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# SDG&E Energy Programs for Customers and IT Infrastructure Optimization

## Current Energy State



- Compared to the rest of the nation, California electricity prices are high and electricity demand continues to grow
- Conservation is vital to help avoid power emergencies during peak-demand periods
- National Estimates Per the EPA\*:
  - In 2006, data centers consumed roughly 61 billion kwh or 1.5 percent of the nation's electricity (\$450M annual energy cost)
  - Data center energy consumption has doubled since 2000
  - The volume server, was responsible for the majority (68 percent) of the electricity consumed by IT equipment in data centers
  - Expected to reach 100 billion kwh per year in 2011 (\$7.4B annual energy cost)

# Connecting CFO and CIO to Energy Efficiency



## CFO concerned with:

- Total cost of ownership (TCO)
- Return on investment (ROI)
- Cost containment

## CIO concerned with:

- Cost of change to the organization
- Implementation difficulties
- Effect on Staffing and IT service levels
- Alignment of IT deliverables to business demands.

## The Disconnect:

- IT energy use paid for by the facility department, therefore energy efficiency is not an issue
- Data Center energy profile not always available as segregated load
- Cost of servers dropping and server sprawl becoming rampant
- IT reliability in many instances outweighs the cost of energy and equipment



## Energy State of the State



The Sempra Energy Utilities and other California IOUs are working to overcome the disconnect by providing our customers with the information, support and energy programs they require including:

- Energy Efficiency Programs
- Demand Response Programs
- New Construction Programs
- Partnerships
- On Bill Financing

# Current Energy Efficiency Programs



- Incentive Programs
  - Energy Savings Bid – BID (Local)
  - Standard Performance Contract – SPC (Statewide)
- Rebate Programs
  - Express Efficiency – Express (Statewide)
  - Small Business Super Saver - SBSS (Local)
- New Construction
  - Savings By Design (Statewide)
- Partnerships
- On Bill Financing

# Energy Savings Bid and Standard Performance Contract Overview



	<b>Energy Savings Bid Program</b>	<b>Standard Performance Contract Program</b>
Type of Program	Local SDG&E Program	Statewide Program (SDG&E, SCE, PG&E)
kWh Requirements	Project must save minimum of 500,000 kWhrs annually	None
Therm Requirements	Project must save minimum of 25,000 therms annually	None
Inspection	100% Pre and Post Inspections	100% Pre and Post Inspections
Measurement & Verification	Required on all projects	Required on some projects

# ESB and SPC Incentive Level Overview



	<b>Energy Savings Bid Program</b>	<b>Standard Performance Contract Program</b>
Lighting	Up to \$0.07/annual kWh savings	Up to \$0.05/annual kWh savings
A/C & Refrigeration	Up to \$0.20/annual kWh savings	Up to \$0.14/annual kWh savings
Other	Up to \$0.10/annual kWh savings	Up to \$0.08/annual kWh savings
Electric	Up to \$0.80/annual therm savings	Up to \$0.80/annual therm savings
Natural Gas	Up to \$0.80/annual therm savings	Up to \$0.80/annual therm savings
Incentive Levels	ESB incentive level is the lesser of: 100% project measure cost or based on the incentive levels listed above with no cap	SPC incentive level is the lesser of: 50% of measure cost or based on the incentive levels listed above with a <i>site</i> cap of <b>SDGE</b> \$350,000. No Customer cap.

# SPC and BID Incentive Programs



- The Programs offer incentive payments for energy efficiency projects involving the retrofit or installation of new, high-efficiency equipment or systems
- The programs are open to all commercial, industrial, and agricultural customers and their contractors/project sponsors regardless of size or project scope, with a project that delivers kWh or therm savings.
- Calculate any measure using the Calculated (SPC) Measure Approach.
- Calculations may be done using either the SPC estimation software or using engineering calculations.
  - **Estimation software:** Calculates energy savings based on site-specific information for the project
  - **Engineering calculations:** If measures are not addressed by the software, calculate the savings by using accepted engineering procedures. Only use this option if the software does not address your measure completely.

# Standard Performance Contract Program Specifics

## Estimation Software



Provides savings calculations for a variety of common energy saving measures.

