projects containing innovative energy design features. Analyzing the performance of the building as a whole improves the Design Team's ability to optimize interactive efficiency effects of the various building systems.

Program participation requires a minimal commitment from the building Owner: that he or she is willing to consider the analysis recommendations, attend a meeting with the Design Team to discuss the viability of implementing various energy efficiency strategies, and sign the Owner Agreement offered by the SBD Representative.

Whole Building Approach analysis requires the use of a comprehensive energy simulation tool capable of hourly calculations of multiple thermal zones. The tool must be capable of modeling Title 24/Alternative Calculation Method (ACM) requirements as well as the requirements of the proposed design where they differ significantly from Title 24, and must be approved by the Utility. Parametric and economic analyses may also be included in Whole Building Approach studies.

Optional "standard practice minimally compliant building" approach: Buildings with advanced mechanical or envelope systems have the option of modeling a "minimally compliant building" to establish the Title 24 baseline. The standard practice minimally compliant building must have the same envelope, geometry and orientation as the "proposed" building, but may be modeled with any mechanical system that permits compliance with Title 24. Approval of your SBD representative is required prior to using this approach.

Customers using prototypical designs: Customers with multiple locations throughout the state who use a standard design prototype for multiple projects may be eligible for all services offered through the Whole Building Approach for the initial project in California. All subsequent projects constructed using that design will be eligible for the System Approach incentives only, and will not be eligible for Design Team Incentives. If there are significant revisions to the standard design, the new design effort may be eligible for all services.

2.2 Systems Approach

The Systems Approach encourages designers to optimize the energy efficiency of the systems within a building. The System Approach is most appropriate for less complex projects, those whose systems are designed at different times, and for projects where consideration for energy efficiency occurs late in the design phase. For common building types and system features, Savings By Design provides this straightforward approach to identify potential energy efficiency options and impacts. For the Systems Approach, the SBD Representative utilizes a simple, performance-based modeling tool to quickly estimate typical energy savings associated with recommended measures in a typical building, and to calculate corresponding incentives.

3 PROGRAM COMPONENTS

Savings By Design provides a variety of offerings to encourage the design of energy efficient buildings in California. The program offers design assistance on a project-appropriate level as well as financial incentives to both the building Owner and the Design Team.

3.1 Design Assistance

Design assistance and consulting is offered at no charge to the Owner or the Design Team. The level of assistance provided for a project varies based on the program approach—Whole Building or Systems. Assistance may be as simple as providing plan review and recommendations or may be as involved as full energy modeling with financial analysis on multiple options for energy efficient systems. Receiving design assistance does not obligate the Owner to implement the design recommendations.

3.2 Financial Incentives

The program offers financial assistance to help offset what may be perceived as the increased costs associated with energy efficient buildings. Owner and Design Team Incentives are based upon the project's estimated annual energy and demand savings (kW, kWh and therms) and are calculated according to the rates and program entry levels shown in Tables 1 and 2 in *Section 4: Tables and Figures*. Incentives are limited to 75% of the incremental cost of the efficiency upgrades.

Incentive payments are issued after construction completion is confirmed by an on-site verification and when all other required documentation has been received. The final incentive amount is calculated based on the installed features. Final incentive payments may vary from agreed upon (committed) estimates as a result of changes in the design or installation of additional energy efficiency measures.

3.3 Energy Design Resources

The Savings By Design program maintains Energy Design Resources, a suite of energy efficiency design products to support architects, engineers and developers with the integration of more complex equipment and designs.

