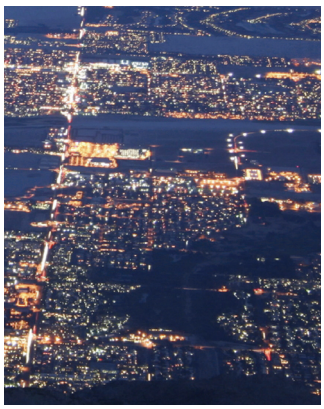
Energy Efficiency in California's Public Power Sector

A Status Report

MARCH 2009



CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION

NCPA NORTHERN CALIFORNIA POWER AGENCY

SCPPA

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Executive Summary

California Senate Bill 1037 (Kehoe), signed into law in September 2005, established several important policies regarding energy efficiency. Among the many provisions of the law is a statewide commitment to cost-effective and feasible energy efficiency, with the expectation that all utilities consider energy efficiency before investing in any other resources to meet growing demand. Public power shares in this commitment and partners with state agencies to aggressively pursue all cost-effective energy efficiency. Doing so is even more critical at this juncture, as the California Air Resources Board (CARB) aggressively looks to implement the state's greenhouse gas reduction program, assuming that energy efficiency programs will provide more than 10 percent of the total reductions needed for California to return to 1990 emission levels by the year 2020.

This report, *Energy Efficiency in California's Public Power Sector: A 2009 Status Report* complies with Section 6 of the statute, requiring each publicly-owned utility (POU) to "report annually to its customers and to the State Energy Resources Conservation and Development Commission, its investment in energy efficiency and demand reduction programs." Thirty-nine POUs are submitting energy efficiency data in compliance with the provisions of the legislation.

The California Municipal Utilities Association (CMUA), in partnership with the Northern California Power Agency (NCPA) and the Southern California Public Power Authority (SCPPA), began a collaborative effort in October 2005 to develop an evaluation tool to measure energy efficiency program effectiveness and report program savings in a consistent and comprehensive manner. In December 2006, the first joint publicly owned utility report on energy efficiency was submitted to the California Energy Commission (CEC). This collaboration continues today, and this third report takes into consideration several reporting modifications made in response to the enactment of California Assembly Bill 2021.

POU's long-standing commitment to energy efficiency is an extension of fundamental principles dedicated to social and environmental responsibility, ensuring reliability, and keeping rates low for the communities that they serve. Even with this commitment, the cost for each utility to deliver energy savings can vary dramatically from year-to-year, depending on the customer base of the individual utility, the climate zone in which the utility resides, physical size of the service territory, and customer desires to invest in energy efficiency. To the latter point, the recent economic downturn will create additional pressures towards convincing customers to invest in energy efficiency measures.

The principal findings and conclusions of this analysis are as follows:

- POUs have invested over $220 million on efficiency programs since 2006, representing direct investment in local community infrastructure, supporting economic development, and helping to create a robust green job workforce.
- During FY07/08, POUs spent approximately $104 million on energy efficiency programs, a 64 percent increase in spending compared with the previous year. Reductions in electricity consumption are equally impressive. In the most recent reporting year, peak demand dropped more than 82 megawatts, with more than 400 million kilowatt-hours saved on an annual basis, both significantly higher than savings from programs implemented in the previous year.

- POU energy efficiency expenditures for FY08/09 are expected to increase to over $150 million, resulting in 128 megawatts of savings during the summer peak and 625 million kilowatt-hours during the entire year.
- Public power energy efficiency programs provide more than three dollars of societal benefits for every dollar spent. Applying the Total Resource Cost (TRC) societal test, the weighted average cost effectiveness for all publicly owned energy efficiency programs in FY07/08 was 3.31, higher than the 3.15 estimate reported in the previous year. By comparison, programs authorized by the California Public Utilities Commission (CPUC) for the investor-owned utilities range between 1.6 and 2.4.
- The 15 largest POUs account for nearly 97 percent of energy efficiency savings in the public power community.
- Lighting continues to dominate public power energy efficiency programs, accounting for approximately half of total energy savings achieved. This number is lower in percentage terms than in recent years, as POUs have focused considerable efforts toward diversifying their energy efficiency programs.
- Customer behavior plays a role in the success of utility efficiency programs.
- Energy efficiency is a critical tool for POUs to reduce greenhouse gas emissions in California. FY07/08 programs within the public power community will reduce statewide greenhouse gas emissions by 2.3 million tons CO_2 equivalent over the lifetime of the installed measures.

I. Introduction

The California Municipal Utilities Association submits this third report providing an update on the status of publicly-owned utility energy efficiency programs. The report complies with Section 6 of Senate Bill 1037 (SB1037) and Section 3 of Assembly Bill 2021 (AB2021), which require each publicly-owned utility to:

> "Report annually to its customers and to the State Energy Resources Conservation and Development Commission, its investment in energy efficiency and demand reduction programs. A report shall contain a description of programs, expenditures, and expected and actual energy savings results."

Thirty-nine publicly-owned utilities (POUs) are submitting data in compliance with the provisions of the legislation.

The following report contains six sections beyond this introduction. Section II provides a brief overview of public power energy efficiency programs, followed by a snapshot of the many innovative programs available to customers of public power utilities. Also highlighted in the section are the many awards recognizing utility program achievements. Section III describes the approaches the public power community is taking to track and verify savings from energy efficiency programs. In this discussion, significant attention is paid to the measurement and evaluation activities being performed.

Section IV provides the results of POU energy efficiency programs, with individual program data and summaries being contained in a comprehensive Appendix. Within this section is the first evaluation that measures program results to the efficiency goals adopted by each utility in 2007. Also included is a brief discussion regarding exogenous factors that may impact the ability of individual utilities to meet their goals on an annual basis. Demand reduction programs are highlighted in Section V, including emerging interest in the deployment of advanced metering infrastructure (AMI). The last section offers principal conclusions, but also offers some insights about the direction of future reports.

II. Overview of Public Power Energy Efficiency Programs

POUs long-standing commitment to energy efficiency is an extension of fundamental principles dedicated to social and environmental responsibility, ensuring reliability, and keeping rates low for the communities we serve. Energy efficiency is of the utmost importance to municipal utilities. Energy efficiency is a critical element of the resource planning process, generation, transmission, distribution, and demand. Public power commitments to energy efficiency are guided by four important concepts:

- **Social and Environmental Responsibility.** POUs place a high priority on energy efficiency, investments in renewable power supplies, low-income programs, and economic development.

Local elected officials govern and regulate public power to ensure direct accountability on these important issues to customers.

- **Operational Energy Efficiency.** Public power has important energy efficiency programs that optimize power generation, transmission, and ensure more optimal operation of the grid.
- **Demand-side Energy Efficiency.** This is a major focus of POUs. It includes, but is not limited to: appliances, air-conditioners, building codes and standards, education, electricity management, and weatherization, all coordinated with customer-specific programs.
- **Cost-effective Energy Efficiency.** Cost-effective energy efficiency lowers the cost of providing electricity to our communities. POU customers are "shareholders" and benefits related to energy efficiency are realized by **all** customer-owners.

Public Power Success Stories: Best Practices

Public power commitments to energy efficiency programs are extensive and comprehensive. More than $150 million in energy efficiency programs are budgeted for the current fiscal year. POUs expect these programs to reduce peak demand by 128 megawatts and more than 625 million kilowatt-hours of energy consumption on an annual basis. A more detailed discussion of these results will be addressed in Section IV of this report.

Residential programs focus on energy audits, Energy Star® appliance rebates and replacements, lighting improvements, attic insulation, as well as incentives to install highly-efficient heating, ventilation and air conditioning (HVAC). Commercial and industrial programs target lighting, HVAC, and manufacturing/food processing equipment. POUs also partner with schools and public institutions to educate residents and implement a variety of beneficial programs.

Public utilities maximize the success of energy efficiency programs and services because of their unique relationships with customers and their ability to specifically tailor programs to meet the needs of their communities. POUs are responsive to local concerns, allowing them to maximize the value of all energy efficiency programs.

Public utilities are diverse, and that diversity is reflected in differing programs tailored to the needs of local constituents, taking into consideration the climate zones and other factors. Common to all however, is the desire to spend energy efficiency dollars wisely and utilize the benefits of local decision-making to create programs that are effective, innovative and forward-thinking.

The following programs highlight public power's commitment to innovation in energy efficiency:

Burbank Water and Power (BWP) – Residential In-Home Audits. During the first quarter of 2009, BWP staff will be rolling out their most ambitious program to date – in terms of expected energy and water savings – through The Residential In-Home Audit and Installation Program. What sets this program apart from similar programs is that BWP is partnering with the Southern California Gas Company to cost-share while creating a program that is comprehensive for residential customers. Conservation of electricity, water (both indoors and for landscape purposes) and natural gas are all folded into this

program. For the next several years, BWP and the Gas Company have a goal of servicing 3,000 Burbank households (about 7 percent of all homes) annually with this program.

Burbank Water and Power (BWP) – CFL/Aerator Mailout Program. In 2008, every BWP address – residential and business alike – received a package containing two compact fluorescent lights (CFLs) and two 1.0 gallon per minute bathroom faucet aerators, along with energy- and water-saving information and tips. This initiative was supported with a comprehensive communications campaign, including several City Council presentations, a "teaser" article in BWP's *Currents* newsletter, a follow-up article in the publication, and a humorous video created by Burbank's Public Information Office and starring BWP staff. The video played extensively on the City government cable channel which receives surprisingly high viewership within Burbank. A second shorter video was also created to push installation of the package contents. BWP followed up the initiative with market research to gauge program success and were very encouraged by the results.

Imperial Irrigation District (IID): Fifty Negawatt Plant. IID is developing a plan to "construct" a 50 Negawatt[1] plant over the next five years. IID is pooling resources to provide more vibrant and aggressive energy efficiency and renewable energy programs for its customers. This includes pooling resource procurement funds together with demand side management funds to increase and expand customer incentives. In this way, IID will buy reduced load instead of acquiring energy through purchases or construction.

Some of the following programs are already being implemented, while others are in various stages of analysis and development:

- Replacement of 6,000 old, inefficient residential central air conditioning systems.
- Retrofitting commercial lighting systems to save over 8 MW.
- Introducing and expanding an aggressive pumping program for irrigation systems and the over 8,000 residential swimming pools within the District to save over 5 MW.
- Enhancing the existing AC diagnostic and repair program to keep thousands of residential and business air conditioning systems in their most energy efficient operating condition.
- Adding Thermal Energy Storage (TES) systems to thousands of small businesses to shift load off-peak.
- Implementing a residential and business demand response program to provide over 50 MW of controlled load over the next three years.

Imperial Irrigation District (IID): HVAC Diagnostic and Repair Program. In 2008, IID's air conditioner diagnostic and repair program improved the efficiency of over 24,000 tons of residential and commercial air conditioning systems. The program delivered over 23 gigawatt-hours in energy savings and over 7,783 kilowatts in peak demand reduction in the spring of 2008. This contractor driven program included 23 participating HVAC contractors and is credited with increasing IID's 2007 energy efficiency

[1] The equivalent of a megawatt of power avoided or saved from use.

program savings from 8 gigawatt-hours to over 30 gigawatt-hours in 2008. Additional improvements to the program are planned for 2009.

Los Angeles Department of Water & Power (LADWP) – Low Income Refrigerator Exchange Program. This program provides new energy-efficient refrigerators to low-income customers in exchange for their existing inefficient older models. The goal is to replace 50,000 refrigerators over a three-year period, which is expected to produce over 37 gigawatt-hours of annual energy savings. In 2009, the program will be expanded to include replacement of refrigerators in multi-family dwellings.

Roseville Electric – Utility Exploration Center. Roseville Electric partnered with Environmental Utilities to fund the development and construction of a one-of-a-kind facility where customers learn how the way they use energy and water affects their bill and the environment. The Utility Exploration Center is a high-tech, hands-on facility offering ways to change behavior through education, programs and services and new technologies. The facility is open to all ages and has special student tours available to educators that comply with state education curriculum requirements.

Sacramento Municipal Utility District (SMUD) – Home Electronics Program and Home Electricity Reports. The Home Electronics Program has multiple implementation components: *Education*—Educate consumers on ways to reduce usage by the increasing proliferation of electronic devices in homes that consume energy even when turned off. *Collaboration*—SMUD, collaborating with other utilities, regional and national advocacy organizations, and the U.S. EPA, will influence electronics standards-setting, and will design and deploy program and best-practices guidelines to coordinate impacts of other developing home-electronics programs. *Incentives*—Later in 2009, SMUD will implement an upstream manufacturer and retail-incentive program that can be replicated by utilities across the nation.

Home Electricity Reports is a scientifically-designed pilot program to measure the impact of sending electricity-usage reports to residential customers. The reports compare the customer's monthly usage to that of the previous year and to 100 neighbors in similar-size homes. The reports are customized to each house and provide energy tips to assist the customer in making behavior changes that reduce their energy use.

Silicon Valley Power – Data Center Optimization Program. This program targets small data centers less than 10,000 square feet within existing office or other buildings. The program will deliver an assessment of all electric end uses such as facility site infrastructure loads (cooling, fans, pumps, lighting, and uninterruptible power supplies), network equipment, storage, and servers. The program scope includes comprehensive facility assessments, reports, project management service during implementation, financial incentives for energy reductions, and savings verification services.

Truckee Donner Public Utility District: Light Emitting Diode (LED) Holiday Light Exchange Program. Started in 2007, this program includes both residential holiday lighting and business accent lighting. Residential customers can bring up to three strands of old lighting and exchange them for up to three 20-foot strands of ultra high-efficiency LED holiday lights. This program is targeted at the energy efficiency gains of LED holiday lighting but also acts as a powerful marketing tool to educate customers

about the LED technology and the benefits of energy efficiency. In 2008, five percent of Truckee Donner PUD's customers participated in this program, with nearly 10 miles of traditional holiday lights exchanged for more-efficient LED holiday lights.

SCPPA and NCPA Collaborative Programs. Both SCPPA and NCPA support the development and transfer of energy efficiency program best practices through their Public Benefits Committees. Additionally, utilities join together to implement efficiency programs and services when it produces consistency, provides for economies of scale, and yet allows enough flexibility to tailor solutions to meet individual community needs. These collaborations provide small utilities with access to customer programs and services that they would otherwise not be able to cost effectively deliver.

During 2008-09, SCPPA members aggressively pursued CFL campaigns, placing thousands of energy-efficient lights in homes and businesses. The cities of Anaheim, Burbank and Glendale had direct mail efforts where every household -- and in one case every address regardless of residential or commercial -- received an eye-catching package containing two CFLs and considerable efficiency information and education. The City of Banning also provided CFLs to every household, but did so in an extremely personal way: going door-to-door with the packages and discussing the need for conservation with all available residents.

The majority of SCPPA members offer small business direct install programs and this year we upgraded vendor contracts to provide more measures and even better pricing. SCPPA members also went through a competitive bid process to enter into agreements to provide large business customers with retro-commissioning services. In this way, the members look to provide comprehensive programs for all residential and business sectors.

In 2009, NCPA member utilities expanded two successful programs – currently provided to Silicon Valley Power customers – by making the programs available to all 15 NCPA members and, additionally, two small Northern California municipalities. The first program – *The Keep Your Cool Program* – targets food retailers by offering direct installation of efficient refrigeration measures. This program has successfully brought in new efficiency program participants who, given the high levels of customer satisfaction being achieved, are very likely to participate in future program offerings. The second offering is the Questline Communication Service, which provides utilities with three inter-related customer communication, education, and outreach services. The primary service is an electronic newsletter that is distributed to customers on a monthly basis. The newsletter features current utility efficiency program offerings, informational articles on a variety of efficiency and renewable areas of interest, plus links to two additional services – a technical assistance hot line and an extensive electronic library containing energy, technical, and business-related information.

Public Power Energy Efficiency Awards

CMUA, the American Public Power Association (APPA), and other agencies have formally recognized some of the most effective and innovative energy efficiency programs offered by the public power community. Each spring, CMUA presents as many as six Community Service/Resource Efficiency Awards to a mixture of smaller and larger water, gas, and electric utilities. The following are examples of award-

winning POU energy efficiency programs. The following programs were recognized in 2008 for their achievements and innovation:

Glendale Water and Power – CMUA Award for the Cool Care Program. The Cool Care Program provides long-term electric bill discounts for low-income customers encouraging the replacement and recycling of old, energy inefficient refrigerators. Through the Cool Care Program, Glendale has replaced and recycled over 3,000 refrigerators with new Energy Star models since July 2003.

Roseville Electric – CMUA and SEPA Awards for the BEST Homes Program. In 2008, Roseville Electric received the CMUA Community Service Program Award, an award that honors utility companies who create innovative and comprehensive approaches to serving local community needs, for BEST Homes program. This program also received recognition from the Solar Electric Power Association (SEPA) for the development of solar and energy efficient communities and for its leadership in new solar home developments.

Launched in 2007, BEST was a new and innovative one-of-a-kind program. The BEST Homes program combines the benefits of a photovoltaic rooftop solar electric system with high efficiency air conditioning, a tight ducting system, improved insulation and Energy Star rated appliances. With the renewable power generation and the energy efficiency upgrades, each BEST home is transformed into a "virtual peaking power plant", reducing Roseville Electric's need to acquire expensive peak demand power while dramatically reducing the customer's energy bills.

This program provides cost effective, reliable and measurable methods to significantly reduce the customer's electricity consumption and summertime electric peak demand in these homes. BEST, an acronym for Blueprint for Efficiency and Solar Technology represents "smart" growth and development. It is recognized that the BEST Homes program goals can only be achieved through a strong, and previously unprecedented, partnership and cooperative effort between the City, new residential home builders, and solar vendors.

City of Riverside – APPA Award for Continued Excellence (ACE). The City of Riverside earned the ACE Award from the APPA's Demonstration of Energy-Efficient Developments (DEED) program. The award recognizes the utility's long-term commitment to energy innovation and its support of research and development projects aimed at improving efficiency and renewable resources for public power systems.

Silicon Valley Power (SVP) – APPA Energy Innovator Award. SVP received this award for its Outreach to Underserved Customers, which is a combination of multiple programs designed to assist customers on its Financial Rate Assistance Program and seniors by increasing energy conservation and lowering electric bills. Qualified customers received new Energy Star Whirlpool refrigerators as part of a direct replacement program. In addition, SVP offered a portable fan give away and through a partnership with two senior groups in Santa Clara, offered free energy-saving lights and installation assistance for homes of seniors.

Public Power's Commitment to Operational Energy Efficiency

Efficiency gains related to generation and transmission services serve an important role in reducing the cost of electricity to consumers, ensuring reliable operation of the statewide grid, and helping to significantly reduce the use of fossil fuels for power generation. In the context of the AB2021 debate, these gains have another useful purpose for measuring energy efficiency program success from a public power perspective.

