

# 2013-2014 Energy Efficiency Programs Small Industrial Facility Upgrades Program Implementation Plan

1. **Program Name:** Small Industrial Facility Upgrades  
**Program ID:** SCG3757  
**Program Type:** Third-Party Program

## 2. Projected Program Budget Table

**Table 1: Total Projected Program Budget by Category**

Program #	Main/Sub Program Name	Administrative Amount	Marketing Amount	Direct Implementation Amount	Incentive Amount	Total Program Budget Amount
	<b>SoCalGas Third Party Programs</b>					
3757	3P-Small Industrial Facility Upgrades	\$0	\$0	\$673,820	\$754,180	\$1,428,000
3757u	3P-Small Industrial Facility Upgrades (Utility)	\$17,644	\$6,146	\$36,923	\$0	\$60,713
	<b>TOTAL:</b>	<b>\$17,644</b>	<b>\$6,146</b>	<b>\$710,743</b>	<b>\$754,180</b>	<b>\$1,488,713</b>

Note: SCG continues to negotiate the final contract with the third party vendor. As a result of final contract negotiations, the budget allocation into the budget subcategories may vary.

## 3. Projected Program Gross Impacts Table

**Table 2: Total Projected Program Savings by Subprogram**

Program #	Main/Sub Program Name	2013-2014 Gross kW Savings	2013-2014 Gross kWh Savings	2013-2014 Gross Therm Savings
3757	3P-Small Industrial Facility Upgrades	0	0	678,762
	<b>TOTAL:</b>	<b>0</b>	<b>0</b>	<b>678,762</b>

Note: The therm savings are estimated based on contract negotiations with the third party vendor. The projected savings may change as a result of final contract negotiations.

## 4. Program Description

### a) Describe program

The Small Industrial Facility Upgrades Program will assist Southern California Gas Company (SoCalGas) industrial customers in becoming more energy efficient and productive through the adoption of existing, including low-penetration, technologies. The program will target small industrial customers with annual gas usage less than 50,000 therms, but be available to all industrial customers. The Program will offer proven measures currently used in SoCalGas's Calculated and Deemed Programs. These measures include calculated custom process improvements for heat recovery, process equipment replacement, and equipment modernization, furnace and oven improvements, and excess air reduction. The Program will also include deemed measures such as boilers, water heaters, and steam trap replacements, along with insulation improvements.

There are approximately 14,500 small industrial customers, defined as a meter with annual usage between 10,000 and 30,000 therms that would benefit from the program. In addition, there are 2,645-meter installations for customers with annual usage between 30,000 and 50,000 therms. Industrial customers with annual usage below 10,000 therms are very small with limited cost-effective energy savings potential; however, the Program will address such customers if needs are identified.

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Because the small industrial market segment has limited energy savings opportunities, and this market segment is struggling to focus on the core business and rarely has the time or expertise to focus on energy issues, the vendor community's focus is on repair and maintenance instead of new energy efficient equipment and practices. As a result, a "one size fits all" marketing approach has not been effective.

Targeted market penetration levels will be achieved through a combination of effective marketing combined with a program that creates a financial benefit to the customer. The elements below are designed to begin the market transformation process in this market segment.

Specific elements include:

- Offer an inclusive set of 31 itemized and custom measures for natural gas equipment that address operational concerns raised by small industrial facility managers and owners. As is well known, managers and owners do not always share the same perspectives, which is why the selected measures address both managerial (providing reliable improvements to the facility's operations) and owner concerns (offering cost-effective, sustainable savings of natural gas).
- Offer both comprehensive and targeted surveys and audits. This flexibility to suit the customer and conditions will keep the Program effective and cost-effective.
- Use marketing and implementation strategies that encourage sequential projects with an individual customer. The difficulty is in establishing the trust and credibility of the promise of energy savings; once it is established, customers become believers. With realized benefits from a first project and short payback, spillover activities are fairly common.
- Include not only small industrial facilities, but also local equipment vendors and active work with industrial associations like the California League of Food Processors, the California Mining Association, the Chemical Industry Council of California, and the Brewers Association, whose members routinely share information, advice, and tips.
- Work closely with SoCalGas's representatives on identifying customers "ripe" for change.