The contents of **www.energydesignresources.com** are available free of charge, and include:

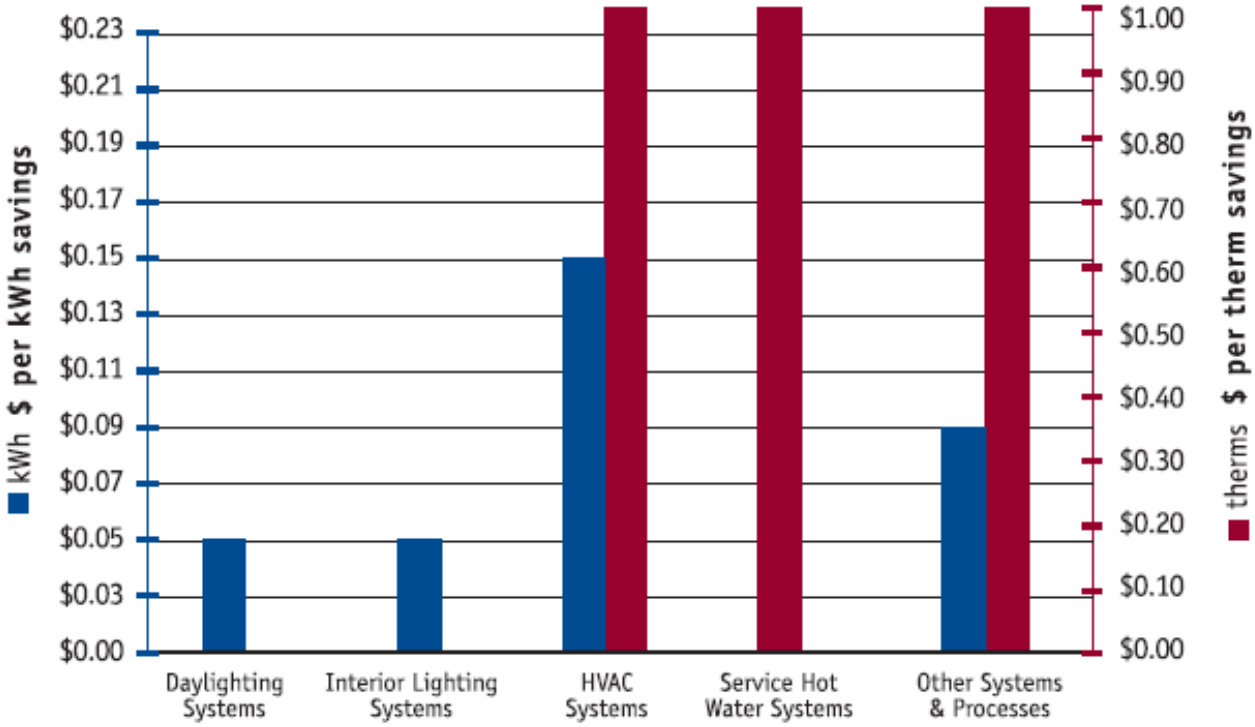
- Design Briefs and Case Histories
- Energy Design Software
- Training and Workshops

SYSTEMS APPROACH

Systems Approach Energy Incentive. Systems Approach incentives are calculated using a flat incentive rate ($/kW, $/therm) for Systems Approach projects. (See Figure 1 and Table 1)

Systems Approach kW Incentive. Systems Approach projects are eligible for an incentive based on peak demand reduction. (See Table 1)