Following are descriptions on how six utilities are achieving operational savings (Anaheim, Burbank, Glendale, LADWP, Palo Alto, and Plumas Sierra), as well as NCPA in connection with the facilities it operates on behalf of its 17 members. In addition to the projects described below, Alameda Municipal Power is planning to perform an evaluation of the efficiency potential of its electric system and, to that end, has recently applied for a grant from APPA under the DEED program.

Anaheim Public Utilities

Anaheim routinely assesses distribution system losses with the goal of assuring that system efficiency is economically optimized. The following are just a few examples of how Anaheim is working to reduce the level of line losses on its system.

- Anaheim evaluates transformer losses as part of the total ownership cost when purchasing all utility transformers and is moving toward DOE compliant units by the 2010 deadline.
- All new loads are served directly from the 12.47 kilovolt system. Doing so reduces system losses substantially, compared to putting the loads on a lower distribution voltage.
- Anaheim has an undergrounding program and an aggressive conductor upgrading program which uses larger gauge ASCR conductors to improve system reliability while at the same time providing the added benefit of lower system losses.
- Anaheim regularly evaluates circuit performance and implements circuit configuration changes, addition of reactive sources and load balancing in order to optimize performance. These changes inherently reduce the distribution system losses.
- Next year, Anaheim will be implementing an A Bank deenergization program which will save an estimated 679,776 kilowatt-hours annually in no load losses per A Bank. The total annual savings are estimated to be 2,039,328 kilowatt-hours.

During the development and analysis of major capital projects, Anaheim considers loss reduction benefits as one of the factors to determine the final project site and configuration. The following are two examples:

- Vermont Substation Project – besides reliability improvements, this project will reduce overall system losses due to moving the transmission source closer to the middle of the system.
- Canyon Power Project – among other factors, the site was selected in order to locate this project in Anaheim's Canyon Industrial Area, which will result in lower overall system losses.

Burbank Water and Power (BWP)

During FY07/08, BWP increased the conductor size on a few primary circuits. The increased efficiency resulted in 80 megawatt-hours of annual energy savings and a demand reduction of 26 kilowatts. During the current fiscal year, the utility's re-conductoring efforts will be minimal since peak load did not increase last year.

In other operational improvement efforts, Burbank upgraded about 100 services last year. The increased efficiency of a larger wire size saves an estimated three megawatt-hours annually with a peak demand reduction of two kilowatts. This work is ongoing and will likely produce similar savings over the next few years.

BWP also retires many old transformers every year, replacing them with new, efficient models. The number varies from year to year. For FY07/08, this activity saves about 74 megawatt-hours annually, representing a demand reduction of 14 kilowatts.

In total, BWP experienced operational loss reductions of about 50 kilowatts and 160 megawatt-hours during FY07/08. Savings for the current fiscal year are expected to be about 30 kilowatts and 100 megawatt-hours.

Glendale Water and Power

Glendale's citywide power system upgrade project is now in its second year. Under the project, all electrical system facilities will be converted to handle 12,000 volts rather than 4,000 volts. It is anticipated that the entire power system will be upgraded by 2016. In addition to improving electric service and system reliability, this project will save energy by reducing line losses. To date, Glendale estimates annual energy savings at 988,000 kilowatt-hours.

LADWP

LADWP has a number of activities designed to improve the operational efficiency of its system. It should be noted that these numbers are not reflected in the operational savings estimates provided in the tables. Half of DWP's new load is served directly from the 34.5-kV system. This reduces system losses substantially compared to putting the load on the 4.8-kV system. It also eliminates added distributing station capacity (more losses) and fewer system expansions for the 4.8-kV system. Continued progress has been made. This past year, LADWP tried a new type of 34.5-kV transformer with built in fuse protection. This is an incremental step toward lower smaller footprints and lower cost for 34.5-kV distribution. Wider use of 34.5-kV distribution results in lower losses compared to 5-kV distribution. The utility is evaluating this approach to see if it has wider applications.

LADWP changed the specifications to order lower temperature rise distribution transformers. In the past, the utility purchased 65 degree rise transformers. LADWP now purchases 55 degree rise transformers. (Lower is better). This was largely done to provide additional overload capability as well as longer life, but it has the added advantage of reducing losses and upgrading performance to meet the

new DOE energy efficiency standards that take effect in 2010. The utility also has strict requirements related to acceptable losses for transformers. This is expected to provide significant energy savings.

Distribution standards will be changing overhead construction standards to provide greater use of larger conductors. This is expected to increase circuit tie capabilities, provide a more robust construction, and offer additional resistance to wind-related outages. This activity is intended to have the added benefit of lower system losses, and is still under evaluation.

Also being done by the utility is a comprehensive reactive power study, looking at ways to provide improved reactive power support and reduce system losses. The study is still in the development stages. Finally, a Smart Grid demo is being conducted this year in the San Fernando Valley that will help the utility prevent grid overloads (and associated losses) before they become failures for both the circuits and the transformers.

Palo Alto

Palo Alto implemented two electric distribution projects – Underground District 41 and El Camino Real service upgrade from 4 kV to 12 kV – that are producing more than 763 megawatt-hours of annual energy savings with an expected useful life of 50 years.

Plumas Sierra Rural Electric Cooperative

Due to the remote nature of the Plumas Sierra system and the substantial distribution system necessary to reach all our rural members, Plumas Sierra is subject to significant system operational losses (~17,520 megawatt-hours annually). Investment in construction upgrades yields efficiency savings from reduction in system peak losses. In 2008, Plumas Sierra completed the Clio overhead, Wingfield Road rebuild, Sierra Valley rebuild, Plumas Pines underground replacement and Center Road rebuild; cumulative reducing load by more than 36 kilowatts.

NCPA Operational Improvements

In addition to the programs of individual utilities, the value of joint action can actually create savings among groups of public power utilities. NCPA has long been committed to improving the performance and stopping the decline in generating capacity of the two renewable geothermal generating plants it operates in the Geysers, located in Sonoma and Lake County, which currently provide up to 120 megawatts of peak power. In 2002, NCPA entered into a public-private partnership with nearby Lake County to build a pipeline around Clearlake and pump treated wastewater up the mountain and inject it into the underground reservoir at The Geysers. This effort provided an economic solution for the neighboring county, solved a key local wastewater issue, and helped mitigate steam decline in the Geysers. In 2008, NCPA for the first time stopped a long-trend of declines in generation capacity.

In FY07/08, NCPA implemented several improvements that improve generating efficiency at the Geysers

- Steam Turbine Unit 2 was overhauled in April 2008, resulting in increased efficiency of 1-2 percent. For the same quantity of steam, the unit produces 3,000-6,000 megawatt hours of energy on an annual basis.

- Solar Project # 1 became commercial in December 2008 and will generate 2.1 million kilowatt hours annually, providing 23 percent of the power needs for a one megawatt pump station on the effluent pipeline.

Additional activities are expected during the course of the next 12 months that will further add generation capacity to the system.

- An injection well turbine generator capable of generating 500 kilowatts is expected to be installed and tested in March 2009. If successful, the turbine will generate more than 4,000 megawatt hours on an annual basis.

- A booster pump will be installed in April 2009 on the effluent pipeline that will increase water for injection flow rates by 150 gallons per minute, resulting in an additional 11,000 megawatt hours of generation on an annual basis.

- A vacuum pump will be installed in August 2009 on the Unit 4 gas removal system that will reduce parasitic steam usage and increase annual generation by 2,500 megawatt hours.

- A second one megawatt solar photovoltaic system will be added at the Geysers to help power the wastewater pumping stations.

In summary, public power has been dedicated to energy efficiency at the utility level and for its customers for years. It is a critical element of our resource planning process.

III. Tracking and Verifying Energy Savings

This section provides an overview of the approaches that public power is undertaking to track and verify energy efficiency savings from existing programs, and discuss approaches that might be used to evaluate programs in the future.

Tracking and Estimating Program Savings

For the past three years, public power has relied heavily on the expertise of Energy and Environmental Economics (E3) and KEMA Inc. to assist with the development of a spreadsheet tool (E3 Reporting Tool) and representative data that is used to calculate energy efficiency savings by utility. These tools were created to allow California's publicly-owned utilities to measure energy efficiency program effectiveness and report program savings in a consistent and comprehensive manner.

The E3 Reporting Tool is a sophisticated Excel spreadsheet model used to report the results of utility energy efficiency programs. The Reporting Tool allows program administrators to report energy savings from both standard (deemed energy savings from the KEMA quantification report described below) and non-standard measures. To provide consistency, non-standard (custom) measures are reported using the same type of measure attributes used for standard measures. Custom measure attributes

(calculated energy savings, expected useful life, etc) are supported by documentation developed by each utility's program administrator.

The KEMA quantification reports and subsequent updates provide cost and savings attributes for over 5,000 proven end-use measures. The measures were adopted primarily from the CPUC's Database for Energy Efficient Resources (DEER). The measure attributes from the KEMA quantification reports provide the deemed energy savings values that are used in the E3 Reporting Tool. Specific details about the E3 Reporting Tool were provided in previous reports and are not repeated here. For the 2009 report, slight modifications were made to make it easier for utility program administrators to analyze their data. The savings numbers in the model were also unchanged from the previous report. However, it is our intent to update these estimates based on the final update to the CPUC's DEER database, which is expected to be completed by the end of this year.

Verifying Program Results

AB2021 calls for all publicly-owned utilities to independently verify the results of their energy efficiency programs on an annual basis. In creating a new process that would provide utilities and regulators with timely feedback that could be used to further enhance programs going forward, the public power community chose not to repeat processes created by the CPUC. Instead, particularly for the larger POUs, variations were applied to utilize the same conceptual protocol, but applied in a way that produces final results in a more-timely manner. For smaller utilities, a different approach was needed.

Successful and Cost-Effective Elements of a Small to Mid-sized Utility Program Evaluation

Over the past year, after initial discussions amongst the public power community, NCPA, along with 10 of its members and two other small Northern California municipalities developed a framework to guide these utilities to: 1) develop evaluation plans that include a framework for evaluating programs, and 2) use this approach to document the measurement and verification results for the most important programs currently being utilized. The following describes the process utilized for performing such an analysis.

Educate and build mutual trust – Small utilities face a steep learning curve when tackling program evaluation for the first time. Therefore, the first step is to select a qualified consulting firm to work either individually or collectively with utilities. It is essential that sufficient time be allotted to educate the consultant on the unique aspects of local efficiency programs, educate program administrators on the benefits of impact/process evaluation, and to develop a better understanding by all on how to effectively build the framework for a cost effective evaluation plan.

Develop evaluation plan – An evaluation plan establishes the framework for effective implementation and sets the boundaries for evaluation costs – both first time costs and costs that can be expected to occur on an annual basis. It provides the appropriate analytical approach; first by prioritizing programs for evaluation (those with the greatest impact on savings or highest levels of uncertainty). Secondly, the plan describes the data collection strategies that can be employed and makes recommendations on how the strategies can be implemented in the most cost effective manner.

Implement plan –The evaluation plan is then implemented based upon the plan recommendations, expected costs, and project timeline.

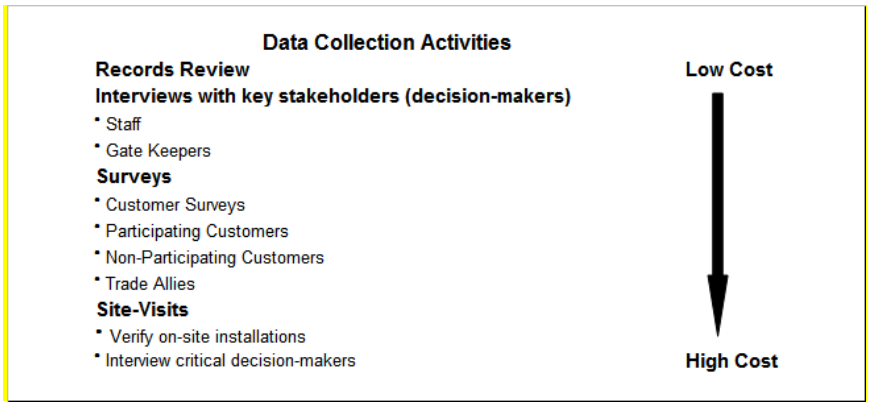
It is worthwhile to note that effective management of the timeline can help control annual costs. One such method utilized by several utilities was to spread out the evaluation effort over several years. This way, essential first steps and high impact program elements can be addressed the first year, with lower impact programs evaluated in subsequent years.

Although evaluation efforts are customized to meet the needs of the individual utility, the following steps are common to all program evaluations – review tracking systems, review program procedures, data collection, and presenting results.

For utilities embarking on formal program evaluation for the first time, it is beneficial to review and make improvements to program procedures and data tracking systems. Existing internal program reporting procedures are not likely to be structured to meet evaluation needs. By integrating program evaluation needs into existing program data collection processes, the program administrator can streamline and reduce the costs for both data tracking and future program evaluation efforts.

Data collection can be very expensive, so an effective plan for collecting efficiency measure data is essential. The best strategy is to collect data in a low cost manner before moving to higher cost activities.

Figure 1
Summary of Data Collection Activities



The results of the program evaluation are then presented in a stand-alone report. The report format should consistently and effectively conveys the results of the evaluation. The common elements that make up a comprehensive reports are: report summary, process evaluation objectives, impact evaluation objectives, program descriptions, evaluation methodology and approach, evaluation results (verification and realization rates), and recommendations for program improvement.

Utility Updates Regarding Independent Evaluation Activities

Evaluation activities in the last year have varied significantly by utility size, with larger utilities continuing their ongoing efforts to review the effectiveness of their programs, and smaller utilities establishing a new framework by which to evaluate their programs. The following summarizes the efforts being undertaken in the public power community. A complete list of reports and plans, including web links to the actual reports, is contained in Appendix C.

Large Utilities

- **LADWP**. LADWP has retained the services of an independent third party, Expedient Energy, to evaluate its energy efficiency programs. The firm is currently assessing energy efficiency projects completed in fiscal years 2006-2007 and 2007-2008 (July 1 – June 30). Projects being reviewed represent a random sampling from the full spectrum of LADWP's energy efficiency program portfolio. The final report is anticipated to be completed in the summer of 2009.

- **SMUD.** In concert with its commitment to significantly ramp up energy-efficiency activities over the next decade, SMUD has established a framework to develop yearly M&V action plans. SMUD is planning these activities for all of its major programs, scheduled at fixed intervals (2-4 years apart), with the intention of evaluating all programs on a continued cyclical basis through 2017. For methodological approaches needed to perform specific types of evaluations, SMUD will be guided by the CPUC's "California Evaluation Framework" (June 2004) and "California Energy Efficiency Evaluation Protocols" (April 2006).

  SMUD is planning to allocate approximately three percent of its total energy-efficiency budget towards impact- and persistence-focused M&V studies. These studies will be conducted primarily through the use of third-party contractors, with management and oversight by SMUD's Business Planning Department. SMUD has awarded or is in the process of awarding contracts for consultants to perform evaluations of the following programs in 2008 and 2009:

  - Residential—Energy Advisory Services, Pool & Spa Efficiency, Appliance Efficiency, Retail Lighting, Home Electricity Reports, Home Energy Use Display, and Solar Smart Homes.

  - Commercial—Custom Incentives, Express Incentives, Prescriptive Lighting, and HVAC & Motor Distributor Incentives.

- **Modesto Irrigation District.** During 2008, MID initiated efforts to obtain an independent, third-party review of its energy efficiency programs. To that end, MID hired Taylor Systems Engineering to: 1) evaluate its public benefit programs, and 2) develop an overall M&V plan. Concurrently, MID hired Power Services to evaluate a number of its larger rebate projects (over $50,000 typically) and smaller ones, as warranted. Basically, MID's present M&V plan is to have independent review of: 1) all large rebate projects, 2) a sample of small rebate projects and 3) a sample of prescriptive programs.

  To date, third party M&V review has been conducted for three custom rebate projects, the

scope of which encompasses process cooling, insulation, and compressed air. The two reports from Taylor Systems Engineering are still pending.

Mid-Sized and Small-Sized Utilities

As noted above, much of the M&V activity surrounding the mid-sized and small utilities has focused on the development of evaluation plans. Of the utilities developing plans in the past year, several utilities were able to also complete an evaluation as well (See Appendix C). Those utilities not listed in Appendix C and not described above remain fully committed to M&V activities but chose to closely evaluate the progress of these efforts before launching their own programs. These programs are expected to be developed during the next reporting cycle, through the joint action efforts of SCPPA and NCPA.

IV. Program Results

This section provides an aggregated discussion about current and future energy efficiency programs and savings that apply to California's public power utilities. The discussion stops short in most cases of utility specifics, and defers a more detailed overview of specific utility program descriptions, expenditures, as well as expected and actual energy savings to Appendix A of this report.

Table 1 summarizes POU energy efficiency program savings and cost information for fiscal years 2006 through 2008.[2] We are pleased to report that both electricity savings and expenditures continue to increase substantially within the public power community. During FY07/08, POUs spent approximately $104 million on energy efficiency programs, a 64 percent increase in spending compared with the previous year. Reductions in electricity consumption are equally impressive. In the most recent reporting year, peak demand dropped more than 82 megawatts, with more than 400 million kilowatt-hours saved on an annual basis, both significantly higher than savings from programs implemented in the previous year. POU energy efficiency expenditures for FY08/09 are expected to increase to over $150 million, resulting in 128 megawatts of savings during the summer peak and 625 million kilowatt-hours during the entire year.

[2] Imperial Irrigation District, Merced Irrigation District, Modesto Irrigation District, Plumas-Sierra Rural Electric Cooperative, Sacramento Municipal Utility District, Turlock Irrigation District, and Truckee Donner Public Utility District all operate on a fiscal year that extends on a calendar year basis. As such, each utility's data for FY07/08 is actually calendar year 2008, and data for FY08/09 is actually for calendar year 2009. CMUA, NCPA, SCPPA, and CEC staff recognize this data nuance.

Table 1
POU Program Information Summary

2006-2008 Publicly-Owned Utility Program Results				
Year	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle MWH Savings	Total Utility Cost ($)
FY05/06	52,552	169,302,601	2,249,214	$ 54,412,728
FY06/07	56,772	254,331,659	3,062,361	$ 63,151,647
FY07/08	82,730	401,919,205	4,473,801	$ 103,907,266

Projected Savings - All POU Summary				
Year	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle MWH Savings	Total Utility Costs ($)
FY08/09	127,849	624,603,503	6,456,995	$ 152,121,340

Continuing a long-standing trend within the public power community, the vast majority of energy efficiency program impacts reflect public power's two largest utilities: LADWP and SMUD. Approximately 54 percent of peak savings and 57 percent of annual savings can be attributed to these two utilities in the most recent year. While LADWP and SMUD account for a significant total of public power program savings, it does not discount the importance of energy efficiency programs being offered by the rest of the state's POUs. Table 2 attempts to highlight this, looking at public power's efficiency programs without LADWP and SMUD included in the total.