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### b) List measures

The table below includes all of the available measures:

**Table 3**

Measure	Unit	Rebate \$/unit
PER Furnace Replacement	Therm	\$ 1.00
PER Oven Replacement	Therm	\$ 1.00
CPI Heat Recovery	Therm	\$ 1.00
PER Misc. Process Equip. Replacement	Therm	\$ 1.00
CPI Equip. Modernization	Therm	\$ 1.00
EER Large Vat Fryers	Unit	\$ 500.00
EER Single Rack Oven	Unit	\$ 1,000.00
EER Double Rack Oven	Unit	\$ 2,000.00
Excess Air	Therm	\$ 1.00
Thermal Oxidizer	Therm	\$ 1.00
Process Boiler - Steam	MBtuh	\$ 0.50
Process Boiler - Water	MBtuh	\$ 0.50
Direct Contact Water Heater	MBtuh	\$ 2.00
Storage Water Heaters (LRG >75 MBTUH)	MBtuh	\$ 2.00
Storage Water Heaters (SML <= 75 MBTUH)	MBtuh	\$ 2.00
Instantaneous Water Heaters (>= 200 MBTUH)	MBtuh	\$ 0.50
Instantaneous Water Heaters (< 200 MBTUH)	MBtuh	\$ 2.00
Space Heating Boiler - Steam	MBtuh	\$ 0.25
Space Heating Boilers - Large Water	MBtuh	\$ 0.25
Commercial Boiler (Non-Space Heat, Non-Process)	MBtuh	\$ 0.50
Tank Insulation - Low Temperature Applic. (LF) 2 in	SquareFT	\$ 3.00
Tank Insulation - High Temperature Applic. (LF) 2 in	SquareFT	\$ 4.00
Tank Insulation - Low Temperature Applic. (LF) 1 in	SquareFT	\$ 2.00
Tank Insulation - High Temperature Applic. (LF) 1 in	SquareFT	\$ 3.00
Custom Steam Trap Replacement	Therm	\$ 1.00
Pipe Insulation -Hot Water Application < 1" pipe	LinearFt	\$ 2.00
Pipe Insulation -Hot Water Application >= 1" pipe	LinearFt	\$ 2.00
Pipe Insulation - Low pressure steam <=15 psi < 1" pipe	LinearFt	\$ 3.00
Pipe Insulation - Low pressure steam >15 psi >= 1" pipe	LinearFt	\$ 3.00
Pipe Insulation - Medium pressure steam <=15 psi < 1" pipe	LinearFt	\$ 3.00
Pipe Insulation - Medium pressure steam >15 psi >= 1" pipe	LinearFt	\$ 3.00

### c) List non-incentive customer services

Program services will include:

- On-site survey/audits to identify energy savings opportunities
- Design assistance to help customers understand and best achieve energy savings

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- Water savings benefit calculations and inclusion of measures in the portfolio that provide water savings in addition to energy savings
- Referrals to other SoCalGas services and resources, such the Energy Resource Center.
- Referrals to other programs available in the customers' area that may help reduce consumption and reduce operating costs, and provides cash flow towards which additional energy saving improvements
- Coordination with industry associations to promote energy efficiency improvements through trusted sources and encourage market-transforming practices among equipment vendors and purchasers.

The Program will target all the major natural gas consuming systems associated with process needs within small industrial facilities.

### 5. Program Rationale and Expected Outcome

a) **Quantitative Baseline and Market Transformation Information**

This section is not applicable

b) **Market Transformation Information**

This section is not applicable.

c) **Program Design to Overcome Barriers**

The following table provides descriptions of the barriers that Program seeks to address and the solutions the Program proposes to overcome the barrier.