Figure 1: Systems Approach incentive rates

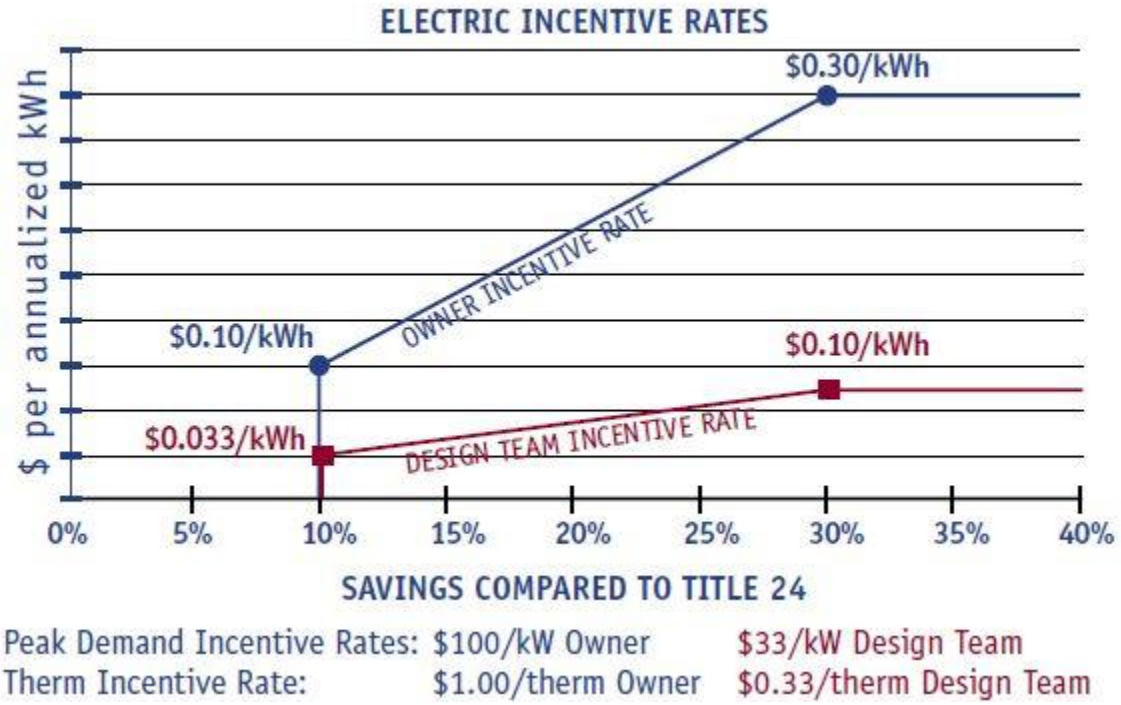


WHOLE BUILDING APPROACH

Whole Building Approach Energy Incentive. The time-dependent valuation (TDV) annual energy savings is calculated by an ACM compliant modeling tool to determine the % better than Title 24. For projects falling between 10% and 30% better than Title 24, the kWh incentive rate is on a sliding scale and is equal to the "TDV % better than Title 24". The Therm Incentive and Peak Demand Incentives are both flat rates. (See Figure 2 and Table 2)

Whole Building Approach kW Incentive. Whole Building Approach projects are eligible for an incentive based on peak demand reduction. (See Table 2.)

Figure 2: Whole Building Approach incentive rates



Enhanced Commissioning Incentive. Non-residential new construction projects participating in Savings By Design's Whole-Building Approach that submit a comprehensive commissioning plan to verify that the building's energy-related systems are installed, calibrated and perform according to the project's design and construction documents are eligible for an incentive calculated as 10% of the Owner's Incentive. Eligible systems include:

- Energy-related systems included (minimum):
- Heating, ventilation, air-conditioning, and refrigeration systems and associated controls
- Lighting and daylighting control systems
- Domestic hot water control systems

Required Documentation includes:

1. Copy of commissioning agent's contract
2. Copy of commissioning plan to verify the installation and performance of the systems to be commissioned
3. Copy of project specifications that include commissioning requirements of the energy related systems

Certification Incentive. Projects using the Whole Building Approach that successfully register with an approved green building rating system and incorporate required design features are eligible for an incentive calculated as 10% of the Owner's Incentive. Eligible certifications include:

- USGBC LEED®
- CHPS
- Other certification organizations with Utility approval.

Certification Incentive Requirements include:

1. Copy of registration receipt
2. Copy of final checklist documenting features that have been completed
3. Inspection

End Use Monitoring Incentive. Projects that install end-use metering equipment able to monitor and record lighting, HVAC, process and plug loads separately are eligible for an incentive calculated as 10% of the Owner's incentive.

DESIGN TEAM INCENTIVES

Design Team Incentives. Incentives are paid to a Design Team leader who submits a Design Team application early in the design process. Design Team Incentives are only available for Whole Building Approach projects, subject to an Owner Incentive Agreement being signed, and are paid to the Design Team Leader.