Given the wide range of diversity surrounding each utility and program offerings, the reported results show a trend that clearly suggests program spending and electricity savings are increasing. During FY07/08, the remaining utilities spent over $39 million on energy efficiency programs, reducing load by nearly 38 megawatts at the peak and more than 171 million kilowatt-hours during the year.

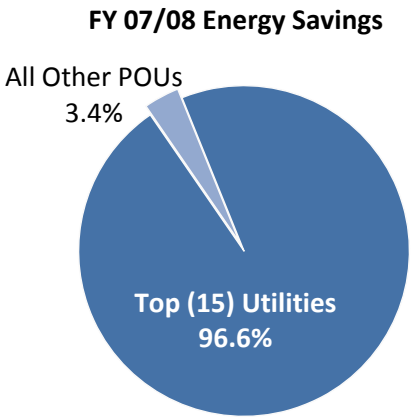
Table 2
POU Program Information Summary

2006-2008 Results - Excluding LADWP & SMUD				
Year	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle MWH savings	Total Utility Cost ($)
FY05/06	19,292	67,766,218	953,628	$ 21,921,485
FY06/07	21,174	96,740,737	1,402,162	$ 28,663,125
FY07/08	37,822	171,738,010	2,079,276	$ 39,000,521

Looking at it yet another way, 15 utilities provide nearly 97 percent of the net peak savings and net annual kilowatt-hour savings for the group as a whole. Table 3 provides the FY 07/08 data for the 15 utilities and shows their combined energy savings as a percentage of the total POU energy savings for the year.

Table 3
Utilities Most Heavily Influencing Energy Efficiency and Demand Savings

FY 07/08 Energy Savings - Top (15) Utilities				
Utility	Net Peak KW Savings	Net Annual KWh Savings	Utility Percent of Total Savings	Cumulative Percentage of Total Savings
LADWP	21,812	115,519,295	28.7%	28.7%
SMUD*	23,096	114,661,900	28.5%	57.3%
IID*	8,774	30,643,702	7.6%	64.9%
Silicon Valley Power	1,125	24,509,440	6.1%	71.0%
Anaheim	8,047	16,808,144	4.2%	75.2%
Modesto*	2,765	16,129,286	4.0%	79.2%
Glendale	2,379	13,547,794	3.4%	82.6%
TID*	1,710	10,936,997	2.7%	85.3%
Roseville	2,007	9,313,572	2.3%	87.6%
Burbank	2,023	8,719,081	2.2%	89.8%
Pasadena	1,589	8,163,616	2.0%	91.8%
Riverside	1,771	7,259,573	1.8%	93.6%
Truckee Donner*	927	4,455,607	1.1%	94.7%
Palo Alto	666	4,398,899	1.1%	95.8%
Lodi	147	3,090,527	0.8%	96.6%



Summary of Results by Public Power Utility

Table 4 provides a comprehensive summary of energy efficiency savings in public power, shown by individual utility. The diversity of public power utilities is evidenced by the wide disparity of savings, largely a reflection of utility size. As an example, this analysis shows that many municipalities have realized or are planning to realize significant increases in savings in the next year. Four municipalities (LADWP, SMUD, Anaheim, and IID) had peak savings that exceeded five megawatts. Another nine utilities (Burbank, Glendale, Modesto Irrigation District, Pasadena, Redding, Riverside, Roseville, Silicon Valley Power, and Turlock Irrigation District) have peak savings that fall between 1-5 megawatts.

Table 4
All POU Summary by Utility
FY07/08

All POU SUMMARY	Resource Savings Summary				Cost Summary			
	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Alameda	180	2,135,449	26,796,276	14,657	52,453	-	363,002	415,455
Anaheim	8,047	16,808,144	171,088,208	94,900	972,631	2,378,002	304,162	3,654,795
Azusa	358	2,352,143	25,072,995	13,824	557,198	71,504	129,101	757,803
Banning	141	634,027	6,283,488	3,517	99,047	-	79,850	178,897
Biggs	19	132,877	1,548,387	843	27,745	-	12,282	40,027
Burbank	2,023	8,719,081	100,707,054	53,411	1,578,437	752,694	388,950	2,720,081
Colton	604	1,582,588	15,628,835	8,412	290,268	3,500	7,001	300,769
Corona	6	22,815	212,552	113	35,410	-	8,000	43,410
Glendale	2,379	13,547,794	121,211,416	66,974	995,094	1,678,486	273,259	2,946,839
Gridley	7	23,550	312,034	181	12,946	-	40,695	53,641
Healdsburg	85	236,349	2,657,851	1,473	84,883	-	35,001	119,884
Hercules	1	7,939	72,149	39	895	-	1,000	1,895
IID*	8,774	30,643,702	336,839,531	195,630	3,422,923	-	1,534,408	4,957,332
Industry	-	-	-	-	-	-	-	-
LADWP	21,812	115,519,295	1,465,925,318	783,244	14,820,485	14,875,959	6,245,300	35,941,745
Lassen	185	123,046	2,080,538	1,142	96,833	-	51,056	147,889
Lodi	147	3,090,527	34,716,425	19,241	129,300	-	285,349	414,649
Lompoc	61	304,163	4,218,092	2,290	45,892	63,670	13,322	122,884
Merced*	262	1,870,992	23,949,292	13,307	205,521	-	232,028	437,549
Modesto*	2,765	16,129,286	221,886,546	118,978	1,491,728	235,417	1,412,127	3,139,272
Moreno Valley	-	298,000	2,980,000	1,656	4,300	-	3,900	8,200
Needles	19	71,565	1,288,166	818	150,003	-	15,000	165,003
Palo Alto	666	4,398,899	48,220,815	26,215	476,324	-	1,008,304	1,484,628
Pasadena	1,589	8,163,616	92,081,823	48,574	1,179,510	-	177,289	1,356,799
Pittsburg Power/ Island Energy	2	10,234	92,133	49	795	-	315	1,110
Plumas Sierra*	42	421,974	9,832,861	4,997	234,462	-	152,033	386,495
Port of Oakland	-	279,720	4,475,520	2,480	13,436	-	112,177	125,613
Rancho Cucamonga	413	359,388	3,366,542	1,940	80,400	54,900	24,630	159,930
Redding	1,233	1,639,577	19,699,232	11,295	2,112,631	-	192,038	2,304,669
Riverside	1,771	7,259,573	109,346,640	63,029	1,089,065	259,853	1,390,233	2,739,151
Roseville	2,007	9,313,572	134,324,338	75,879	1,447,676	142,771	467,214	2,057,660
SMUD*	23,096	114,661,900	928,599,840	376,083	13,099,387	-	15,865,613	28,965,000
Shasta Lake	14	30,298	496,281	292	20,700	-	44,129	64,829
Silicon Valley Power	1,125	24,509,440	376,915,835	204,811	3,291,336	212,429	2,299,387	5,803,153
Trinity	-	11,628	151,164	92	26,684	-	-	26,684
Truckee Donner*	927	4,455,607	36,792,306	19,705	301,262	-	192,050	493,312
TID*	1,710	10,936,997	125,717,730	69,066	460,358	67,495	616,407	1,144,259
Ukiah	92	278,721	3,257,332	1,757	64,442	-	40,998	105,440
Vernon	166	934,730	14,955,674	8,312	60,257	-	60,259	120,516
Summary	82,730	401,919,205	4,473,801,216	2,309,223	$49,032,717	$20,796,679	$34,077,870	$103,907,266

Note: Utilities with an asterisk next to name have fiscal years that are on a calendar year basis.

Table 5 reviews the aggregated results by program sector. From the tables, it is clear that lighting and cooling programs account for the largest share of the savings. Also notable are the aggregated TRCs for public power, which equals 3.31 in FY07/08, suggesting that public power energy efficiency programs produce more than three dollars in societal benefits for every dollar spent, the second year in succession that such a result has been reached. This trend is expected to carry forth into the current budget year, with the portfolio of programs expected to rise even higher than current values. Regarding specific program results, lighting continues to dominate public power energy efficiency programs, accounting for approximately half of the total energy savings achieved. This number is lower in percentage terms than in recent years, as POUs have focused considerable efforts toward diversifying their energy efficiency programs. Nonetheless, lighting programs remain attractive for public power.

Table 5
All POU Summary by Program Sector
FY07/08

All POU Summary		Resource Savings Summary				Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	148	533,970	6,566,584	3,134	$ 334,599		$ 92,267	$ 426,866
HVAC	Res Cooling	12,653	30,192,734	416,855,146	239,608	$ 6,569,150	$ 1,220,526	$ 5,791,478	$ 13,581,154
Appliances	Res Dishwashers	38	144,464	1,981,053	1,000	$ 140,650		$ 46,344	$ 186,994
Consumer Electronics	Res Electronics	2	13,581	120,107	68	$ 16,286	$ 7,612	$ 3,310	$ 27,208
HVAC	Res Heating	13	710,091	16,154,736	7,371	$ 513,916		$ 171,341	$ 685,257
Lighting	Res Lighting	16,281	74,114,012	620,846,509	279,671	$ 3,862,280	$ 1,100,228	$ 4,101,268	$ 9,063,776
Pool Pump	Res Pool Pump	941	676,430	8,864,300	4,057	$ 130,168		$ 244,625	$ 374,793
Refrigeration	Res Refrigeration	7,159	42,395,860	618,511,379	323,288	$ 2,873,647	$ 15,180,344	$ 3,547,462	$ 21,601,454
HVAC	Res Shell	1,252	1,553,361	26,831,232	14,468	$ 1,095,401	$ 340,420	$ 245,761	$ 1,681,582
Water Heating	Res Water Heating	108	352,020	6,462,015	2,812	$ 167,422	$ 7,784	$ 31,603	$ 206,808
Comprehensive	Res Comprehensive	1,260	7,592,032	42,097,594	21,695	$ 1,317,895	$ 568,958	$ 2,044,253	$ 3,931,106
Process	Non-Res Cooking	2	293,366	4,322,639	2,282	$ 29,842		$ 8,194	$ 38,036
HVAC	Non-Res Cooling	7,615	34,241,284	511,968,771	265,213	$ 6,765,453	$ 140,368	$ 4,115,602	$ 11,021,423
HVAC	Non-Res Heating								
Lighting	Non-Res Lighting	26,385	128,890,814	1,255,865,741	661,593	$ 17,760,909	$ 1,109,240	$ 6,647,666	$ 25,517,815
Process	Non-Res Motors	549	12,000,256	179,737,815	93,950	$ 1,279,714		$ 679,977	$ 1,959,691
Process	Non-Res Pumps	136	3,001,120	45,771,792	24,467	$ 505,521	$ 26,504	$ 97,738	$ 629,764
Refrigeration	Non-Res Refrigeration	1,902	13,668,864	143,031,049	76,116	$ 1,014,375	$ 133,875	$ 954,741	$ 2,102,990
HVAC	Non-Res Shell	287	1,221,203	13,052,177	7,485	$ 125,769		$ 31,261	$ 157,030
Process	Non Res Process	648	7,161,429	105,274,283	54,543	$ 687,240		$ 570,868	$ 1,258,108
Comprehensive	Non Res Comprehensiv	4,591	23,555,597	233,237,921	109,005	$ 2,603,677	$ 481,187	$ 2,460,339	$ 5,545,203
Other	Other	759	19,606,717	216,248,373	117,399	$ 1,238,803	$ 479,633	$ 2,191,773	$ 3,910,209
SubTotal		82,730	401,919,205	4,473,801,216	2,309,223	$ 49,032,717	$ 20,796,679	$ 34,077,870	$ 103,907,266
T&D	T&D	242	1,216,201	50,703,790	27,208				
Total		82,972	403,135,406	4,524,505,006	2,336,431	$ 49,032,717	$ 20,796,679	$ 34,077,870	$ 103,907,266

EE Program Portfolio TRC Test	**3.31**

Excluding T&D

Just above Table 5, we noted that public power programs produce more than three dollars of societal benefit for every one dollar spent on energy efficiency programs, using the TRC test. Table 6 looks at this result on a utility-specific basis. When reviewing the results, any TRC above 1.0 suggests that a utility portfolio of programs can be considered cost-effective. In this situation, 34 utilities have TRCs exceeding this threshold, a substantial improvement from last year, where 26 utilities exceeded this level. Twenty-five of the utilities participating in this report have TRCs exceeding 2.0.

Table 6
Comparing Cost-Effectiveness Using the Total Resource Cost (TRC) Test
Utility Comparison (FY07/08)

TRC Test					
Utility	**TRC**	**Utility**	**TRC**	**Utility**	**TRC**
Alameda	6.21	Industry	-	Port of Oakland	2.66
Anaheim	5.59	LADWP	3.50	Rancho Cucamonga	2.56
Azusa	2.79	Lassen	1.03	Redding	1.84
Banning	1.35	Lodi	5.92	Riverside	4.05
Biggs	1.04	Lompoc	4.41	Roseville	3.49
Burbank	3.95	Merced	2.67	SMUD	1.93
Colton	4.20	Modesto	2.71	Shasta Lake	0.66
Corona	0.33	Moreno Valley	6.11	Silicon Valley Power	4.38
Glendale	2.39	Needles	6.69	Trinity	0.02
Gridley	0.52	Palo Alto	2.43	Truckee Donner	7.12
Healdsburg	1.43	Pasadena	2.67	TID	4.53
Hercules	1.82	Pittsburg/Island Energy	3.16	Ukiah	1.49
IID	3.24	Plumas Sierra	1.30	Vernon	6.33

Understanding Public Power Energy Efficiency Expenditures

Public Utilities Code, Section 9615(e)(1) requires POUs to include "the sources of funding for its investment in energy efficiency and demand reduction program investments." For the most part, the vast majority of funding for public power energy efficiency programs comes from the traditional public benefits charges collected from each utility customer on a monthly basis. It is important to recognize these charges are designated not only for energy efficiency, but also for renewable investment, electricity-related research and development, and low income assistance. When the Legislature authorized the imposition of a public benefits charge beginning in 1998, local governing boards were given full discretion regarding how these funds would be allocated. Since that time, however, certain restrictions have been imposed, limiting how future expenditures can be allocated. As an example, under the California Solar Initiative, public utilities are precluded from reducing their expenditures on energy efficiency or low income assistance to fund its solar programs.

While energy efficiency funds are supported by public benefits charge dollars, in some instances, local governing boards allocate dollars above and beyond these fees (see Appendix A), coming directly from each jurisdiction's general fund and sometimes specifically targeting what would be characterized as deferring generation purchases, referred to as procurement within the construct of AB2021. Whatever the term of art that is used, it is clear a significant portion of public power sales revenue is attributed to energy efficiency investments. Table 7 shows a sampling of utility expenditures on energy efficiency as a percentage of retail sales.

Table 7
Energy Efficiency Expenditures as Percent of Retail Sales

Utility		Utility		Utility	
Alameda	0.8%	Lassen	0.7%	Riverside	1.1%
Anaheim	0.7%	Lodi	0.6%	Roseville	1.8%
Azusa	2.2%	Lompoc	0.8%	SMUD*	2.5%
Biggs	1.9%	Merced	0.9%	Silicon Valley Power	2.4%
Burbank	1.7%	Modesto	1.1%	Trinity	0.4%
Glendale	1.7%	Palo Alto	1.7%	Truckee Donner	2.7%
Gridley	1.0%	Pasadena	0.9%	TID	0.5%
Healdsburg	1.3%	Plumas Sierra	1.6%	Ukiah	0.7%
IID	1.1%	Port of Oakland	1.5%		
LADWP	1.5%	Redding	2.8%		

During the past three years, public power, the CEC, and interested parties have discussed approaches for increasing the amount of energy efficiency expenditures. As Table 1 showed earlier, public power program dollars have risen sharply since SB1037 and AB2021 were signed. With the economic downturn clearly a major issue for cities, districts, and their respective local governing boards, traditional measures for increasing energy efficiency program investment may not be as readily available as before. That said, significant opportunities are potentially available for public power to access many of the billions of dollars allocated to aggressive deployment of energy efficiency.

The American Recovery and Reinvestment Act of 2009 provides more than $16 billion in funding for energy efficiency and demand response programs across the Unities States (see Table 8). The programs are far reaching and involve a variety of federal and state agencies, including the U.S. Department of Energy (DOE), the CEC (as California's designated state energy office), and the California Department of Community Services and Development. California-based agencies are expected to receive nearly $500 million in funding. However, it remains unclear what share of the funds will be available to public power utilities.

Table 8
American Recovery and Reinvestment Act of 2009

Program/Source	Funding	Notes
State Energy Program (DOE/CEC)	$3.1 billion ($226 million to California)	Can be used for a wide variety of programs, projects, and policies, including energy efficiency, renewable energy, and alternative transportation.
Energy Efficiency and Conservation Block Grant (DOE/CEC)	$3.2 billion ($56 million to California)	$400 million through direct solicitation. Of the remaining $2.8 billion, 68 percent is distributed to 1,700 largest U.S. cities, 16 percent to counties under 200,000 and towns under 35,000,12 percent to state energy office, 2 percent through competitive program, and 2 percent to tribes.
Weatherization Assistance Program (DOE/CA Deppartment of Community Services and Development)	$5 billion ($185 million to California)	Limit on each homes is raised to $6,500. Eligibility increased to 200 percent of poverty level, up from 150 percent.
Energy Star Appliance Rebates Program (DOE/CEC)	$300 million ($30 million to California)	Potential preference for super efficiency Energy Star products. Requires a 50 percent match in funding.
Smart Grid Initiative (DOE)	$4.4 billion	50 percent cost-sharing requirement for regional demonstration programs. Funding open to public power utilities, investor-owned utilities, and "other parties".
Green Jobs (U.S. Dept. of Labor)	$500 million	Funds to be spent on initating a worker training program for energy efficiency and renewables. $100 million also provided for worker training under Smart Grid Initiative.

Public power stands ready to partner with California's Interagency Federal Energy Stimulus Team and interested parties in securing these dollars to further expand the range of program currently offered by the state's 39 publicly-owned utilities. Given the fluid nature and uncertainty surrounding the distribution of these funds, this analysis appropriately does not include these potential programs.

Measuring Progress to Goal Setting

For the first time since the adoption of AB2021 in 2006, public power now has data available that will allow it to chart program progress against the targets that each utility established in 2007. In the last reporting cycle, 16 utilities met or exceeded their 2008 targets (see Table 9). Collectively, public power

can report that 74 percent of its targeted total has been met for the reporting period. The size of the utilities exceeding their targets in 2008 ranged from the smallest in the public power community (Biggs, Healdsburg, Truckee Donner) – to larger utilities such as Anaheim, Glendale, Modesto, Roseville, and SMUD.