Barrier	Solution
Lack of financing for energy efficiency improvements	Program provides targeted rebates and incentives to help customers overcome financial constraints.
Barriers to the entry of new energy efficiency technologies or systems whose efficiency or system performance levels are uncertain due to lack of experience	Program provides benchmarking and design advice and has established relationships with industry vendors/associations.
Customers have a primary focus on production, not energy efficiency	The program administration will use marketing efforts to highlight the need to also focus on energy efficiency
Lack of information about new programs and technologies	Program will utilize marketing and targeted information to educate customer on available technologies and programs available to them
Time and cost associated with hiring implementation contractors	Program will provide technical assistance, audits, and design advice.
Difficulty accessing industry-relevant technical resources	Program will provide technical assistance, audits, and design advice.
Potential language barrier with Hispanic run businesses	Program employs Spanish speaking staff

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**d) Quantitative Program Targets**

The program is designed to provide gas energy savings through a comprehensive and integrated approach. Specific components of the program are critical to the success of the program. These key non-incentive program services are shown in Table 5.

**Table 4**

Program Name	Program Target by 2013	Program Target by 2014
Numbers of on-site survey/audits conducted for small industrial customers	80	80
Number of outreaches conducted to vendors and trade allies	5	5

**e) Advancing Strategic Plan Goals and Objectives**

This program supports the Strategic Plan in the following manner:

Description	Strategic Plan Sector	Strategic Plan Goal	Strategic Plan Strategy
By incorporating water savings measures with energy savings measures and encouraging customer participation in other EE and DR efforts, the program helps develop coordinated energy and resource management objectives for the industrial sector	Industrial	Support California industry's adoption of energy efficiency by integrating energy efficiency savings with achievement of GHG goals and other resource goals.	1-1: Develop coordinated energy and resource management program for CA's industrial sector, to enhance use of energy efficiency.
By incorporating water savings measures with energy savings measures and encouraging customer participation in other EE and DR efforts, the program helps develop coordinated energy and resource management objectives for the industrial sector,	DSM Integration and Coordination	Deliver integrated DSM options that include efficiency, demand response, energy management and self generation measures, through coordinated marketing and regulatory integration.	1-3: Develop integrated DSM programs across resources, including energy, water, and transportation.

## 6. Program Implementation

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### **a) Statewide IOU Coordination**

- i. Program name
- ii. Program delivery mechanisms
- iii. Incentive levels
- iv. Marketing materials
- v. IOU program interactions with CEC, ARB, Air Quality Management Districts, local government programs, other government programs as applicable
- vi. Similar IOU and POU programs

Coordinating efforts will be made for customers that participate in the SoCalGas Calculated and Deemed Programs. Additionally, the proposed program will also coordinate with implementers and other third party industrial programs for both with local utilities and municipalities. The Contractor will leverage its recruitment and site visits for all of these programs to provide comprehensive energy savings solutions.

### **b) Program Delivery and Coordination**

The Program on as combined “systems” and “hands-on” approach examines each small industrial facility to locate multiple energy improvement opportunities and deliver optimal natural gas savings. The “systems” approach to optimizing processes captures much greater savings than is possible by simply replacing components. The Program has been further refined based on experiences gained from working at industrial and agricultural facilities. .

The “hands-on” aspect reflects a commitment to the program participant throughout the project cycle. The team leads the participant through each step of the process, making sure that all concerns and questions are addressed, and ensuring that the participant, as well as the utility, is satisfied with the project results. In addition, the team has Spanish-speaking members to address an identified barrier to participation.