Requirements and Features of the Design Team Incentive

- The Design Team Leader must submit a Design Team Incentive Application early in the design process.
- The proposed project's energy consumption must be at least 10% below the reference baseline.
- The Owner must complete the whole-building Owner Agreement.
- The Design Team shall supply the SBD representative with a report summarizing the baseline case and proposed case. The summary report will also include electronic files containing the energy simulation, construction documents, and incremental cost estimates. Your SBD representative will provide the reporting requirements of the Design Team Incentive.
- 50% of Design Team Incentive to be paid upon utilities acceptance of Owner's Agreement. The balance of the Design Team Incentive is to be paid upon project completion.

Integrated Design Stipend. A $5,000 stipend is available to the Design Team leader when:

- Project Owner Submits a whole building Owner Incentive Agreement.
- A Design Team lead submits a Design Team Incentive Agreement.
- A Design Team lead schedules at least two meetings prior to the completion of schematic design that include: Owner/developer, project architect, mechanical engineer, electrical engineer, and the Utility representative.
- Meeting minutes are submitted to the Utility representative detailing efficiency measures and opportunities under discussion. Contact your SBD representative for reporting requirements.
- Integrated Design Stipend will be paid upon utilities acceptance of Incentive Agreements. Confirm with individual utilities for additional details.

4 TABLES AND FIGURES

Table 1: Systems Approach Incentive Rates and Entry Levels[1]

Program Approach and System Categories	Entry Levels (% below T24)	Incentive	Maximum Incentive Per Project[2]
Systems Approach			
Lighting/Daylighting Systems	See program brochure for specific thresholds and requirements	$.05 / kWh $100.00 / peak kW	$500,000 ($150,000 SMUD)
HVAC Systems Refrigeration		$.15 / kWh $1.00 / therm $100.00 / peak kW	
Envelope Measures		$0.15 / kWh $100.00 / peak kW	
Service Hot Water Systems		$1.00 / therm	
Other Systems and Processes [2]		$.09 / kWh $.1.00 / therm $100.00 / peak kW	

[1] Unique building types and/or processes may receive a package of services and incentives that may differ from the Handbook guidelines when we elect to use an alternative delivery method (ADM).

[2] Incentives are limited to 75% of the incremental costs associated with efficiency upgrades. Incentives are limited to 15% of the applicable utilities' incentive budget available in the year of project completion. Maximum incentive may vary, contact applicable Utility for incentive limit.

Table 2: Whole Building Incentive Rates and Entry Levels[1]

Incentive Type	Entry Levels (% Below T24)	Incentive	Maximum Incentive Per Project[2]
Whole Building Approach			
Incentives paid to the Owner/Developer:			
Owner Incentive	10%	$.10 - $.30/kWh $1.00/therm + $100.00 / peak kW	$500,000 ($150,000 SMUD)
Certification Incentive	Dependent on requirements of organization responsible for registration	10% of Owner Incentive	NA
Commissioning Incentive	10%	10% of Owner Incentive	NA
End use Monitoring Incentive	10%	10% of Owner Incentive	NA
Incentives paid to the Design Team Leader:			
Design Team Incentive	10%[3]	1/3 of Owner Incentive[4]	$50,000
Design Team Stipend	N/A	$5,000.00	$5,000.00

[1] Unique building types and/or processes may receive a package of services and incentives that may differ from the Handbook guidelines when we elect to use an alternative delivery method (ADM).

[2] Incentives are limited to 75% of the incremental costs associated with efficiency upgrades. Incentives are limited to 15% of the applicable utilities' incentive budget available in the year of project completion. Contact applicable Utility for current limits.

[3] Half of the Design Team Incentive is payable upon receipt of a signed Owner's Agreement.

[4] Design Team Incentive calculation does not include Certification, Commissioning and End Use Monitoring incentives.