Table 9
Comparing Reported and Projected Savings to AB2021 Targets

COMPARISON TABLE	2007 Reported Savings MWH	2008 Reported Savings MWH	2008 AB 2021 Target MWH	Program Cumulative Savings 2007-2008	AB 2021 Cumulative Target 2007-2008	2009 Projected Savings MWH	2009 AB 2021 Target MWH
Alameda	921	2,135	760	3,056	1,521	2,982	760
Anaheim	8,724	16,808	16,117	25,532	32,014	25,712	16,233
Azusa	1,041	2,352	2,588	3,393	5,138	2,462	2,627
Banning	253	634	1,042	887	2,083	4,035	1,041
Biggs	48	133	37	181	75	37	37
Burbank	5,607	8,719	11,424	14,327	22,731	8,275	11,542
Colton	10,247	1,583	2,625	11,829	5,251	1,583	2,625
Corona	98	23	467	121	934	35	467
Glendale	8,510	13,548	11,586	22,058	22,948	12,386	11,701
Gridley	651	24	92	674	183	92	92
Healdsburg	152	236	198	389	397	198	198
Hercules	0	8	151	8	300	89	153
IID	8,118	30,644	29,000	38,761	37,118	37,500	37,500
Industry	-	-	-	-	-	-	-
LADWP	61,641	115,519	315,000	177,160	429,000	273,682	300,000
Lassen	90	123	638	213	1,275	250	637
Lodi	383	3,091	2,000	3,474	4,000	773	2,000
Lompoc	102	304	1,040	406	2,081	330	1,040
Merced	3,773	1,871	2,322	5,644	4,644	1,960	2,322
Modesto	5,561	16,129	6,116	21,690	11,299	6,942	6,942
Moreno Valley	44	298	822	342	1,644	627	822
Needles	1	72	817	73	1,635	67	817
Palo Alto	4,711	4,399	2,800	9,110	5,300	4,619	3,100
Pasadena	4,238	8,164	10,000	12,402	15,000	17,258	13,500
Pittsburg Power/ Island Energy	-	10	154	10	306	34	158
Plumas Sierra	487	422	621	909	1,242	457	621
Port of Oakland	53	280	420	333	826	140	424
Rancho Cucamonga	57	359	448	416	896	400	448
Redding	1,677	1,640	2,803	3,317	5,444	2,802	3,017
Riverside	5,843	7,260	22,640	13,103	44,850	12,189	23,060
Roseville	4,326	9,314	7,750	13,639	15,208	6,528	7,986
SMUD	95,950	114,662	107,000	210,612	177,000	155,832	145,000
Shasta Lake	47	30	129	77	258	157	129
Silicon Valley Power	10,889	24,509	25,762	35,399	51,524	26,350	25,762
Trinity	19	12	-	30	-	15	-
Truckee Donner	604	4,456	1,001	5,059	2,003	3,734	1,001
TID	9,206	10,937	9,371	20,143	17,895	12,592	12,592
Ukiah	30	279	264	308	527	264	264
Vernon	230	935	-	1,165	-	1,215	-
Summary		401,919	596,007	656,251	924,548	624,604	636,621
Summary (Excluding LADWP)		286,400	281,007	479,091	495,548	350,921	336,621

Due to size variations among the POUs, it is appropriate to separate the two largest utilities for analysis and discuss them individually, as compared to the other 37 utilities. Collectively, the 37 utilities achieved 98.7 percent of their combined 2008 targets. SMUD's actual savings exceeded targets, coming in about seven percent higher than what it had targeted. By contrast, LADWP's recorded savings were 37 percent of their target.

LADWP's story is important to note at this juncture, as it critical to understanding true progress made by public power in the area of energy efficiency deployment. It is true that the LADWP's achieved savings were lower than the challenging goals it had established for the last two fiscal years. Significant program staffing vacancy rates, delayed launching of several high energy savings impact programs (most notably, the launch delay of its CFL Distribution program), and a rate of customer participation that, while growing, did not result in the required level of program penetration and impacted the ability of the utility to meet its aggressive targets.

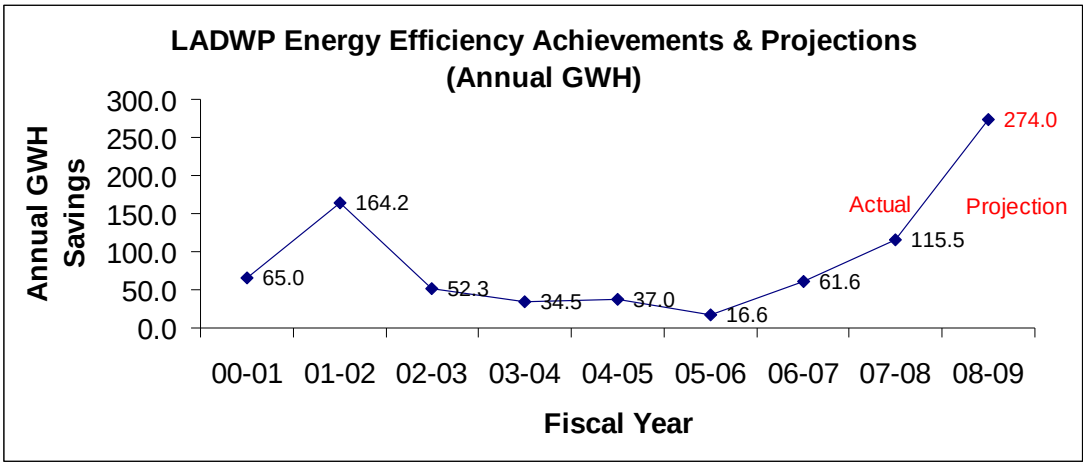
Despite the actual variances from the projected goals LADWP established, the utility achieved significant increases in annual energy savings over the last several years and is worth highlighting here. Savings achieved by LADWP in FY06/07 was four times more than the previous fiscal year. The FY07/08 impact doubled the results reported for FY06/07. Adding to this upward trend, based on the most recent performance report for the quarter, LADWP is on target to meet significant energy savings goals for the current fiscal year. In essence, projected savings will amount to more than sixteen times FY05/06 levels, an all-time energy efficiency savings achievement for the utility.

Tracking of the efficiency program results starting with FY00/01 is shown in Table 10 (and Figure 2) by the savings achievement impacts in GWH savings as well as the corresponding expenditures (in millions of dollars):

Table 10
LADWP Energy Efficiency Program Savings and Expenditures

	FY 00-01	FY 01-02	FY 02-03	FY 03-04	FY 04-05	FY 05-06	FY 06-07	FY 07-08	FY 08-09
Annual GWH Savings*	65.0	164.2	52.3	34.5	37.0	16.6	61.6	115.5	274.0
Expended ($M)	$12	$19	$13	$11	$10	$8	$14	$28	$74

Figure 2



*Note: Savings data from FY 2001-2005 are gross amounts, and starting with FY 2005-06 reported savings are net.

Regarding the staffing shortage, LADWP has recently increased its energy efficiency staffing level by 27 percent, filling long-existing vacancies. This is the first significant hiring LADWP has undertaken since early 2001. Additional hiring is now underway. Another important programmatic change included a virtual across-the-board increase in the financial incentive levels offered by LADWP energy efficiency programs. The intent of this action was to raise program awareness among both customers and the purveyors of energy efficient equipment, with the anticipated (and realized) result of increased program participation.

Taking LADWP's situation into consideration and understanding the nuances behind measure progress and setting targets, Figure 3 provides a visual of energy efficiency program results in aggregate that are rapidly converging with targets established by each utility in 2007. Consistent with this finding is the significant increase in program expenditures (see Figure 4) which is expected to be triple the amount that was allocated in the period when SB1037 was being signed into law. POUs are well on pace to meet the aggressive targets of AB2021.

Figure 3
Energy Efficiency Program Savings (MWH)

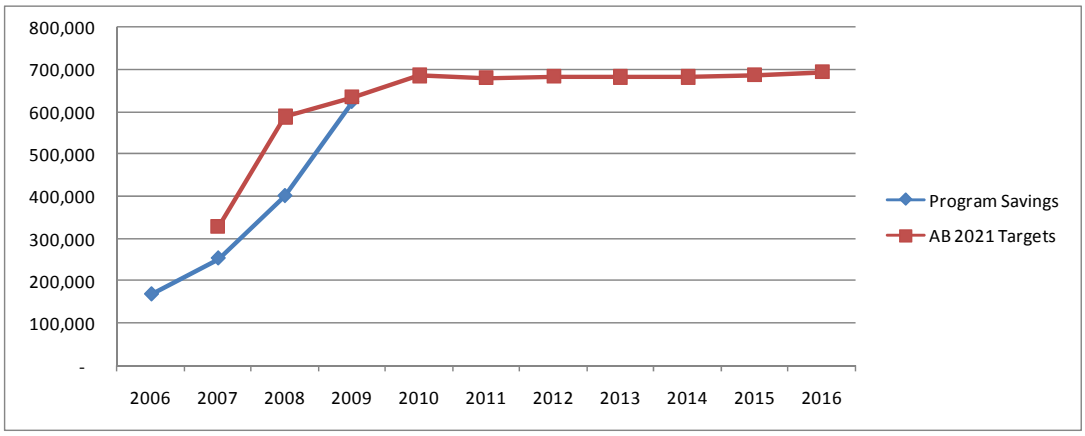
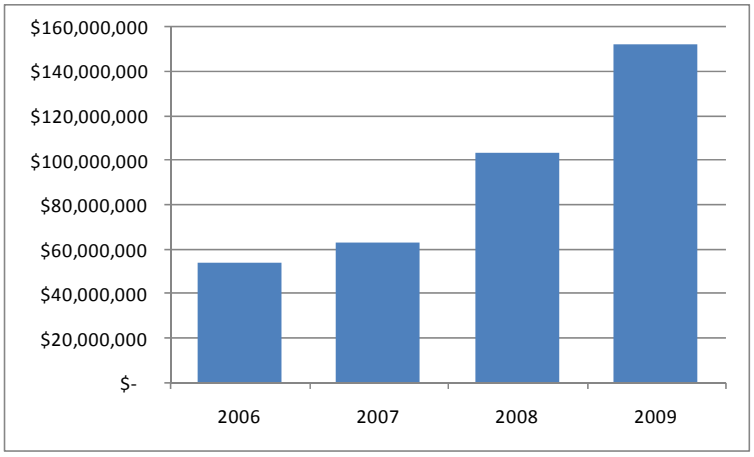


Figure 4
Energy Efficiency Program Expenditures



Customer Behavior and its Impact on the Ultimate Effectiveness of Utility Energy Efficiency Programs

Customer behavior is gaining important attention as policymakers struggle with promoting the aggressive deployment of energy efficiency programs. Sometimes, state policy objectives that provide the directive for utilities to aggressively pursue energy efficiency savings fail to align with the specific needs of individual customers. In these instances, especially in the case of smaller utilities where key customers make or break a program in any given year, such challenges may be perceived by policymakers as a failure by the utility to effectively implement energy efficiency programs in any given year.

However, to accurately gauge program performance, it is important to understand the market barriers that prevent customers from implementing efficiency measures. The barriers that limit customer participation – such as skepticism, lack of knowledge, not enough time and/or money – are significant enough that many customers will not participate even if the efficiency measures are provided for free.

As an example, Palo Alto shares its experience with small business customers who were reluctant to participate in its RightLights program. Despite the turnkey service offering low hassle and cost to the customer, some businesses were reluctant to participate because they were skeptical, and didn't have the time to participate. Over time, however with repeated sales calls and outreach, some are now willing to try out the program.

Others are not willing to invest in energy efficiency, regardless of utility efforts. Consider the experiences of TID as it provides financial grade energy audits to customers. Such audits provided to customers with a simple payback of less than three years often do not result in an energy efficiency retrofit. While some utilities and policy makers consider a lighting retrofit "low hanging fruit" and easy to attain, many customers simply aren't willing to participate. This can be very frustrating from a utility program perspective because energy efficiency goals are high, customer paybacks are short, and yet customers do not necessarily implement the project.

Economic uncertainty and the current credit crisis will most likely exacerbate this problem as more and more businesses both large and small are just trying to survive. Looking at it from another perspective, the economic situation is likely to force people to delay many types of capital expenditures, including cost-effective energy efficiency. Truckee Donner PUD, for example, expects its successful commercial lighting program (hard-wired lighting projects) where the utility pays one third of the project cost, to be significantly impacted by the economic downturn.

Quite simply, homeowners and businesses are going to have a harder time coming up with dollars for energy efficiency investments. In some respects, this places considerable pressure on utilities to provide either direct install or give-a-ways, or even provide the financing to many customers.

Customers clearly play a role in the success of a utility program.

V. Demand Reduction Programs and Results

California policymakers consider demand response to be an important piece of the energy puzzle. Yet, according to the CEC's Integrated Energy Policy Report (IEPR), the state struggles with finding ways to encourage California utilities to develop demand response programs.

For years, much of the attention toward demand reduction programs has focused on California's IOUs, as well as how such programs might coordinate with demand response programs being implemented in conjunction with the roll-out of the California Independent System Operator's market redesign. Much of the growing demand response debate within the public power community focuses on the Smart Grid and the deployment of Advanced Metering Infrastructure (AMI).

As described in the 2007 report, the use of demand response programs is generally tied to the size of the utility. In general, large utilities have such programs while smaller utilities do not. At present, 17 POUs have either some form of demand response program or are about to implement new programs (Table 12).

Table 12
POUs with Demand Reduction Programs

Anaheim Public Utilities
Azusa Light & Water
Burbank Water & Power
Glendale Water & Power
Gridley Municipal Utility
Imperial Irrigation District
Los Angeles Department of Water & Power
City of Lompoc
Modesto Irrigation District
City of Palo Alto Utilities
City of Pasadena
Roseville Electric
Redding Electric Utility
Riverside Public Utilities
Sacramento Municipal Utility District
Silicon Valley Power
Turlock Irrigation District

The following represents a snapshot of some of the load shedding programs being offered by the POUs and some of the AMI deployment activity being undertaken, both large and small. Please note that this information is not intended to be an exhaustive list of programs available. A complete set of demand reduction program information is included in the collective set of utility descriptions provided in Appendix A.

Anaheim

Load reduction programs continue to be in place and effectively protected Anaheim residents and businesses from the effects of statewide power events. All of Anaheim's six load reduction programs can provide up to 30 megawatts of curtailable load, if needed. The following is a summary of these programs:

- Voluntary Load Reduction Program - where businesses are notified and given time to prepare their loads for curtailment. The customers then properly shut down processes and cycle equipment off. Customers are notified via pager, phone or e-mail to facility or operations managers.

- Load Curtailment Exemption Program - offered to customers who can curtail load by 15 percent either at a single location or by aggregating their total electrical load (minimum 1 megawatt). Customers are required to comply with load reduction within 10 minutes of notification. Participating customers are exempt from rotating outages in exchange for a 15 percent load curtailment for the entire duration of every Stage 3 rotating outage event.
- Fuel Cost Reimbursement Program - applies to customers with large backup generators. Participating customers transfer their facility loads from utility to generator power for up to four-hour blocks during a Stage 3 emergency. The generators comply with the limits set by the South Coast Air Quality Management District, which allows backup generators to run during Stage 2 and 3 emergencies.
- "10 in Time" Program - encourages commercial customers to voluntarily reduce energy usage by at least 10 percent, when contacted via an e-mail during an ISO Stage 3 emergency. Participating customers receive a one-time credit of $25 for every 100 kilowatt-hours of demand reduction contributed during a Stage 3 event from June 1 through September 30.
- City Load Reduction Program - involves City facilities that have installed or modified emergency back-up generation systems. These loads are called upon as the City's first line of defense during a Stage 3 alert to reduce load.
- Thermal Energy Storage Incentive Program - provides incentives and special time-of-use electric rates for customers who shift their air conditioning loads to non peak periods of the day through the installation and operation of a thermal energy storage system. To date, 13 systems have been installed.

In addition the programs above, Anaheim completed its business case for the implementation of Advanced Metering Infrastructure/Meter Data Management System (AMI/MDMS) as a component of Anaheim's preparation for Smart Grid and to provide a platform to support compliance with anticipated regulatory and legislative requirements related to drought, demand-response, energy efficiency, and time-based rates including Time of Use, Critical Peak Pricing and Critical Peak Rebates. This project is intended to replace all electric and water meters with state-of-the-art smart meters with two-way communications. It will also support in-home communications with home appliances, air conditioning systems, pool pumps, and in-home displays and web access to provide customers with real-time or near-real time information to facilitate improved management of electric and water consumption.

The Anaheim City Council approved agreements for acquisition and installation of an advanced MDMS and initial purchases of smart meters. MDMS implementation is in progress and will be placed into production by middle of 2009. Smart meter installations began in third quarter of 2008. Approximately 1,500 residences have been transitioned to the new electric and water meters.

The AMI/MDMS system will have the following features:

- Smart meters with two-way communications hardware and software

- Electric meters that support remotely-controllable switches to allow for remote service disconnect and re-connect and smart thermostats for demand-response.
- Water meters with leak detection and tamper information.
- A wide area network to allow two-way communications between the utility and each meter in the APU service area.
- Integration with APU's Outage Management System, Geospatial Information System, Work and Asset Management System, as well as the Customer Information System.

Burbank Water & Power (BWP)

During 2008, BWP provided Ice Bear units to several of its largest energy-using customers, including Warner Brothers, Disney, the Bob Hope Airport, and Ikea. The 20 Ice Bear units that BWP is providing and installing for free is part of a demonstration program to introduce this demand shifting technology to businesses.

During night-time hours, energy is used to freeze water in the Ice Bear units. During daytime peak hours, the compressor of the HVAC unit is turned off and a low energy-using fan blows refrigerant over the ice, providing cooling to the building. Each Ice Bear unit shifts about seven kilowatts of electrical usage from on-peak times to off-peak hours. This project will shift about 140 kilowatts of on-peak energy to off-peak times and will produce some kilowatt-hour savings as well. An added advantage beyond simply peak shifting is that this project swaps base load generation of coal and natural gas to predominantly off-peak wind production. In this way, Burbank will effectively be using renewable energy to provide on-peak space cooling in several business operations.

At the same time, BWP is working on a large-scale Ice Bear program with SCPPA. As part of this endeavor, BWP intends to install 1,400 Ice Bear units in the city of Burbank, or 10 megawatts of peak shifting capacity.

Glendale Water & Power

In August 2008, Glendale completed its business case to install a new state of the art AMI/MDMS system as the first step in moving Glendale to a Smart Grid. This project is intended to replace all electric and water meters with state-of-the-art smart meters with two-way communications. It will also provide for in-home communications with home appliances, air conditioning systems, pool pumps, and in-home displays and web access so our customers will have the real time information they need to better manage their electric and water usage.

