

2006-2008 Energy Efficiency Programs Silicon Valley Leadership Group Energy Watch

PGE2035 SILICON VALLEY LEADERSHIP GROUP ENERGY WATCH (SVLGEW)

1. Projected Partnership Budget

\$6,400,000

2. Projected Net Partnership Impacts

MWh:	20,859
MW (Summer Peak):	3.277
Therms:	63,810

3. Partnership Cost-effectiveness

TRC:	2.99
PAC:	2.63

4. Partnership Descriptors

Market Sector: Nonresidential: Commercial

Partnership Classification: Local

Partnership Status: New

5. Partnership Statement

PG&E and the Silicon Valley Leadership Group (SVLG) will work together on the SVLG Energy Watch Partnership (SVLGEW). SVLGEW will promote reduced energy use and energy savings targets for the SVLG members by providing energy efficiency information, commercial building energy assessments, energy-efficient equipment and energy system metering and monitoring equipment to eligible PG&E customers. Eligible PG&E customers include small, medium and large business customers that are members of SVLG and Sustainable Silicon Valley (SSV).

6. Partnership Rationale

SVLGEW expands beyond current initiatives by integrating continuous monitoring based commissioning (MBCx) with the installation of energy monitoring and metering equipment at the building and system level to provide continuous MBCx and to support demand response. In addition, peak demand and energy reduction opportunities will be captured by providing technical assistance and financial incentives to encourage capital investments in energy efficiency. The Partnership is modeled after the SVLG MBCx pilot program funded in 2005-2006 and successful MBCx element offered through the UC/CSU partnership funded in 2005.

Success of the partnership will be ensured by the inclusion of Sustainable Silicon Valley (SSV), a collaborative focused on reducing greenhouse gas (GHG) emissions for the Silicon Valley. SSV's task will be to develop Climate Action Plans for each of their members to use energy efficiency to meet their GHG reduction commitments. This

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approach is unique and serves to reduce yet one more barrier to energy efficiency. Further, the inclusion of summer peak demand reduction with retro-commissioning and retrofits provides a truly integrated approach that should leave few lost opportunities.

Central monitoring and data acquisition systems will be procured and installed to give facilities management staff the tools to reduce energy consumption and peak demand by having consolidated energy information at the building system level. This aspect will incorporate a facility needs assessment where hardware needs will be investigated, such as sub-metering selected buildings and locating monitoring points on major energy usage areas. Software needs, such as databases to display and archive system and building performance, will also be considered. Monitoring systems may be permanently installed and used by facilities management staff to perform facility demand reduction and retro- and continuous commissioning. In order to ensure sustainable, ongoing energy savings, SVLGEW will establish an initiative to continuously commission the buildings, using monitoring systems to ensure ongoing efficient operations. Ultimately, SVLG and SSV members will have both the trained staff and the permanent monitoring systems to continue to commission the buildings over time, thereby ensuring persistent energy savings.

Demand reduction strategies will be developed for each of the participating properties. The demand-reduction strategies will focus on the critical peak-pricing model, i.e., voluntary reduction as opposed to automated reduction. Partnership staff will develop baseline load shapes, including 10-day and 3-day profiles consistent with the Demand Response Program evaluation. On demand-reduction event days, partnership staff will work with properties to implement their strategy. The impacts on demand reduction days will be estimated and catalogued in an effort to project demand-response potential for SVLGEW. The intent of SVLGEW is to reduce peak demand permanently and not just on the specific days called for demand response. The goal of 3.277 MW summer peak reduction refers to permanent demand reduction.

7. Partnership Implementation Strategy

One of the keys to success for SVLGEW is a well organized management process, founded on clear delineation of responsibilities, definitive understanding of available resources and schedule, respect for other members' skills and experience, and most important, clear and continuous communication among all project members. SVLGEW is comprised of a number of nationally recognized experts in energy efficiency program design, implementation and evaluation. The combined experience this team brings to the initiative is unparalleled. The task of project management is made significantly easier by bringing together such a group of experienced entities that have worked on numerous projects with each other over the past decade. Furthermore, as the vast majority of our team members are based in the Bay Area, face-to-face communication, a crucial element to successful project management, will be more easily facilitated.

The implementation strategies for the 2006-2008 SVLGEW are listed below in detail.

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- 7.1.** Monitoring Based Commissioning (MBCx): Pioneered with the UC/CSU/IOU Partnership in 2004-2005, the MBCx element is a unique approach to obtaining savings that combines the expertise of the various facility management staff, additional utility and subcontractor expertise, and the installation of energy monitoring and metering equipment at a building's sub-meter and system level. Unlike past retro-commissioning efforts, MBCx goes beyond a one-time review of operations and equipment installation and a few training workshops. It requires that organizations that participate install sufficient equipment to insure an extensive and comprehensive built-in measurement and verification capability. Additionally, this element will be combined with energy efficiency education and training to become a continuous commissioning effort that becomes institutionalized at each participating institution. In this way, savings will be sustained well beyond those from the more typical and limited retro-commissioning. PG&E has funded an MBCx pilot program in 2005 for SVLG members to gain site-specific experience in the high tech sector. MBCx will also use the participating organizations' facilities management staff or outside experts to identify new cost-effective retrofit opportunities efficiently and at low cost. MBCx is available for buildings larger than 100,000 square foot area.
- 7.2.** Commercial Building Energy Assessments: PG&E's technical consultants will provide specialized energy audits to small, medium and large commercial customers. Technical consultants will survey commercial facilities to identify energy efficiency and peak demand reduction opportunities and recommend applicable incentive that may help offset the initial investment in energy-efficient measures.
- 7.3.** Energy Efficient Retrofits: SVLG, SSV and their eligible member organizations will have overall responsibilities for the implementation of retrofit projects. PG&E will collaborate with SVLG to identify potential projects. Preliminary audits have already provided potential project information. However, the partnership will conduct additional facility assessment to identify projects and provide a project list for implementation. The energy-efficient measures to be implemented may include both electric and gas measures such as lighting retrofits (T5 technology, light emitting diode (LED) applications, newer 28 watt T-8's), building wide lighting controls, boiler replacements, installation of water heaters, tankless water heaters, heating, ventilation and air conditioning (HVAC) and chiller upgrades/replacements and central plant projects. Other activities may include assessment and implementation of measures for waste water treatment operation and food service preparation.