- i. Emerging Technologies program  
Not applicable to this program.
- ii. Codes and Standards program  
Not applicable to this program.
- iii. WE&T efforts  
Not applicable to this program.
- iv. Program-specific marketing and outreach efforts (provide budget)  
The Program will use several marketing methods to reach the targeted customers, including face-to-face contact with equipment vendors, trade associations, and directly with customers; direct mail, inserts in trade publications, and via web access. The marketing plan is designed to educate small industrial facilities about the bottom-line benefits of identifying and installing energy efficiency measures in their plants and about the technical and financial assistance available through

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the Program and other SoCalGas programs. The marketing materials will be designed to increase awareness and participation, and explain the energy and non-energy benefits of the Program. Examples of potential marketing materials include:

- Brochure with general information about the program, application procedures, and benefits
- Letters and inserts for targeted mailings and email campaigns to small industrial facilities and vendors
- Newsletter articles, fact sheets, and case studies for inclusion in publications read by small industrial facility owners and managers

The design of this program is based on the experience and success of implementation of similar programs, familiarity with the technology and targeted markets, and the extensive technical knowledge and personnel resources available.

**v.** Non-energy activities of program  
Not applicable to this program

**vi.** Non-IOU Programs  
Not applicable to this program

**vii.** CEC work on PIER  
Not applicable to this program

**viii.** CEC work on codes and standards  
Not applicable to this program

**ix.** Non-utility market initiatives  
Not applicable to this program

**c) Best Practices**

The program design incorporates various best practice elements from Volume S – Crosscutting Best Practices Report and Project Summary, National Energy Efficiency Best Practices Study, December 2004. Specific items include:

- **Program Theory and Design:** The program has developed a sound program plan and has a clearly articulated program theory.
- **Program Management:** Program uses well-qualified engineering staff and motivates field staff and efficiency service providers.
- **Program Participation Process:** Program keeps the application process and forms from being overly complex and costly to navigate while at the same time not being over-simplified, provides technical assistance to help applicants through the process, and develops a cadre of trade allies who can then assist customers through the process.
- **Marketing and Outreach:** Program will market energy efficiency options directly to end users at the earliest decision-making stages of major equipment or facility

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modifications, use personal marketing, where cost effective, to identify and address customer-and industry-specific barriers and customer issues, develop and disseminate case studies of key technologies and segment applications.

Based on previous experience, the program includes the following lessons learned:

- Targeted surveys and audits that focus on specific aspects of the operations result in more effective project development than do comprehensive audits. Experience has been only 12% of comprehensive audits have produced energy savings projects for small to medium sized industrial customers. Customers want to start with smaller projects that address their immediate needs. This allows them to become familiar with the process, while achieving some energy savings at lower cost and risk.
- In our experience, the most useful way to characterize customers is (a) those that are already knowledgeable about their energy utilization and know where and how they can save energy and (b) customers who do not already know much about their facility's detailed energy use, nor what specific opportunities exist for energy savings. For the first group of customers, the program will serve as an enabler. For the second group, the program is an educator, facilitator, and opportunity identifier.
- Customers with industrial processes typically prefer to make changes to one specific aspect of their operation at a time. They want to see success with one measure before considering others. Many times customers install additional measures as their satisfaction with and confidence in our advice builds. Repeat contact is quite effective in bringing projects to completion and making subsequent projects more likely.

### **d) Innovation**

The strategies to fully engage this market segment in the concept of energy efficiency will include:

- building upon the success of the vendor outreach utilized by SoCalGas to identify customers that are likely to respond positively to a more comprehensive approach;
- working with SoCalGas representatives to develop a strategic plan targeting this sub-segment;
- developing partnerships with successful additional vendors and creating strategies that identify additional candidates for replacements to capture energy savings opportunities and,
- mining past SoCalGas activities including energy audits and Energy Van visits to help target customer specific recruitment efforts.

### **e) Integrated/Coordinated Demand Side Management**

Although this is not an Integrated Demand Side Management program, the energy efficiency (EE) and demand response (DR) capabilities will allow the program to integrate and implement strategic objectives for the SoCalGas small industrial customers. The process will provide an opportunity to be able to identify electric energy savings and other utility savings within this market segment that might otherwise be missed in the

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absence of the program. Coordinating efforts will be done with core programs, SCE and other utilities to identify these opportunities and realize all energy saving opportunities.