In November 2008, Glendale issued an RFP to select a vendor to begin installation of the system. Glendale in the final stages of selecting a vendor and negotiating a contract for consideration by its City Council. This process should be completed by April 2009. Pending final approval, Glendale will be prepared to immediately move to the proof of concept phase, with full installation completed by 2011.

The new AMI/MDMS system will have the following features:

- Smart meters with large data storage capabilities and two-way communications hardware and software.
- Electric meters with remotely-controllable switches to allow for remote service disconnect and re-connect.
- Water meters with leak detection and tamper information.
- A wide area network to allow two-way communications between the utility and each meter in its service territory.
- Serve as the communications backbone for distribution automation, direct load control, distributed generation, demand response, and new customer programs and service options that allow customers to take control of energy and water costs through access to real or near real time consumption information.

Gridley Municipal Utility

Gridley Municipal Utility, one of the state's smallest POUs, realizes demand reduction with the help of its water and sewer utilities. If needed, these utilities can activate backup generators at wells and sewer lift stations throughout Gridley, resulting in up to a 15 percent reduction of overall demand. Gridley also has a specific arrangement with a local hospital to utilize its backup generator for additional demand reduction capacity. In extreme circumstances, the utility can call upon its single largest customer to shut down load, which at approximately 750 kilowatts, equals up to 15 percent of the average city load.

Gridley also has a program to distribute requests to its largest retail customers (supermarkets and drug stores) to ask for voluntary reduction in lighting load if the request for reductions occurs during the normal workday.

Imperial Irrigation District

IID's residential and small business demand response program – The Energy Swingshift – will enroll 26 megawatts of curtailable load over the next three years. The target for 2009 is 17 megawatts. This program will be launched in Spring of 2009.

IID is also developing a demand response program for key customers with a target participation of 25 megawatts over the next three years.

LADWP

LADWP has restructured its electric rates to enhance energy efficiency achievements in all customer sectors. The restructured electric rates will take effect on July 1, 2009.

During periods of high electrical demand, LADWP proactively contacts its largest commercial and industrial customers, accounting for approximately one-third of energy consumed in Los Angeles, and requests voluntary load reductions. Experience with previous heat storms has shown this to be an effective, albeit temporary, demand reduction activity.

Modesto Irrigation District (MID)

MID has operated demand reduction programs for more than two decades. MID's two programs made more than 34 megawatts of load reduction available during calendar year 2008:

- Shave the Energy Peak Program: Bill discounts of over $339,000 for residential and commercial customers participating in the "Shave the Energy Peak" (STEP) program. STEP allows MID operators to reduce electricity demand by cycling over 14,000 air conditioners. The available peak load reduction was 13 megawatts.
- Interruptible Rate Program: Bill discounts of over $390,000 for commercial and industrial customer participants. This program allows MID operators, upon customer notification, to reduce electricity demand by requiring cessation of the curtailable portion of customer load. The available peak load reduction was 21 megawatts.

By July 2009, MID will replace all of its existing electric meters with smart meters. A contractor (Wellington Energy) will perform the residential installations (~ 94,000) and MID will perform the commercial installations (~ 12,700). MID will then use a secure, wireless communication system (similar to a cellular telephone network) to remotely read the electric meters. The anticipated benefits of the AMI system include:

- Operational cost reduction. Remote meter reading will enable MID to perform routine tasks more efficiently and at lower cost.
- Faster outage repair. If power goes out, MID will know automatically and can dispatch repair crews faster and more efficiently.
- Saving gas, sparing the air. MID will drive over 200,000 fewer miles each year, spend less money on gasoline and cut carbon and other harmful air emissions.
- Intelligent energy savings. Smart meters can communicate with Home Area Networks, which with next-generation "smart" appliances, will make possible future, automated energy conservation programs.
- Control over energy bills. Customers can obtain detailed information about their energy usage patterns, which provides a means to control and reduce energy bills.

Riverside Public Utilities (RPU)

RPU has a voluntary load curtailment program that calls on approximately 200 large commercial and industrial customers to reduce their electrical use during system emergencies. This program has the potential of curtailing approximately 30 megawatts of load. There is no obligation and no penalty if a business is unable to respond to RPU's request to reduce usage, however the program has been successful with load curtailed historically averaging 20 megawatts.

In 2007, RPU implemented an E-blast program where customers receive information via e-mail or wireless device of any power emergencies or energy conservation requests. RPU is currently investigating other demand response programs to be employed at a future date.

RPU is evaluating demand response proposals from a variety of vendors. In the meantime, RPU has decided to utilize specified energy efficiency programs as means of demand response. Some of these include residential and commercial HVAC tune-ups and LED wall-pack security lighting.

Roseville Electric

Roseville Electric offers two demand response programs. The residential program, Power Partners, is a dispatchable direct load control program. By Fall 2009, the new DLC program will provide five megawatts of dispatchable load obtained from residential air conditioning systems.

Large business customers with peak demand of greater than 250 kilowatts have access to their 15-minute interval load via the Roseville Electric web site and the Energy Profiler Online (EPO) program. EPO provides the customer with information sufficient to voluntarily curtail peak load consumption when alerted by the EPO communications system. Roseville Electric assists these customers in identifying curtailable load.

Roseville Electric has been researching and analyzing AMI technology over the last five years. An AMI business case was completed two years ago and current plans call for a 200 meter pilot project in West Roseville.

SMUD

SMUD offers two programs for load management and demand response. The largest is its residential Air Conditioner Load Management or Peak Corps program. This is a voluntary program whereby residential customers allow SMUD to install cycling devices on their air conditioners. During electrical-system emergencies, SMUD can send a radio signal to switch-off (or cycle) the central air conditioners of program participants. Cycling can occur periodically between June 1 and September 30. SMUD currently has over 98,000 participants on this program who can contribute nearly 98 megawatts of load reduction under normal cycling conditions.

The Voluntary Emergency Curtailment Program calls on approximately 170 commercial and industrial customers to reduce their electrical use during system emergencies. There is no obligation and no penalty if a business is unable to respond to SMUD's request to reduce usage. This program has the potential of curtailing 47 megawatts of load.

SMUD also has agreements in place with its two largest industrial customers to curtail usage on an on-call basis. These agreements represent a total of 14 megawatts of load reduction.

SMUD is reevaluating its load-management and demand-response programs and examining the feasibility of integrating load management and demand response with supply-side resource planning. Options evaluated and analyzed include offering customers both incentive-based and price-based

demand-response programs. SMUD is also considering including the integration of demand-response programs with new tariffs that encourage customers to shift usage away from peak hours.

SMUD will begin installing an AMI system in 2009. SMUD will replace all residential and commercial meters throughout its service territory as well as install the network hardware and master station software that will allow full two-way communications. SMUD is in the final process of procuring an AMI solution that is based on open protocols, and that can be leveraged for future smart grid applications.

SMUD expects to make a vendor selection by summer 2009 and to conduct a comprehensive acceptance test of approximately 50,000 end points by the end of 2009. Upon successful completion of the acceptance testing, full deployment will begin in 2010 with a finish date expected by the end of 2011.

SMUD's objectives in completing this project include: 1) significant reductions in ongoing operation al costs, 2) improved service to customers, 3) create foundation to build a variety of demand response, load management, energy efficiency, and time-based pricing programs designed to reduce peak load, and 4) create the opportunity to reduce our impact on the environment.

Silicon Valley Power

SVP offers one program. With a high load factor, SVP offers a voluntary load shedding program called the "Power Reduction Pool." Using a voluntary arrangement, customers participating in the program reduce their load by at least 200 kilowatts during system emergencies.[3] SVP tests for this voluntary compliance periodically and is able to achieve a 2-3 percent reduction in SVP's total load from the combined effort of customers in this program."

Turlock Irrigation District

In 2007, TID engaged in a successful pilot project and determined that retrofitting existing meters would meet current and any foreseeable District needs. Installation of the smart meters began in Fall 2008 and will continue for four years. This phased approach allows District staff to change the meters as well as monitor the project closely and maintain better control.

TID's investment to deploy the new smart meters throughout their service territory is estimated to cost $12.6 million. TID projects that these costs will be offset through operational and power procurement savings achieved by the use of these advanced meters. Once the smart meter technology is in place, customers will be provided with greater privacy, reliability, as well as the future possibility of additional options such as time-of-use rates or prepaying for electricity. TID will likely incorporate a feature that would allow customers with enhanced online information, therefore giving them the ability to make cost-saving choices about the way they use energy.

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[3] The communication network in the Power Reduction Pool program is tested at least once per year.

The smart meters will transmit readings to each other and then to a collector unit that sends the readings via cell phone and/or phone line to TID's system. The meters will not only measure total consumption but can be used also to determine when energy is used, down to 15 minute intervals as well as be read remotely, and facilitate remote connections and disconnections.

VI. Conclusions and Lessons Learned

CMUA appreciates the opportunity to provide to the CEC this third assessment of public power energy efficiency programs in California. Consistent with the stated intent and mandates of SB1037 and AB2021, our analysis concludes that public power energy efficiency programs are producing significant energy savings for the state in the most cost-effective manner. The following bullets provide the key findings of this analysis:

- POUs have invested over $220 million on efficiency programs since 2006, representing direct investment in local community infrastructure, supporting economic development, and helping to create a robust green job workforce.
- During FY07/08, POUs spent approximately $104 million on energy efficiency programs, a 64 percent increase in spending compared with the previous year. Reductions in electricity consumption are equally impressive. In the most recent reporting year, peak demand dropped more than 82 megawatts, with more than 400 million kilowatt-hours saved on an annual basis, both significantly higher than savings from programs implemented in the previous year.
- POU energy efficiency expenditures for FY08/09 are expected to increase to over $150 million, resulting in 128 megawatts of savings during the summer peak and 625 million kilowatt-hours during the entire year.
- Public power energy efficiency programs provide more than three dollars of societal benefits for every dollar spent. Applying the Total Resource Cost (TRC) societal test, the weighted average cost effectiveness for all publicly owned energy efficiency programs in FY07/08 was 3.31, higher than the 3.15 estimate reported in the previous year. By comparison, programs authorized by the CPUC for the investor-owned utilities range between 1.6 and 2.4.
- The 15 largest POUs account for nearly 97 percent of energy efficiency savings in the public power community.
- Lighting continues to dominate public power energy efficiency programs, accounting for approximately half of total energy savings achieved. This number is lower in percentage terms than in recent years, as POUs have focused considerable efforts toward diversifying their energy efficiency programs.
- Customer behavior plays a role in the success of utility efficiency programs.
- Energy efficiency is a critical tool for POUs to reduce greenhouse gas emissions in California. FY07/08 programs within the public power community will reduce statewide greenhouse gas emissions by 2.3 million tons CO_2 equivalent over the lifetime of the installed measures.

Next Steps

CMUA expects this report to be incorporated into the CEC's 2009 IEPR process and reviewed by CARB as it considers the role played by energy efficiency under the AB 32 greenhouse gas emission reduction plan. As a general matter, energy efficiency is expected to account for 10 percent of the emission reduction required to meet the California goal in 2020.

In terms of program deployment during the next year, significant opportunities are available to expand public power programs to the extent federal dollars from the American Recovery and Reinvestment Act are secured. The absence of such funding will make it difficult to provide additional dollars to expand programs significantly, given the dire economic situation facing many cities and local governing boards across the state.

CMUA, NCPA, and SCPPA look forward to a continued dialogue on energy efficiency issues, and our desire to balance statewide energy policy direction with the needs and diverse interests of local communities. The next edition of this report will be submitted on March 15, 2010, and is expected to include specific 10-year targets required under the provisions of AB2021.

Appendix A: Description of Utility Programs

ALAMEDA MUNICIPAL POWER

Established in 1887, the oldest municipal electric utility in the west

- 34,000 customers, 85% are residential
- Peak demand: 72 megawatts, occurs in the early evening in the winter
- Alameda load does not have large demand spikes like most of CA
- There is no residential air-conditioning
- Annual energy use is 407 gigawatt-hours
- 100 employees

Alameda Municipal Power Energy Efficiency Program Background

- Since 1991 Alameda has spent almost $2 million on direct customer rebates.
- The energy efficiency programs have resulted in a demand reduction of almost 8 MW and an energy use reduction of 23,000 MWH/yr.
- Alameda provides energy efficiency programs and services to all customers including free energy audits, prescriptive and customized rebates, public awareness programs, and advanced technologies. The City of Alameda facilities have all been retrofitted with energy efficient lighting and all the traffic lights have been retrofitted with light emitting diode lights. These measures have resulted in a cumulative energy cost savings of $1 million.
- The Alameda Unified School District (AUSD) was retrofitted in 1994 with energy efficient lighting and heating/cooling equipment resulting in a cumulative energy cost savings of more than $3 million. Alameda meets regularly with AUSD to continue energy efficiency projects such as:
    - Providing energy efficiency rebates and free energy audits as part of AUSD's facilities modernization and American Disabilities Act upgrades.
    - Provided a 5-day training class on energy efficiency for AUSD facilities staff.
    - Fully funded commercial refrigeration measures such as door gaskets, strip curtains, and door closures.
    - Regularly monitors the electric use of all AUSD facilities.

Alameda Municipal Power Energy Efficiency Highlights FY 2008 and FY 2009

- The actual energy efficiency savings for FY 2008 were 2,135 MWh. These savings are within 1% of the projected savings.
- The total energy efficiency budget for FY 2009 is $552,195, of which 91% ($502,195) is from public benefits and 9% ($50,000) is from the power procurement budget.
- An interdepartmental Energy Efficiency Implementation Team (EEIT) was created to achieve energy efficiency savings goals.
- As required by AB2021 and reported to the CEC Alameda has an energy efficiency goal of 760 MWh/year. The tool used to develop this goal was not well suited for Alameda P&T. A more aggressive internal energy savings goal of 3,200 MWh/yr has been developed and is being pursued.
- All energy efficiency program rebates have been updated to be comparable to other CA utilities and better reflect Alameda P&T's avoided power generation cost.
- The energy efficiency programs have been expanded to include the following:
    - Third Party administered programs such as:
    - Residential Refrigerator Programs
    - Commercial Refrigeration Retrofit Program
    - Commercial Retrofit Program – lighting, air-conditioning, motors
- Online residential energy audits, appliance calculator, and energy library
- Advanced Technology Program – Commercial & Residential
- Incandescent Trade in events for compact fluorescents - residential customers
- Compact fluorescent give-away for low-income customers
- Pilot program of a social comparison of energy use in a senior citizen facility
- An Evaluation, Measurement, and Verification of FY 2008 energy efficiency programs that includes impact evaluation and a commercial customer attitude survey will be completed by January 2009.

Residential Energy Efficiency Programs

1. Energy Star Refrigerator Rebate & Recycle Program – Rebate for buying an Energy Star refrigerator and recycle the old refrigerator with our recycler.
2. 2nd Refrigerator Pick Up Program – Rebate for customers recycling their 2nd refrigerator with our recycler.
3. Great White Light Sale – Coupon worth $2 for a compact fluorescent that is redeemable at local retailers runs four months a year.
4. Incandescent Trade-Ins – Trade in events where customers bring in their incandescent lights and exchange those for compact fluorescents (CFL).
5. Meter Lending Program – Borrow a meter and measure the energy use of appliances.
6. Onsite energy audits – Residential audits at no cost.
7. Weatherization Cash Grant Program – Grant for up to 80% of the cost of weatherizing homes with electric heat.

8. On-line Energy Audit – On-line residential energy audit and associated tools such as an appliance calculator and energy library on Alameda website.
9. Advanced Technologies – Promote advanced technologies such as LED down lights.
10. Energy Assistance Program – Provides energy audits, energy efficiency measures, and a 25% bill subsidy to qualifying low-income customers.
11. Low Income CFL promotions – CFL give away for low-income customers.

Commercial Energy Efficiency Programs

1. Commercial Lighting and HVAC Retrofit Program – Prescriptive rebates for retrofitting existing buildings with energy efficient equipment.
2. Commercial Customized Retrofit Program – Based upon the kWh/yr reduced, rebates for energy efficiency retrofits such as motors and server virtualization.
3. Commercial On-Site audits – Free energy audits for lighting, HVAC, refrigeration, process systems, etc.
4. New Construction Design Assistance - Grants of up to $10,000 for energy efficient design work.
5. New Construction Rebates – Whole building and systems rebates for energy efficient new construction.
6. Keep Your Cool – 3rd party administered commercial refrigeration retrofit program
7. 3rd Party Commercial Energy Efficiency Program – Increased rebates to encourage energy efficiency retrofits for small and medium commercial customers.
8. Advanced Technology Program – Increased rebates to promote advanced technologies such as LED lighting.

Alameda Municipal Power Operational Efficiency

Alameda has applied for an American Public Power Association grant under their Demonstration of Energy Efficient Developments Program to perform an evaluation of the efficiency potential of Alameda's electric system. The electric system loss for FY 2007 was 4.4% of total system load or about 18,054 MWh. This is average for most utilities. If that loss could be reduced by 20%, the reduction in utility operating costs would be approximately $361,080 per year.

Alameda Municipal Power Investment in Renewables

More than 80% of Alameda power supplies come from renewable sources such as geothermal, hydro, wind, and landfill gas. Alameda staff continues to evaluate and enter into contracts for landfill gas and other renewable power projects increasing its renewable portfolio.

In the past, several measures have been implemented to increase the declining output of the geothermal resources such as injecting treated waste water from a neighboring community into steamfield injection wells, re-blading the turbines to accommodate lower pressure steam, near horizontal injection wells, and injection well turbines. In FY 2009 a one-megawatt solar PV system went into operation at the geysers to power the wastewater pumping stations, with a second one megawatt PV system scheduled for operation in September of 2009.