- **Lighting replacements/retrofits**
- Professional wet cleaning
- **Lighting controls**
- Injection molding machines
- Pulse cooling for injection molding
- **Chiller replacements**
- **Some A/C replacement units**
- **A/C economizers**
- Rapid close doors for cold storage
- **Cool roofs**
- **Variable-speed drives**
- Tape drip irrigation
- Demand control ventilation (DCV)
- **Carbon monoxide sensors for parking garage**
- Wastewater retro-commissioning
- Motors and Motor efficiency upgrades
- Natural gas boiler measures
- Air compressor system upgrades
- Thermal oxidizer upgrades
- Refrigerated tank insulation
- All projects must be installed and operational by December 2
- Refer to [www.sdge.com/spc](http://www.sdge.com/spc) for program details



# IT Energy Efficiency Measures in SPC and BID



## Incentives offered for IT specific measures through SPC and BID:

- Server consolidation, dynamic provisioning and virtualization (Statewide Stand Alone Calculator)
- High efficiency servers (Blades, MAIDS, etc)
- Phase change and TES
- Rack radiators
- High Efficiency Rack Fans
- Power management software (Also Available in Rebate Programs)
- High efficiency inverters
- CRT to LCD
- DC power distribution
- *OTHERS: If the savings are measurable, it is likely we can offer **SDGE** incentives!*

# Express Efficiency and Small Business Super Saver Overview



	<b>Express Efficiency</b>	<b>Small Business Super Saver</b>
Type of Program	Statewide Program (SDG&E, SCG, SCE, PG&E)	Local SDG&E Program
kW Requirements	100 kW or above	Below 100 kW
Therm Requirements	4,166 therms or above	Below 4,166 therms
Rebate Limit	\$350,000 per account, (customer, corporation or chain account), per fuel, per year*	None

\*Customers who have reached their \$350,000 rebate limit in the Express Efficiency Program or have more customized projects are encouraged to apply to the Standard Performance Contract Program (SPC)

## Express Efficiency and Small Business Super Saver



- Rebates are available to commercial, industrial, and agricultural SDG&E customers with existing buildings that have an electric or natural gas account
- Rebates are paid per measure as itemized on the rebate form
- These programs offer over 140 measures including:
  - **Lighting**
  - Refrigeration
  - Food Service Equipment
  - Gas Equipment
  - **Power Management Software**
  - **Other Technologies**

## Savings By Design



- Savings By Design is California's energy efficiency program for nonresidential new construction and renovation/remodeling projects.
- The program offers building owners and their design teams a wide range of opportunities, including:
  - Design assistance in the form of analysis, information and resources to help you design efficient buildings.
  - Owner incentives of up to \$150,000 per project to help pay for the investment in energy-efficient buildings.
  - Design team incentives of up to \$50,000 per project to reward designers who meet ambitious energy-efficiency targets.
- New Construction incentives for Data Centers

For more information please visit [www.SavingsByDesign.com](http://www.SavingsByDesign.com)

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# On-Bill Financing Program and Contact Information



On **B**ill Financing (OBF) helps qualified commercial customers pay for EE business improvements through their SDG&E bill. OBF works in conjunction with some of our rebate and incentive programs to provide a zero percent interest loan.

- Maximum loan term is 5 years
- Loan minimum is \$5,000 and loan maximum is \$50,000 (per meter, per customer)
- Web site: [www.SDGE.com/obf](http://www.SDGE.com/obf)

# Demand Response Programs



Demand Response is reducing energy usage during temporary critical times and is part of SDG&E's plan for a balanced mix of resources to meet the region's energy needs

Benefits include:

- Incentives
  - Receive incentives for saving energy during temporary critical times
  - Reduced consumption equates to lower bills — even for temporary reductions
- Minimize potential costs and inconveniences incurred by outages
  - Get advance notice when energy supply could become an issue
- Tools to help monitor and leverage energy consumption
  - Advanced metering and online management tool
- Community recognition
  - Serve as a model for other businesses and consumers
  - Public relations benefits

# Demand Response Tools



## kWickview

- Online energy management tool for DR participants which allows you to monitor and analyze your business's energy use

## Technical Assistance/Technical Incentives (TA/TI)

- TA offers a free assessment of demand response potential and identifies energy efficiency leads for your business
- TI are available to qualifying businesses who install equipment/controls that will enable the demand response strategies. These measures must be identified and approved in the TA audit.

# Partnerships



## Higher Education / Investor Owned Utility Partnership

- Unique, statewide, multi-million dollar, multi-year energy efficiency program for all community college and UC/CSU campuses
- Funded by ratepayer public goods charges and administered by IOUs under direction from CPUC
- Energy Efficiency Retrofits
- Monitoring Based Commissioning (MBCx)
- Training and Education

## Contact Information



For more information on these and other rebate, incentive and energy programs, visit our Energy Savings Center at [www.SDGE.com/ESC](http://www.SDGE.com/ESC) or contact me directly:

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