**f) Integration Across Resource Types (energy, water, air quality, etc)**

Continuous expansion on the existing relationships will be done with the South Coast Air Quality Management District (SCAQMD) and California Air Resources Board (CARB). Integration efforts with these agencies will support the effort identify energy saving opportunities to help the small industrial customers meet increasingly stringent air quality regulations. Additional integration efforts will also build upon the increased attention to natural gas energy efficiency associated with AB32 and the increased national emphasis on reducing greenhouse gases. The audits will include information on the amount of greenhouse gas reductions are associated with each energy saving project.

**g) Pilots**

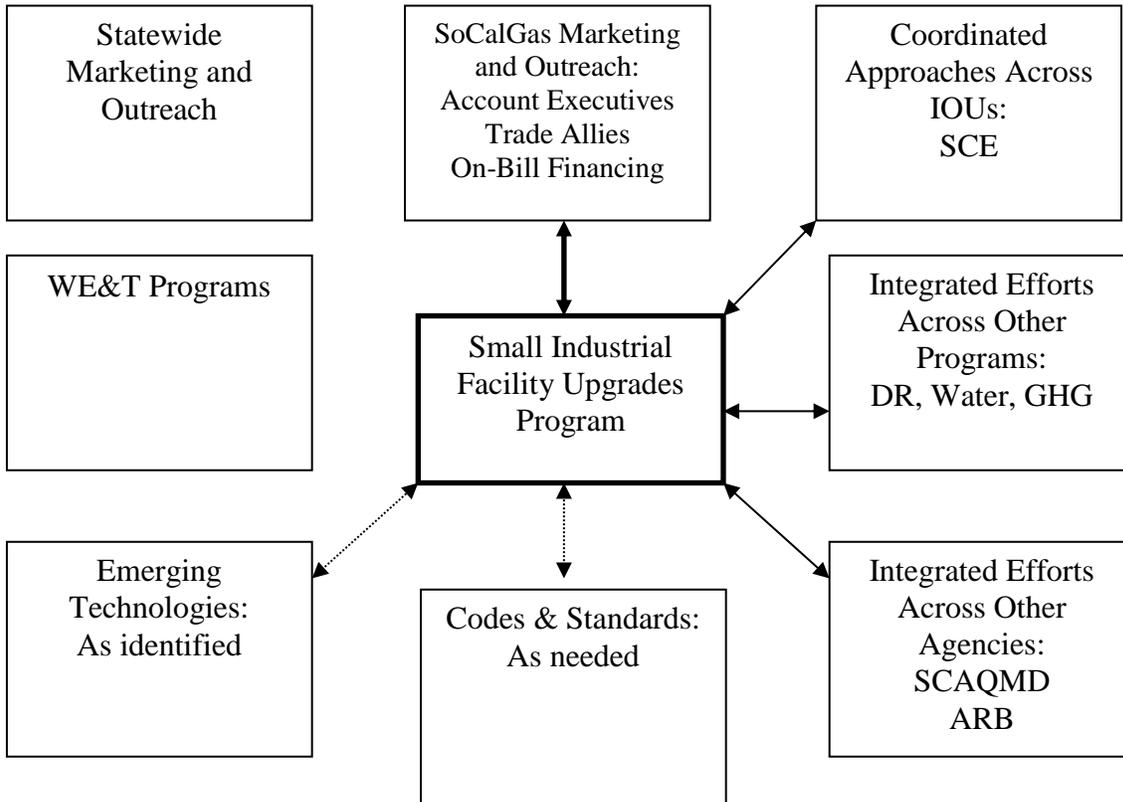
Contractor is not planning any pilots associated with this program.

**h) EM&V**

The utilities are proposing to work with the Energy Division to develop and submit a comprehensive EM&V Plan for 2013-2014 after the program implementation plans are filed. This will include process evaluations and other program-specific studies within the context of broader utility and Energy Division studies. More detailed plans for process evaluation and other program-specific evaluation efforts cannot be developed until after the final program design is approved by the CPUC and in many cases after program implementation has begun, since plans need to be based on identified program design and implementation issues.

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## 7. Diagram of Program



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## 8. Program Logic Model