ALAMEDA MUNICIPAL POWER

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Alameda		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	107	16	92,421	831,787	444	$ 5,334		$ 10,450	$ 15,783
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	76	76	489,862	6,933,788	3,761	$ 15,210		$ 93,030	$ 108,240
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	6	3	3,928	47,140	26	$ 23,900		$ 644	$ 24,544
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	171	85	735,900	7,358,995	4,078	$ 8,009		$ 100,863	$ 108,872
Process	Non-Res Motors			88,675	1,064,102	566			$ 13,451	$ 13,451
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			724,663	10,560,463	5,782			$ 144,564	$ 144,564
SubTotal		360	180	2,135,449	26,796,276	14,657	$ 52,453		$ 363,002	$ 415,455
T&D	T&D									
Total		360	180	2,135,449	26,796,276	14,657	$ 52,453		$ 363,002	$ 415,455

EE Program Portfolio TRC Test	**6.21**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Alameda		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	103	103	749,040	2,996,160	1,691	$ 74,904		$ 36,045	$ 110,949
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	107	16	92,421	831,787	444	$ 5,334		$ 10,007	$ 15,340
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	89	89	578,037	8,181,870	4,438	$ 17,948		$ 98,433	$ 116,380
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	6	3	3,928	47,140	26	$ 23,900		$ 567	$ 24,467
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	92	46	397,386	3,973,857	2,202	$ 4,325		$ 47,808	$ 52,133
Process	Non-Res Motors			88,675	1,064,102	566			$ 12,802	$ 12,802
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			1,072,502	15,629,486	8,557			$ 188,032	$ 188,032
SubTotal		398	257	2,981,989	32,724,402	17,924	$ 126,410		$ 393,693	$ 520,103
T&D	T&D									
Total		398	257	2,981,989	32,724,402	17,924	$ 126,410		$ 393,693	$ 520,103

EE Program Portfolio TRC Test	**6.47**

Excluding T&D

ANAHEIM PUBLIC UTILITIES

ANAHEIM PUBLIC UTILITIES
www.anaheim.net

- Established in 1894, the only municipal electric utility in Orange County
- 177,458 meters, 114,453 are electric and 63,005 are water
- Consumption of energy: 75% Commercial/Industrial, 23 %residential and 2% miscellaneous
- Peak demand: 581 megawatts established August 2008
- Gross annual energy used: 2,700 gigawatt-hours
- Retail annual energy used: 2,597 gigawatt-hours.
- 333 full-time employees and 58 part-time employees

Overview of Public Benefit Programs

From January 1998 through June 2008, public benefits expenditures totaled $68,212,134 as follows: Energy Efficiency 57%; RD&D 16%; Renewable Energy Resources 20%; and Income Qualified 7%. Conservation of electricity and water is part of the utility's daily routine. In the long-term, conservation of energy and water helps Anaheim Public Utilities defer the future purchase of more costly resources. In the short-term, conservation is vital in helping maintain stable rates. Anaheim offers approximately 45 value packed Advantage Services to help customers reduce electric and water use and save money.

Strategic Objectives

Develop programs and services to:

- Achieve legislatively driven goals and objectives (AB 2021)
- Meet the needs of our customers and Department
- Maximize Public Benefit Investments
- Promote New Energy/Water Technologies
- Expand Renewable Energy
- Promote Green Building
- Develop effective communications and marketing plans

Current Commercial Customer Programs

Total annual program cost: $1,267,463.
Resulting in: 1,745 kilowatt demand reduction and 6,499,908 kilowatt-hour reduction.

• **Comprehensive Energy Audits -** Customized on-site audits and recommendations designed to improve energy operating efficiency and help customers reduce costs.
• **Water Use Surveys -** Expert analysis of a facility's water use, specific water saving recommendations, and an explanation how incentives may help fund improvements.

• **Industrial Process Improvement Incentives –** Commercial and industrial water users adopting water-saving processes are eligible for financial assistance.
• **Economic Development/Business Retention Rate -** Provides qualifying businesses with rate discounts with an efficiency measures installation component.
• **Permit Fee Waiver** – Waives the required permit fees for commercial customers who install high efficiency measures.
• **Customized Energy Incentives -** Customized financial incentives for installation of high-efficiency air conditioning, motors, and other production related equipment.
• **Heat Pump Incentives -** Encourage installation of high-efficiency heat pumps.
• **Exit Sign Program -** Financial incentives for up to 50 percent of the cost to retrofit incandescent bulbs or fluorescent lamps in exit signs with more efficient exit sign lighting technology.
• **Lighting Incentives –** Provides incentives to improve energy efficiency for a variety of lighting applications**.**
• **Small Business Energy Management Assistance -** Provides customers of less than 100 kilowatt demand with energy use evaluations, retrofit funding, and installation assistance; focusing on lighting upgrades, programmable thermostats, air conditioning, and refrigeration tune-ups.
• **New Construction -** Design assistance and incentives for new construction and facility expansions that install energy-efficient equipment that exceed Title 24.
• **Commercial Water Equipment Rebates -**Businesses and companies are eligible for rebates by installing or retrofitting with qualifying water-saving devices.

Current Residential Customer Programs

Total annual Program Costs $3,232,157**.**
Resulting in: 8,187 kilowatt demand reduction and 14,563,624 kilowatt-hour reduction.

• **Home Utility Check-Up -** A customized in-home survey of water and energy use and existing appliances; or an option to go to www.anaheim.net and click on Public Utilities to complete a detailed survey online. Either way, customers receive money saving advice, installation of up to five CFLs, water saving aerators and showerheads, and learn about
incentives designed to help them be more water and energy efficient.
• **Home Investment Package (HIP)** – Whole house diagnosis program using Home Performance with Energy Star model to evaluate and improve energy efficiency, safety, comfort, durability and resale value of existing single family homes. Program mandates BPI-certified contractors to diagnose home, present results and perform home improvements.
• **Home Incentives -** Rebates for purchase and installation of high efficiency ENERGY STAR® rated appliances and high efficiency conservation measures.
• **TreePower -** Provides complimentary shade trees and incentives for residential customers. Shade trees, when properly placed, can help reduce air conditioning costs.
• **Compact Fluorescent Lamp (CFL) Distribution Program –** Provides two CFLs to residents in the East and West neighborhood districts
• **Rehabilitation Loan and Energy Efficiency Grants –** Income-qualified loans to residential customers for rehabilitation of existing single-family homes. Grants are offered in addition to installing energy efficiency measures.
• **Weatherization** - Provides weatherization measures, ensures combustion appliance safety and installs Energy Star appliances for income-qualified residential homeowners and tenants.
• **Neighborhood Comprehensive Revitalization** – Provides comprehensive revitalization and retrofits to existing income-qualified neighborhood developments. Funding is provided to install high efficiency conservation measures and Energy Star appliances.

• **Lighten-Up CFL Fundraiser** - Provides free CFLs to students to sell as a fund raising activity to attend outdoor environmental camp (or other specified extracurricular activity). Schools pay $1 for each bulb sold which is applied to the Sun Power for Schools Program.
• **Permit Fee Waiver** – Waives the required permit fees for residential customers who install high efficiency measures and Energy Star appliances qualified for the Home Incentives Program.
• **Toilet Rebate Programs -** Rebates for ultra-low-flush and high efficiency toilets.
• **Income-Qualified Senior or Disabled Energy Credit -** Provides a 10 percent reduction on the electric portion of bills to seniors or long-term disabled customers at or below 80 percent of the Orange County median income.

Current Procurement Expenses

Total Annual Program Expenditures $282,990
Resulting in: 166 kilowatt demand reduction

• **Thermal Energy Storage (TES) Program** – Program provides incentives for installation of small scale thermal energy storage systems that permanently shift demand for electricity to provide air conditioning from peak periods to off-peak periods.
• **A/C Load Control –** Provides commercial customers with smart thermostats to control the setback temperatures of air during demand response events in order to quickly respond to system emergencies, such as California Independent System Operator (ISO) events or loss of Department generation resources

Current Evaluation, Measurement and Verification Activities

Under the Comprehensive Energy Audit Program (CEAP), the contractor performs post-evaluation visits for those customers previously audited and determined to have significant potential to implement energy savings and demand reduction. Preparation for these visits includes updates that identify how to enhance effectiveness in implementing the energy measures identified in the program evaluation. The contractor is required to both pre-and post- inspect rebate installations for all programs based on the Department's determination.

Public Facilities

Energy efficient lighting retrofits have been completed for most City facilities; and all traffic sign lights and crosswalks have been retrofitted with LEDs.

City Schools

Anaheim Public Utilities rebates of $330,125 helped support the retrofit of the 18 public schools with energy efficient lighting and heating/cooling equipment.

Proposed Energy Efficiency Programs and Services 2008-09

• Continue CFL Distribution Program by mailing two CFLs to the residents of the Central and South neighborhood districts
• Review existing programs and accelerate current levels of participation by targeted marketing campaigns, potentially increasing incentive levels
• Evaluate the appropriateness of any new energy efficiency technologies
• Prepare request for proposal (RFP) to deliver evaluation, measurement and verification services by an

independent 3rd party.

Low Income

- Conduct an evaluation of the low-income programs
- Work closely with City Departments to ensure that all qualified customers are enrolled in the low-income program

Projected Integrated Resources Program

- Review potential for large scale thermal energy storage program
- Ensure that energy efficiency is part of integrated resource planning by determining and implementing the most cost-effective, reliable, and feasible energy efficiency measures

Review Of Progress

In accordance with AB2021, Anaheim established goals for fiscal year 07/08 of 16,117,000 kWh and 3,400 kW. Anaheim has made tremendous strides in achieving energy and demand reductions during this reporting period saving 16,808,144 kWh and reducing 7,914 kW demand, which represents 104% of our kWh goal and 233% of our demand reduction goal. This figure represents .63% of our forecasted retail sales and .65% of our actual retail sales.

It is important to note that the first AB2021 report was based on Anaheim's forecast. The actual retail sales values for both 2007 and 2008 have been lower than the baseline forecast used to produce the AB2021 energy efficiency target setting report. Our retail sales targets will be adjusted accordingly in the next report.

Anaheim will be accelerating energy efficiency programs and will be striving to achieve a goal of 1% of 2008/2009 retail sales.

ANAHEIM PUBLIC UTILITIES

ANAHEIM PUBLIC UTILITIES
www.anaheim.net

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Anaheim		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	392	392	1,100,114	16,501,704	10,498	$ 7,108	$ 735,593	$ 74,270	$ 816,971
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	5,362	5,362	7,805,722	54,650,810	27,676	$ 1,520	$ 516,555	$ 51,807	$ 569,882
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	677	677	892,005	13,380,072	7,116	$ 252,073	$ 222,083	$ 47,416	$ 521,571
HVAC	Res Shell	14	14	155,731	2,335,968	1,486		$ 271,100	$ 27,110	$ 298,210
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive	215	215	1,319,297	19,789,452	12,097		$ 521,438	$ 52,144	$ 573,582
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	62	195	134,756	2,021,340	1,064	$ 276,233	$ 25,430	$ 1,870	$ 303,533
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	601	601	2,351,360	16,671,456	9,265	$ 198,298	$ 35,342	$ 23,364	$ 257,004
Process	Non-Res Motors									
Process	Non-Res Pumps			883,482	13,252,230	6,979		$ 26,504		$ 26,504
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	591	591	2,165,678	32,485,176	18,718	$ 237,399	$ 23,957	$ 26,181	$ 287,537
Other	Other									
SubTotal		7,914	8,047	16,808,144	171,088,208	94,900	$ 972,631	$ 2,378,002	$ 304,162	$ 3,654,795
T&D	T&D									
Total		7,914	8,047	16,808,144	171,088,208	94,900	$ 972,631	$ 2,378,002	$ 304,162	$ 3,654,795

EE Program Portfolio TRC Test	**5.59**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Anaheim										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	611	611	1,715,188	25,727,827	16,367	$ 11,082	$ 1,146,864	$ 33,437	$ 1,191,383
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	8,359	8,359	12,169,910	85,206,146	43,150	$ 2,370	$ 805,361	$ 110,737	$ 918,468
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1,055	1,055	1,390,726	20,860,887	11,095	$ 393,007	$ 346,249	$ 27,112	$ 766,368
HVAC	Res Shell	22	22	242,801	3,642,011	2,317		$ 422,672	$ 4,733	$ 427,406
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive	336	336	2,056,917	30,853,759	18,860		$ 812,975	$ 40,099	$ 853,074
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	97	304	210,098	3,151,474	1,660	$ 430,675	$ 39,648	$ 4,096	$ 474,419
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	937	937	3,666,008	25,992,488	14,445	$ 309,167	$ 55,102	$ 33,781	$ 398,049
Process	Non-Res Motors									
Process	Non-Res Pumps			883,482	13,252,230	6,979		$ 26,504	$ 17,223	$ 43,728
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	922	922	3,376,512	50,647,679	29,184	$ 370,129	$ 37,351	$ 65,824	$ 473,304
Other	Other									
SubTotal		12,339	12,546	25,711,643	259,334,500	144,057	$ 1,516,430	$ 3,692,727	$ 337,040	$ 5,546,198
T&D	T&D									
Total		12,339	12,546	25,711,643	259,334,500	144,057	$ 1,516,430	$ 3,692,727	$ 337,040	$ 5,546,198

EE Program Portfolio TRC Test	**5.83**

Excluding T&D

AZUSA LIGHT & WATER

- Established in 1898, Azusa Light & Water is one of the oldest municipal utilities in Southern California and the West.
- The utility serves approximately 15,500 retail customers, of which 69 percent of the sales are for the Commercial and Industrial consumers that account for only 12 percent of the customer base.
- Peak demand of approximately 60 megawatts usually occurs in the early evening during the late summer.
- Azusa Light & Water does not self-generate, and purchases 80 percent of the total 267,304 megawatt-hours through longer-term contracts.
- Un-audited sales revenues are approximately $34,400,000, with un-audited operating costs of about $32,700,000.
- Electric system includes 2 substations, 20 circuits and about 100 miles of electric lines.

Azusa Light & Water Energy Efficiency Program Highlights

Since inception, Azusa Light & Water has expended over $5,000,000 toward providing energy conservation information to the Azusa community and rewarding businesses and residents for upgrading inefficient energy consuming equipment with more energy efficient equipment. These efforts have resulted in an annual peak demand reduction of approximately 1 percent. Savings are based upon engineering estimates and measurements that have been field verified.

Current Commercial and Industrial Customer Programs: (Annual program cost: Almost $639,000; resulting in approximately 300 kilowatts of demand reduction and over 20,500,000 kilowatt-hours of net lifecycle savings):

- Business Partnership Program: Retrofit existing buildings and factories with high efficiency lighting, air conditioning and process equipment.
- Free Energy Audits: Provide suggestions on the most energy efficient equipment and more cost effective methods of operations along with free replacement CFLs.
- New Business Retrofit Program: Encourage the use of the most energy efficient equipment in the design and construction of new buildings and factories.

Current Residential Customer Programs: (Annual program cost: $119,000; resulting in approximately 160 kilowatts of demand reduction and over 4,500,000 kilowatt-hours of net-lifecycle savings).

- EnergyStar® Refrigerator Program: Rebates are offered for the purchase of an EnergyStar® rated refrigerator.
- EnergyStar® Air Conditioner Program: Rebates are offered for the purchase of an Energy Star® rated room or central air conditioning unit.
- Home Weatherization Rebate Program: Rebates are offered for a variety of home weatherization measures.
- Free Home-in-Home Energy Audits: Provide recommendations for the effective use of energy within the residence.
- Free On-Line Home Energy Audit Program: Customers can enter various parameters that match their home and lifestyle, and receive an immediate list of conservation recommendations and measures along with an estimate of what each appliance within the home is using in the way of energy.
- CFL Exchange and Replacement Program: Free CFLs to all electric customers.

Public Facilities:

Program guidelines are essentially the same as the current commercial and industrial programs; therefore they are included in that category for funding and savings.

City Schools:

(Annual program cost: $36,000; resulting in approximately 33 kilowatts of demand reduction and 856,000 kilowatt-hours of net lifecycle savings).

- LivingWise: Provide an interactive 6th grade conservation education program to all 6th grade classes within the City of Azusa, both private and public.

Proposed Azusa Energy Efficiency Programs and Services: (for 2008-2009)

- Maintain existing programs at current levels
- Ensure that all new electric loads are efficient
- Evaluate the appropriateness of any new energy technologies
- Ensure that energy efficiency is part of integrated resource planning by determining and implementing the most cost-effective, reliable, and feasible energy efficiency measures
- Measure and evaluate the impact of energy efficiency programs

Low Income Programs:

- Maintain existing programs at current levels.
- Ensure that all qualified customers are enrolled in the low-income program.
- Conduct an evaluation of the low-income programs.

Azusa Investment in Renewable Energy:

Azusa Light & Water will continue to explore addition supplies of renewable energy to meet its 2010 requirement of 20 percent renewable energy in the power portfolio.

Azusa Demand Reduction Programs:

- Maintain existing summer load reduction program driven by reliability considerations. Current program entails calling large customers to conserve during Stage 2 episodes.
- Measure and evaluate additional price-driven demand response programs.

AZUSA LIGHT & WATER

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Azusa		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	32	18	64,833	1,626,439	1,036	$ 5,951	$ 68,428	$ 13,720	$ 88,099
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	106	15	81,562	734,054	387		$ 3,076	$ 3,217	$ 6,293
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	18	18	113,646	2,045,635	1,088	$ 7,300		$ 9,876	$ 17,176
HVAC	Res Shell	4	4	7,131	141,830	82	$ 6,480		$ 781	$ 7,261
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	44	44	67,276	1,038,969	599	$ 132,084		$ 5,943	$ 138,027
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	183	183	987,511	10,862,618	5,943	$ 316,695		$ 53,357	$ 370,052
Process	Non-Res Motors	20	20	77,680	1,165,200	614	$ 10,000		$ 5,287	$ 15,287
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	6	6	52,660	947,880	499	$ 20,388		$ 4,430	$ 24,818
HVAC	Non-Res Shell	2	2	18,074	361,480	208	$ 6,808		$ 2,167	$ 8,975
Process	Non Res Process	47	47	291,965	4,379,475	2,306	$ 15,954		$ 19,871	$ 35,825
Comprehensive	Non Res Comprehensive									
Other	Other	3	3	589,805	1,769,414	1,062	$ 35,539		$ 10,451	$ 45,990
SubTotal		464	358	2,352,143	25,072,995	13,824	$ 557,198	$ 71,504	$ 129,101	$ 757,803
T&D	T&D									
Total		464	358	2,352,143	25,072,995	13,824	$ 557,198	$ 71,504	$ 129,101	$ 757,803

EE Program Portfolio TRC Test	**2.79**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Azusa		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	34	19	68,075	1,707,761	1,088	$ 6,249	$ 71,849	$ 9,448	$ 87,546
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	117	17	89,718	807,460	425		$ 3,383	$ 4,467	$ 7,851
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	19	19	125,011	2,250,199	1,197	$ 8,030		$ 12,449	$ 20,479
HVAC	Res Shell	4	4	7,131	141,830	82	$ 6,480		$ 785	$ 7,265
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	44	44	67,276	1,038,969	599	$ 132,084		$ 5,748	$ 137,832
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	183	183	987,511	10,862,618	5,943	$ 316,695		$ 60,096	$ 376,790
Process	Non-Res Motors	20	20	77,680	1,165,200	614	$ 10,000		$ 6,446	$ 16,446
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	6	6	51,080	919,444	484	$ 19,777		$ 5,087	$ 24,863
HVAC	Non-Res Shell	2	2	18,074	361,480	208	$ 6,808		$ 2,000	$ 8,808
Process	Non Res Process	47	47	291,965	4,379,475	2,306	$ 15,954		$ 24,229	$ 40,182
Comprehensive	Non Res Comprehensive									
Other	Other	3	3	678,276	2,034,827	1,222	$ 40,870		$ 11,257	$ 52,127
SubTotal		478	363	2,461,797	25,669,262	14,168	$ 562,945	$ 75,233	$ 142,011	$ 780,189
T&D	T&D									
Total		478	363	2,461,797	25,669,262	14,168	$ 562,945	$ 75,233	$ 142,011	$ 780,189

EE Program Portfolio TRC Test	**2.57**

Excluding T&D

CITY OF BANNING ELECTRIC UTILITY

- Established in 1922
- Of the 11,900 customers, 90 percent are residential
- Peak demand: 45 megawatts, which is primarily air conditioning load during the summer
- The Utility's annual energy use is 161,790 megawatt-hours, which is broken down into 47 percent residential and 53 percent commercial/industrial
- 33 employees
- Retail energy sales in FY07/08 were 152,981,066 kilowatt-hours
- The Utility installed Capacitors in appropriate areas throughout its distribution system, which resulted in a 50 percent reduction in distribution system losses equal to approximately 8,000,000 kilowatt-hours.
- Projected retail energy sales for FY08/09 are 148,944,000 kilowatt-hours. The reduction in projected retail sales is due to foreclosures and loss of the City's primary industrial customer.