8. Partnership Outcomes and Objectives

SVLGEW will work towards the achievement of immediate, long-term energy and peak demand savings and the establishment of a permanent framework for a sustainable, long-term energy management programs for partner entities.

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Demand reduction strategies will be developed for each of the participating properties. The demand-reduction strategies will focus on the critical peak-pricing model, i.e., voluntary reduction as opposed to automated reduction. Partnership staff will develop baseline load shapes, including 10-day and 3-day profiles consistent with the Peak Demand Reduction Program evaluation. On demand-reduction event days, Partnership staff will work with properties to implement their strategy. The impacts on demand reduction days will be estimated and catalogued in an effort to project demand-response potential for SVLGEW.

Specific objectives for the SVLGEW include:

- SVLG and SSV members will have both the trained staff and the permanent monitoring systems to continue to commission the buildings over time, thereby ensuring persistent energy savings;
- Achieving immediate, cost-effective energy and demand savings through retrofit and retro-commissioning projects;
- Focus on comprehensive, persistent and cost-effective savings through long-term relationships with customers;
- Foster long-term relationships through customer service, superior quality control, and on-going communication;
- Provide seamless, hassle-free access for customers to appropriate programs and offerings (PG&E, third party, and local government partnerships); and
- Identify gaps and work with PG&E to fill those gaps so that all SVLG and SSV members are served.

9. Partnership Customer Description

Eligible PG&E customers include small, medium and large -size business customers that are members of SVLG and SSV.

Customer types targeted by SVLGEW vary depending on the services provided and include:

- Small Business –Commercial Building Energy Assessments; Energy Efficiency Retrofits;
- Medium Business – Commercial Building Energy Assessments; Energy Efficiency Retrofits, Monitoring Based Commissioning; and
- Large Business – Commercial Building Energy Assessments; Energy Efficiency Retrofits, Monitoring Based Commissioning

10. Partnership Customer Interface

Customers will interact with contractors, vendors and consultants. They will receive information from IOU marketing, as well as through innovative outreach efforts.

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The SVLGEW implementer will coordinate with other energy efficiency programs in PG&E's service area including programs implemented by PG&E, other non-IOWs and local government partnerships to enhance consistency in offerings where applicable, minimize duplicative administrative costs, and enhance the possibility that programs can be marketed together to avoid duplicative marketing budgets.

11. Energy Measures and Partnership Activities

11.1. Measures Information

The cost-effectiveness calculator contains end-use summary measures for the calculated incentive component. Incentive levels for the targeted market programs were developed to reflect current market conditions.

11.2. Energy Savings and Demand Reduction Level Data

As noted in section 11.1 above, measure-specific energy savings and demand reduction level data are contained in the cost-effectiveness calculators. The end-use specific values provided in the Large Commercial program calculator are based upon historic values from statewide programs such as Savings By Design. The achieved energy savings and demand reduction levels will be calculated for each project employing the calculated savings approach.

11.3. Non-energy Activities (Audits, Trainings)

SVLGEW will include non-energy activities such as energy audits, marketing and outreach, administration, and training and education. These activities will be limited and targeted to enhance the overall success of the Partnership's energy impact goals and stated objectives. See Section 7 on Partnership Implementation Strategy for more detail on specific activities.

11.4. Subcontractor Activities

SVLG is responsible for the implementation of:

- Marketing and Outreach;
- Technical Audits;
- Energy Efficiency Retrofit; and
- Monitoring Based Commissioning (MBCx).

Other contractors may be selected to assist with implementation as necessary.

11.5. Quality Assurance and Evaluation Activities (including EM&V)

PG&E, working with the SVLGEW, will establish and oversee quality assurance measures for its activities including oversight and verification of subcontractor activities. These

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procedures and the associated reporting will be developed in more detail as a part of implementation. In general, however, PG&E and the LGPs will continue the level of due diligence and quality assurance of its present energy efficiency offerings including a representative percentage of pre-/post-installation confirmation inspections for small hardware projects, and pre-/post-inspections on all large or specialized hardware projects.

11.5.1. *Expected Number/Percent of Inspections (planned percent of projects)*

100 percent of projects for customers larger than 200 kW customer load using calculated savings will have a pre-installation and a post-installation inspection.

11.6. Marketing Activities

SVLGEW will use both existing utility infrastructures such as statewide outreach and rebate processing that will increase the saturation and reach of marketing efforts. SVLGEW will utilize a variety of marketing efforts to reach end-use customers. In addition, SVLGEW will work with PG&E on an overall partnership initiative to leverage the Energy Watch brand. A specific marketing and outreach plan will be developed for each implementation strategy as listed above describing how offerings will be marketed to all eligible SVLG and SSV member companies.

SVLG and PG&E will have overall responsibility for SVLGEW marketing and outreach through existing implementer and PG&E channels.

Specific activities/channels may include:

- **Business Partnership Promotions:** Meetings with targeted business owners/managers to discuss benefits of energy efficiency and provide information regarding SVLGEW and other PG&E energy efficiency programs. SVLG may consider aggregation of small business members; and
- SVLG and SSV member meetings and e-mail correspondence.