Overview of Banning Energy Efficiency Programs

During FY 07/08, Banning spent $99,047 in energy efficiency rebates, which have provided 505 kilowatt demand and 634,027 kilowatt-hours energy savings.

Current Customer Programs:

- Air Conditioner: Monetary incentives to replace an existing central air conditioning unit with a new high-efficiency unit.
- EnergyStar® Appliances: Monetary incentives for purchasing products that meet the Energy Star®" criteria.
- EnergyStar® Refrigerator: A monetary incentive for replacing an old inefficient refrigerator with a new energy efficient unit.
- Recycle: Rebates offered to remove and recycle operating old and inefficient refrigerators and freezers.
- Energy Weatherization: Monetary incentives to replace inefficient materials with products that will improve the energy efficiency of their facility and reduce energy use.
- Shade Tree: Rebates offered to plant shade trees around homes to help reduce the amount of energy used for air conditioning.
- Photovoltaic: Monetary incentives for the purchase and installation of photovoltaic (PV) or solar powered systems.

- New Construction: Monetary incentives for new construction projects that exceed the energy efficiency above California's Title 24 standards.
- Energy Audits: Provides customers with a variety of recommendations for reducing energy consumption.
- Low Income Assistance: An electric utility reduced Baseline Rate for qualified customers.

Proposed Banning Energy Efficiency Programs and Services: (2008-09)

- Work with community organizations to further increase awareness of overall participation in existing programs.
- Ensure that all new electric load is efficient.
- Evaluate and implement new energy efficiency technologies as applicable.
- Ensure that Banning's Renewable Portfolio Standard (RPS) is maintained.
- Measure and evaluate the impact of energy efficiency programs.
- Complete CFL Distribution Project and Energy Conservation Survey to all residential customers.

Low-Income Customer Programs:

- Complete door-to-door Energy Conservation Survey, which includes providing Low Income Program eligibility guidelines to all residential customers, to ensure that all qualified customers are provided an application form and encouraged to participate in the program.
- Conducted an evaluation of the low-income program, which resulted in modifying it from a flat percentage credit of the total electric bill (which did not encourage conservation), to a reduced rate per kWh on the Baseline Rate which is equal to the full annual incentive of $200. This ensures that those customers conserving energy receive the full benefit of the monetary assistance.

Banning Investment in Renewables:

The City of Banning's RPS has committed the Utility to reach 33 percent renewables by 2020.

- The City has contracted for geothermal energy from two generating facilities, which currently provides approximately 20 percent renewable energy.
- The Utility is currently evaluating several renewable projects to continue increasing its level of renewable energy to meet its RPS goal of 33 percent by 2020.

Banning Demand Reduction Programs:

The City of Banning does not currently have any demand reduction programs in place.

Banning EM&V:

The City of Banning is working with the Southern California Public Power Authority (SCPPA) to develop a cost effective Measurement and Verification process.

CITY OF BANNING ELECTRIC UTILITY

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Banning		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			998	9,984	6	$ 4,251		$ 114	$ 4,365
HVAC	Res Cooling	123	70	103,953	1,922,772	1,224	$ 47,378		$ 35,186	$ 82,564
Appliances	Res Dishwashers			1,443	18,762	10	$ 3,432		$ 195	$ 3,627
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	364	53	283,940	2,555,460	1,294	$ 17,125		$ 24,083	$ 41,208
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	8	8	49,319	887,746	472	$ 23,461		$ 9,686	$ 33,147
HVAC	Res Shell	9	9	17,979	359,584	207	$ 3,400		$ 4,483	$ 7,883
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			176,394	529,181	305			$ 6,104	$ 6,104
SubTotal		505	141	634,027	6,283,488	3,517	$ 99,047		$ 79,850	$ 178,897
T&D	T&D									
Total		505	141	634,027	6,283,488	3,517	$ 99,047		$ 79,850	$ 178,897

EE Program Portfolio TRC Test	**1.35**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Banning		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			1,048	10,483	6	$ 4,464		$ 44	$ 4,507
HVAC	Res Cooling	129	74	109,151	2,018,911	1,285	$ 49,747		$ 8,435	$ 58,182
Appliances	Res Dishwashers	1	1	1,588	20,638	11	$ 3,775		$ 86	$ 3,861
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1,092	160	851,820	7,666,380	3,882	$ 51,375		$ 32,032	$ 83,407
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	9	9	54,251	976,520	519	$ 25,807		$ 4,080	$ 29,887
HVAC	Res Shell	9	9	18,878	377,563	217	$ 3,570		$ 1,578	$ 5,148
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			2,998,691	8,996,074	5,179			$ 37,588	$ 37,588
SubTotal		1,240	252	4,035,427	20,066,569	11,100	$ 138,738		$ 83,843	$ 222,580
T&D	T&D									
Total		1,240	252	4,035,427	20,066,569	11,100	$ 138,738		$ 83,843	$ 222,580

EE Program Portfolio TRC Test	**1.21**

Excluding T&D

CITY OF BIGGS

- Biggs has 611 residential, 55 commercial and 3 industrial customers.
- The City of Biggs projects a growth rate of 1% over the next 3 years.
- Peak demand – in August 2007 was 4.3 MW
- Annual energy use: 18.4 GWh.
- Power content: Geothermal 2%, small hydro 6%, large hydro 24%, and nonrenewable 63%.

CITY OF BIGGS ENERGY EFFICIENCY PROGRAM HIGHLIGHTS:

- The City of Biggs implemented residential energy efficiency programs in 1997 but completely remodeled our programs in mid 2005. Our FY 2006-2007 Program was expanded to include commercial audits and educational programs.

Current Energy Efficiency Programs and Services

1. ***Residential Energy Audits*****:** The City of Biggs offers free, customized home energy audits, including blower door tests, weatherization evaluations, and a review of energy usage. Specific recommendations to improve energy efficiency and reduce energy use are provided.

2. ***Commercial Energy Audits*****:** The City of Biggs offers free, customized commercial energy audits, including lighting assessment, HVAC assessment, equipment assessment and a review of energy usage. Specific recommendations to improve energy efficiency and reduce energy use are provided.

3. ***Fluorescent Light Program*****:** The City of Biggs has a CFL Give-away Program to encourage customers to replace incandescent bulbs with CFLs.

4. ***Residential Energy Rebate Program:*** The City of Biggs manages a comprehensive residential energy efficiency incentive program, focusing on peak load reduction and energy savings. Generous rebates are available to residential customers for weatherization measures such as attic/wall insulation, dual pane windows, shade screens, radiant barriers and cool roof products. Biggs offers rebates for measures which reduce summer cooling load such as high efficiency HVAC, whole house fans and attic fans. Biggs also offers rebates for Energy Star refrigerators and lighting controls.

5. ***Commercial Energy Rebate Program:*** The City of Biggs offers customized energy efficiency incentive programs to commercial customers, focusing on peak load reduction and energy savings. Generous rebates and comprehensive technical support are available to commercial customers to promote the installation of energy efficient lighting, HVAC, equipment and controls.

6. ***Investment Grade Audit Program:*** The City of Biggs offers, free of charge, Investment Grade Audits for all school district buildings as a way to support the district in acquiring grant funding for energy efficiency retrofits.

7. ***Education Services:*** The City of Biggs supports the 3-12 Solar Schoolhouse Program by funding teacher participation in the "Summer Institute for Educators" and by supplying Solar Schoolhouse Educational Tools for classroom use.

CITY OF BIGGS

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Biggs		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling			76	1,136	1	$ 177		$ 14	$ 191
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	44	6	31,200	280,800	150	$ 2,050		$ 2,027	$ 4,077
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	6,064	109,159	59	$ 600		$ 889	$ 1,489
HVAC	Res Shell	1	1	739	14,777	8	$ 1,664		$ 135	$ 1,798
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	14		13,112	196,680	109	$ 3,278		$ 1,658	$ 4,936
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	18	11	81,686	945,834	515	$ 19,976		$ 7,560	$ 27,537
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		77	19	132,877	1,548,387	843	$ 27,745		$ 12,282	$ 40,027
T&D	T&D									
Total		77	19	132,877	1,548,387	843	$ 27,745		$ 12,282	$ 40,027

EE Program Portfolio TRC Test	**1.04**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Biggs		Resource Savings Summary					Cost Summary			
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling			21	316		$ 49		$ 4	$ 53
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	12	2	8,688	78,189	42	$ 571		$ 564	$ 1,135
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration			1,689	30,396	16	$ 167		$ 247	$ 415
HVAC	Res Shell			206	4,115	2	$ 463		$ 38	$ 501
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	4		3,651	54,766	30	$ 913		$ 462	$ 1,374
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	5	3	22,746	263,370	143	$ 5,562		$ 2,105	$ 7,668
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		22	5	37,000	431,152	235	$ 7,726		$ 3,420	$ 11,146
T&D	T&D									
Total		22	5	37,000	431,152	235	$ 7,726		$ 3,420	$ 11,146

EE Program Portfolio TRC Test	**1.04**

Excluding T&D

BURBANK WATER & POWER (BWP)

- Established in 1913
- Serving the 100,000 residents of and 6,000 businesses located in the City of Burbank with water and electricity
- Burbank's peak electrical demand hit a system high of 294 megawatts in July 2006
- Annual energy use is approximately 1,200 gigawatt-hours
- Burbank Water and Power employs about 330 employees

BWP's Energy Efficiency Program Highlights

During FY07/08, BWP spent a total of $2,720,082 for energy efficiency programs supported through Public Benefits. These programs resulted in net peak demand savings of 2,023 kilowatts, net annual energy savings of over 8.7 million kilowatt-hours, and an estimated net lifetime energy savings of over 100 million kilowatt-hours.

Our projections for FY08/09 show spending on energy-efficiency initiatives of $3.3 million from Public Benefits funding. These programs are projected to result in net peak demand savings of 2,405 kilowatts, net annual energy savings of 9.3 million kilowatt-hours, and an estimated net lifetime energy savings of 116 million kilowatt-hours.

Special Efficiency Initiatives in 2008:

In 2008, BWP rolled out two special initiatives and one new program.

1. The first initiative was our CFL/Aerator Mail Out Program whereby every Burbank address -- residential and business alike -- received a package containing two compact fluorescent lights (CFLs) and two 1.0 gallon per minute bathroom faucet aerators, along with energy- and water-saving information and tips. This initiative was supported with a comprehensive communications campaign, including several City Council presentations, a "teaser" article in BWP's *Currents* newsletter, a follow-up article in the publication, and a humorous video created by Burbank's Public Information Office and starring BWP staff. The video played extensively on the City government cable channel which receives surprisingly high viewership within Burbank. A second shorter video was also created to push installation of the package contents. BWP followed up the initiative with market research to gauge program success and were very encouraged by the results.

2. The second initiative was BWP's Ice Bear Program. Through this demonstration project, BWP is in the process of installing 20 peak load reducing Ice Bear units. We have already expanded our

Energy Solutions business rebate program to include thermal energy storage incentives to support this peak-shifting technology. Data from the technology demonstration project will be shared with all customers and we anticipate significant usage of this technology as we move more and more customers to a time-of-use rate structure.

3. A program that is already fulfilling our high expectations is BWP's new Check-Me Program. Through this air conditioning tune-up program, Single-Family, Multi-Family, and Commercial customers can participate to ensure that their HVAC systems operate at the highest efficiency rated.

Current Customer Programs:

BWP offers an ongoing array of both commercial and residential programs.

Here is a brief description of Burbank's commercial programs:

- Energy Solutions Business Rebate Program: Rebates offered for early replacement efficiency retrofit projects such as lighting and HVAC. The program also includes rebates for thermal energy storage units to reduce air conditioning peak demand.
- Business Bucks: Targeted to smaller and mid-sized businesses, this program provides free surveys of commercial facilities by a certified energy manager. A report listing recommended energy efficient retrofits is provided from which businesses can select. Customers can receive up to $2,000 in cost-effective energy-efficiency retrofits paid for by BWP.
- HVAC Tune-Up Program: In 2008, BWP created this new program for both residents and businesses in Burbank. The program uses Proctor Engineering's proprietary CheckMe! software to diagnose and verify proper air conditioning tune-up requirements.
- Made in the Shade Program: Up to 20 free shade trees are provided to interested Burbank businesses. Shade trees are 'nature's air conditioners'; mature trees properly sited can significantly reduce air conditioning use.
- Wet Cleaning Incentive Program: Provide education on the advantages of professional wet cleaning to all Burbank dry cleaners, as well as additional financial incentives to cleaners making the switch to wet cleaning.
- Leadership in Energy and Environmental Design (LEED) Certification Incentive Program: Incentive program to encourage the construction of environmentally preferred buildings in Burbank.
- Business Energy Education Program: Provides free educational workshops on energy efficiency topics to Burbank businesses.

Here is a brief description of Burbank's residential programs:

- Home Rewards Residential Rebate Program: Cash rebates offered to Burbank residents purchasing Energy Star® appliances and taking energy-efficiency actions, such as installing attic or wall insulation in their homes.
- HVAC Tune-Up Program: The program uses Proctor Engineering's proprietary CheckMe! software to diagnose and verify proper air conditioning tune-up requirements.

- Home Energy Analyzer: This free online service allows residents to input their household characteristics and energy use to discover no cost, low cost and investment opportunities to save energy.
- Made in the Shade: Up to three free shade trees are provided to interested Burbank homeowners to reduce air conditioning use.
- Refrigerator Exchange Program: Burbank's low-income customers can receive a new Energy Star™ refrigerator in exchange for their existing unit.
- Refrigerator Round-Up Program: Any Burbank resident with a second operable refrigerator can turn that appliance in to BWP for environmental recycling and receive a $100 billing credit.

Additionally, BWP offers ad hoc energy-saving opportunities throughout the year, including providing free compact fluorescent lights at community events and "LivingWise" kits to 6th grade students. These kits contain both energy and water saving devices for the household. All Burbank Unified School District students participate in this program. In 2008, the program was offered to the local private schools, but all declined to participate. BWP staff will continue efforts to convince these schools to participate.

New Programs

During the first quarter of 2009, BWP staff will be rolling out our most ambitious program to date, in terms of expected energy and water savings. This is a Residential In-Home Audit and Installation Program. What sets this program apart from similar programs is that BWP is partnering with the Southern California Gas Company to cost-share while creating a program that is comprehensive for residential customers. Conservation of electricity, water (both indoors and for landscape purposes) and natural gas are all folded into this program. For the next several years, BWP and the Gas Company have a goal of servicing 3,000 Burbank households (about 7% of all homes) annually with this program.

For FY2009-10, we are investigating a vending machine program, a pool pump program, and a home energy reporting service. As always, BWP staff will continue to explore cost-effective efficiency opportunities.

BWP T&D Efforts:

During FY07/08, BWP increased the conductor size on a few primary circuits. The increased efficiency resulted in 80 megawatt-hours of annual energy savings and a demand reduction of 26 kilowatts. During the current fiscal year, the utility's re-conductoring efforts will be minimal since peak load did not increase last year.

In other operational improvement efforts, Burbank upgraded about 100 services last year. The increased efficiency of a larger wire size saves an estimated three megawatt-hours annually with a peak demand reduction of two kilowatts. This work is ongoing and will likely produce similar savings over the next few years.

BWP also retires many old transformers every year, replacing them with new, efficient models. The number varies from year to year. For FY07/08 this activity saves about 74 megawatt-hours annually, representing a demand reduction of 14 kilowatts.

In total, BWP experienced operational loss reductions of about 50 kilowatts and 160 megawatt-hours during FY07/08. Savings for the current fiscal year are expected to be about 30 kilowatts and 100 megawatt-hours.

BWP M&V Efforts:

Along with virtually every other publicly owned utility in California, Burbank Water and Power uses the KEMA/E3 Energy Efficiency Reporting Tool to ensure accurate reporting of energy and demand reductions. While measurement and verification elements are built into every program, the M&V process varies by program. Here are some examples:

- In our Business Bucks program, an audit and installation program for small to mid-sized businesses, BWP uses the services of Richard Heath and Associates to verify all installed measures.
- BWP administers a business rebate program, Energy Solutions, for companies installing high-efficiency energy retrofits. All installations receiving financial support through Energy Solutions are toured and verified by BWP's Key Account Representatives, all of whom are trained in electrical engineering.
- Home Rewards, BWP's residential appliance rebate program, receives over 3,000 applications annually. Each application requires receipts showing products purchased. Products are verified against the Energy Star website to ensure that energy requirements are met. This verification process is conducted in-house.
- BWP runs two refrigerator programs utilizing the services of Appliance Recycling Centers of America (ARCA). In both the Low-Income Refrigerator Exchange and Second Refrigerator Recycling programs, ARCA is in the home verifying information related to the old refrigerators.
- Our newest program is the HVAC Tune-Up program, offered to both residents and businesses. The cornerstone of the program is the use of the Proctor Engineering Group's "CheckMe" software. Incentives are paid to air conditioning contractors only for items verified by Proctor.

BWP is currently working with the SCPPA to hire a third-party to verify program participation and demand and energy savings. The goal is to have the third party in place by the beginning of 3rd Quarter 2009. Burbank uses the E3 model and deemed savings provided by KEMA to track demand and energy savings.

Burbank Water and Power remains committed to providing our residential and business customers with safe, reliable and affordable services and making all reasonable efforts to reduce consumption of both electricity and water by significant levels.

BURBANK WATER & POWER (BWP)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Burbank										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	186	163	288,524	7,144,449	4,545		$ 121,825	$ 47,576	$ 169,401
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	4,031	544	2,975,720	26,781,480	13,563	$ 331,918		$ 88,469	$ 420,387
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	129	129	895,186	16,113,341	8,570	$ 53,700	$ 98,658	$ 61,120	$ 213,478
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive	239	187	415,100	3,718,193	1,967	$ 326,456	$ 47,520	$ 13,142	$ 387,118
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	1,001	1,001	3,954,264	46,087,569	24,270	$ 866,363	$ 457,230	$ 160,207	$ 1,483,800
Other	Other			190,287	862,022	496		$ 27,461	$ 18,438	$ 45,898
SubTotal		5,586	2,023	8,719,081	100,707,054	53,411	$ 1,578,437	$ 752,694	$ 388,950	$ 2,720,081
T&D	T&D	50	50	154,000	3,080,000	1,775				
Total		5,636	2,073	8,873,081	103,787,054	55,185	$ 1,578,437	$ 752,694	$ 388,950	$ 2,720,081

EE Program Portfolio TRC Test	**3.95**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Burbank										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	176	154	273,829	6,780,567	4,314		$ 115,620	$ 45,153	$ 160,773
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	3,826	517	2,824,160	25,417,443	12,872	$ 315,013		$ 83,963	$ 398,975
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	122	122	849,592	15,292,654	8,133	$ 50,965	$ 93,633	$ 58,007	$ 202,605
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive	226	177	393,958	3,528,818	1,866	$ 309,829	$ 45,100	$ 12,472	$ 367,401
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	950	950	3,752,865	43,740,231	23,034	$ 822,237	$ 433,942	$ 152,047	$ 1,408,227
Other	Other			180,595	818,118	471		$ 26,062	$ 17,499	$ 43,561
SubTotal		5,301	1,920	8,275,000	95,577,831	50,690	$ 1,498,044	$ 714,357	$ 369,140	$ 2,581,541
T&D	T&D	50	50	154,000	3,080,000	1,775				
Total		5,351	1,970	8,429,000	98,657,831	52,465	$ 1,498,044	$ 714,357	$ 369,140	$ 2,581,541

EE Program Portfolio TRC Test	**3.95**

Excluding T&D

COLTON ELECTRIC UTILITY (CEU)

- Colton Electric Utility was established in 1895 by the City of Colton
- CEU has three substations and owns a 43 megawatts gas combustion turbine generator
- CEU has 18,688 electric meters, with Residential making up 28 percent, Commercial 27 percent, Industrial 42 percent and 3 percent Municipal of total sales
- Peak demand for 2008 was 90 megawatts on August 22 at 4:00 p.m.
- In fiscal year 2007-2008 Colton Electric Utility sold 397,923 Megawatt-hours
- CEU has 43 employees

CEU Energy Efficiency Program Highlights

From FY 1999 through FY 2008, Colton spent $4,207,761 on Public Benefits Programs. Spending for the major efficiency programs was $3,314,098 and reduced peak demand by 1,082 kilowatts, overall demand by 4,929 kilowatts, annual energy use by 26,978,983 kilowatt-hours and lifecycle energy use by 28,262,818 kilowatt-hours. The budget for FY05/06 was $808,002. The budget for FY 07/08 is $1,318,800.

Overview of Current Energy Efficiency Programs:

The objectives of the program are to implement energy efficiency programs for all customers by evaluating energy use of customers and start with low and no cost measures, then do the most cost effective reliable measures beginning with lighting upgrades for all customers.

Current Commercial Customer Programs:

- The major commercial program has been lighting rebates that paid 200 per kilowatt reduced. From 1997 to 2005, this program cost $87,730, reducing demand by 428 kilowatts and saving approximately 1,250,000 kilowatt-hours per year.
- In 2004, CEU had a consultant perform audits for 868 businesses to identify needs and opportunities for improving energy efficiency. The audits found that lighting upgrades at these customers had a potential for reducing demand by 2,026 kilowatts and saving 7,145,213 kilowatt-hours annually.
- In 2005, a free direct install lighting program was implemented to facilitate lighting upgrades. This program replaced inefficient lighting with up to date systems at 250 businesses and reduced demand 158 kilowatts saving 742,093 kilowatt-hours annually. The program cost $185,212.

- Our 2007 -2008 free direct install lighting program expanded to cumulatively serve 572 customers and reduced peak demand by 649 kW saving customers 2,212,289 kWh. The program's cost was $505,937 and saved customers an average of $450 dollars annually.

Current Residential Customer Programs 2007-2008:

- All 16,000 residential customers have been provided with 2 free compact fluorescent lamps. Each lamp uses 15 watts to provide the light of a 60 watt incandescent lamp. This $106,080 program reduced peak demand by 218 kilowatts and overall demand by 1,510 kilowatts saving 1,164,800 kilowatt-hours per year. The total lifecycle saving is calculated to be 10,483,200 kilowatt-hours.
- The CFL mailing program so far has sent out 80,000 lamps to 16,000 customers reducing demand by 2,718 kW and providing a a cumulative saving of 16,729 Megawatt hours.
- Home energy audits are available to customers with high energy bills.
- Online energy audits and information is available through Apogee Interactive.

Low Income Customer Programs 2006-2007:

- 902 Low income customers participated in our once a year one month 100% credit on electric charges. This allowed customers who received high bills especially during summer months to not be burdened with a difficult to pay bill. $149,452 was spent an average benefit of $165 per customer.
- 123 Low income customers were assisted by a refrigerator replacement program that provided a new energy saving refrigerator and recycled the old refrigerator. $66,065 was spent and 7 kW peak demand reduction and a lifecycle savings of 765,158 kWh will result from the program.
- Portable evaporative coolers were given to 179 customers to provide comfort and reduce air conditioning costs. The cooler program cost $36,937 and reduced demand by 234 kW, saved 107,945 kWh per year and has a projected lifecycle savings of 1,619,172 kWh.

City Facilities to date:

- All traffic signals were retrofitted with LED energy saving lights. The $245,000 project reduced demand by 62 kilowatts and saved 550,000 kilowatt-hours a year, saving $85,000 a year in energy costs.
- All city facilities had high efficiency lighting installed and City Hall had extremely old air conditioners replaced with high efficiency units.

Measurement and Verification Activities:

- Currently and in the future E3 will be used to verify savings and benefits. Alternative calculations may also be used for some measures.

Proposed CEU Energy Efficiency Programs: for 2008-2009

Residential:

- The CFL mailing program will be sending all residential customers a package with 2 CFL lamps and energy saving information. The program is expected to cost $320,000 and should save 153 peak kilowatts, 1050 overall kilowatts, 819,200 kilowatt-hours per year, and 7,372,000 life cycle kilowatt-hours.

- A catalog of energy saving products will be sent to all customers and be available online. It will have energy saving information and products such as CFLs, lamps, coolers, meters, thermometers and thermostats. The utility will provide buy down funds to reduce costs. Costs and savings will be evaluated after the program has operated.
- Continue in-home and online energy audits.
- Select incentives for effective cooling products.
- Low-income residential refrigerator replacement will spend $320 per customer. Expected $32,000 annual will reduce peak demand by 24 kilowatts, save 155,680 kilowatt-hours annually, and 2,802,240 kilowatt-hours over the life of the refrigerator.
- Low-income customers with high air conditioning costs are be provided evaporative coolers. The $30,000 program should reduce peak demand by 120 kilowatts, save 142,000 kilowatt-hours per year, and 713,200 kilowatt-hours over the life of the coolers.

Commercial:

- Direct install lighting for 50 medium and large customers is expected to cost $300,000 and will reduce peak demand from 100 to 300 kilowatts, saving almost 900,000 kilowatt-hours per year and have lifecycle savings of more than 8,000,000 kilowatt-hours.
- Air conditioning tune-ups will be done on a pilot basis and be evaluated on the actual cost and savings.

Renewable Energy Development Plans:

- The Photovoltaic Rebate Program, which began in 2005, offers $4.00 per watt with a cap of $20,000 for residential and $50,000 for commercial.
- The one project completed was a 100 kilowatts commercial system that received $50,000 from Colton Electric.
- During 2008-2009, several solar systems are in the planning process with $200,000 budgeted for residential and commercial customers.
- Other renewable energy expenditures in 2007-2008 were $185,000 for landfill gas electric and wind energy. Colton is investigating investment and purchases from geothermal, concentrating solar, low head hydroelectric, additional wind, and bio-fuel generation from wood-waste and sludge.

CEU Demand Reduction Programs:

CEU currently does not have any demand reduction programs in place. Demand reducing TOU rates are available for customers with more than 200 kilowatts demand. Many customers have shifted peak energy use to reduce charges and one 5 MW customer will be curtailing 4900 kW between noon and six PM on Summer weekdays. Other demand reduction technologies are being investigated such as wireless internet controlled thermostats and energy storage systems

COLTON ELECTRIC UTILITY (CEU)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

COLTON ELECTRIC UTILTIY										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling		234	107,945	1,619,172	1,030	$ 35,937		$ 3,000	$ 38,937
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting		218	1,164,800	10,483,200	5,446	$ 106,240		$ 1,000	$ 107,240
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration		8	49,469	890,438	474	$ 49,465		$ 1,000	$ 50,465
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling		100			3		$ 3,500	$ 501	$ 4,001
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting		44	260,374	2,636,024	1,459	$ 98,627		$ 1,500	$ 100,127
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal			604	1,582,588	15,628,835	8,412	$ 290,268	$ 3,500	$ 7,001	$ 300,769
T&D	T&D									
Total			604	1,582,588	15,628,835	8,412	290,268	3,500	7,001	300,769

EE Program Portfolio TRC Test	**4.20**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

COLTON ELECTRIC UTILTIY										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling		234	107,945	1,619,172	1,030	$ 35,937		$ 3,000	$ 38,937
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting		218	1,164,800	10,483,200	5,446	$ 106,240		$ 1,000	$ 107,240
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration		8	49,469	890,438	474	$ 49,465		$ 1,000	$ 50,465
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling		100			3		$ 3,500	$ 501	$ 4,001
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting		44	260,374	2,636,024	1,459	$ 98,627		$ 1,500	$ 100,127
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal			604	1,582,588	15,628,835	8,412	$ 290,268	$ 3,500	$ 7,001	$ 300,769
T&D	T&D									
Total			604	1,582,588	15,628,835	8,412	$ 290,268	$ 3,500	$ 7,001	$ 300,769

EE Program Portfolio TRC Test	**4.20**

Excluding T&D

CORONA DEPARTMENT OF WATER AND POWER (CDWP)

- Electric utility established in 2001
- Approximately 99 percent of the electric consumption originates with either municipal or private (commercial and industrial) customers. Annual Maximum Load Demand: about 28 megawatts. Total served load (about 12 megawatts of UDC Bundled Load subsumed within Corona's service territory & about 16 megawatts of Direct Access Load). Note: In prior years, CDWP also served the Los Angeles Unified School District
- Annual energy use: 180 gigawatt-hours
- CDWP's self-defined mission is to "protect public health"

CDWP Energy Efficiency Program Highlights

In FY07/08, Corona spent $35,410 in rebate incentives to increase energy efficiency for the community. The High Efficiency Washer Rebate program reduced load by 7,200 kilowatt-hours per year through the use of Energy Star® appliances. CDWP collaborates with the Metropolitan Water District (MWD) who now administers a regional rebate program effective July 1, 2008 with a projected budget in excess $40,000.

Current Commercial Customer Programs:

- Solar Rebate Program: Maximum commercial rebate amount is $70,000 (25 kW) – 2 systems with projected spending of $140,000.
- Energy Efficiency Technical Support Effort: CDWP offers technical support to facilitate installation and operation of air conditioning and lighting controls for commercial customers.

Current Residential Customer Programs:

- Solar Rebate Program: Maximum residential rebate amount is $8,400 (3 kW) – 8 systems with projected spending $67,200.
- Residential High Efficiency Washer Rebate Program: Rebates are provided to customers who purchase and install Energy Star® clothes washing machines.
- Energy Efficiency Tune-Ups – Distribution of Compact Fluorescent Light Bulbs

Current Education Programs:

- Energy Usage and Demand Analysis Effort: Analyze commercial customer energy usage and demand in order to facilitate customer efficiency measures and demand-side management.

Proposed Corona Energy Efficiency Projects and Services: (2008-2009)

- At a minimum, the City of Corona plans to maintain existing efforts and programs at current levels with continued funding.
- City of Corona's energy efficiency programs are currently under development and improvement efforts are underway to augment and elaborate upon existing and new efforts and programs, which are expected to continue for the foreseeable future.

CDWP Demand Reduction Programs:

The City of Corona does not currently have a rate-based demand reduction program in place. However, CDWP operates multiple municipal facilities that can be interrupted for several hours per day, when needed.

CORONA DEPARTMENT OF WATER AND POWER (CDWP)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Corona										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	3	3	7,215	72,152	42	$ 34,210		$ 3,064	$ 37,274
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	22	3	15,600	140,400	71	$ 1,200		$ 4,936	$ 6,136
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		25	6	22,815	212,552	113	$ 35,410		$ 8,000	$ 43,410
T&D	T&D									
Total		25	6	22,815	212,552	113	$ 35,410		$ 8,000	$ 43,410

EE Program Portfolio TRC Test	**0.33**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Corona										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	3	3	8,297	82,975	48	$ 39,342		$ 2,039	$ 41,380
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	38	5	26,957	242,611	123	$ 2,074		$ 5,961	$ 8,035
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		41	8	35,254	325,586	171	$ 41,415		$ 8,000	$ 49,415
T&D	T&D									
Total		41	8	35,254	325,586	171	$ 41,415		$ 8,000	$ 49,415

EE Program Portfolio TRC Test	**0.34**

Excluding T&D

GLENDALE WATER AND POWER (GWP)

GLENDALE WATER & POWER UTILITY SUMMARY

GWP manages a service territory with 83,000 customer meters and an all time peak load of 336 MW in July 2007. GWP owns 249 MW of on-site, natural gas and landfill gas fired generation. GWP also has a 40 MW share of Magnolia Power Plant, a 20 MW share of Hoover Dam generation, 39 MW of Intermountain Power Project, 10 MW of Palo Verde Nuclear Generating Station, 20 MW of San Juan Unit 3, and approximately 80 MW of other power through power purchase agreements. Approximately 16 percent of GWP retail sales come from renewable resources, including wind, geothermal, local landfill, and hydroelectric. Our goal is 20 percent to 23 percent renewable resources by 2017. GWP partially owns or has long term contracts on various transmission lines in the LADWP transmission grid, and has made significant investments in energy efficiency through its public benefit programs.

PROGRESS TOWARD AB 2021 TARGETS

GWP has set a minimum energy efficiency target equal to approximately 1.17 percent of annual retail sales, and reported such to the CEC along with other public owned utilities through the June 2007 CMUA AB 2021 report. In 2007, our energy savings target was 11,362 MWH. As reported in the December 2006 CMUA SB 1037 report to the CEC, GWP achieved 8,510 MWH - about 25% below our target. Faced with these results, GWP did a number of things to increase our energy efficiency production, including:

- Stepped up our energy efficiency marketing efforts for all customer classes.
- Increased the CFL offerings in our residential direct install program. We now replace all cost effective lamps, including recessed lighting during our in home energy savings audits.
- Started a three-year CFL mail-out campaign – in 2008 we mailed out 70,395 CFLs.
- Increased the benefit amount for our small business direct install program from $1250 to $2000 per customer.
- Aggressively promoted our large business program through our expanded Key Accounts Program.
- Finally, we partnered with the local school district to support a new energy savings program.

These efforts are paying off. Our 2008 AB 2021 target was 11,586 MWH. We achieved 13,547 - approximately 17 percent above our original goal. Our two-year target was 22,948 MWH. We reached 22,057, bringing us just 3.8 percent below our two-year target. Our target for 2009 is 12,500 MWH. We are on track to meet this goal. Assuming we do, we will exceed our three-year target of 34,560 MWH by 887 MWH.

Depending on funding availability, GWP plans to add additional programs in the coming year.

DEMAND SIDE MANAGEMENT (DSM) HIGHLIGHTS

AWARDS

- Won fourth straight California Municipal Utilities Association (CMUA) award for most innovative and comprehensive usage of PBC funds. This year we won for the Cool Care low-income refrigerator exchange program.

TOTAL DSM INVESTMENTS

- $2,946,839 invested in FY 2007-2008
- Over $25 million invested since January 2000

TOTAL DEMAND AND ENERGY SAVINGS – FY 2007-2008

- Incremental demand reductions of 6,046 KW.
- Incremental coincident peak demand reductions of 2,379 KW.
- Incremental net energy savings of 13,547 mWh.
- Incremental energy savings as a percent of GWP annual load of reached 1.17%.
- Estimated cumulative demand reductions since January 2000 of over 20,000 KW.
- Estimated cumulative energy savings since January 2000 of over 69,000 MWH.

SUMMARY OF ACTIVE DSM PROGRAMS – FY 2007-2008

- **Low-Income Customer DSM Programs**
    - **Cool Care** provides long-term electric bill discounts for low-income customers encouraging the replacement and recycling of old, energy inefficient refrigerators. Program replaced and recycled 3,029 refrigerators with new ENERGY STAR models since July 2003.
    - **Smart Home Peak Hogs** is our CMUA award winning program that reduces peak demand while providing bill relief for primarily low-income customers by encouraging the replacement of energy inefficient HVAC units in apartments. Since July 2003, this program has replaced 1,814 tons of energy inefficient Peak Hogs in Glendale apartments.
- **General Residential DSM Programs**
    - **Compact Fluorescent Light (CFL) Giveaway Program** provides free CFLs to GWP customers to promote energy efficient lighting through direct mail, at community events, and over the counter. This year we sent out one CFL to each GWP household. Total CFLs distributed this year were 71,723.
    - **Smart Home Refrigerator Recycling** targets secondary refrigerators for early retirement by offering free CFLs and a onetime discount off the electric bill. The retired refrigerators are recycled in an environmentally sensitive manner. Since 2006, 104 refrigerators were recycled and 624 energy efficient light bulbs were distributed.
    - **Smart Home Energy and Water Saving Surveys** reduces customer energy consumption through comprehensive in-home energy and water saving surveys, education, and direct

measures installations. Installed energy saving measures include compact fluorescent lights, hot water heater wraps, and blower door tests. Since July 2001, this program has provided over 9,263 in home audits and energy education sessions, installed over 31,900 CFLs, 3,500 water heater blankets, and conducted 3,395 blower door tests.

  - **Smart Home Energy and Water Savings Rebates** provides rebates to promote the early retirement of eligible energy and water saving appliances and devices. Over 27,400 rebates have been processed since July 2001.
  - **Smart Home AC Tune-Ups and Duct Sealing Services**, provided by Proctor Engineering, helps residential customers save energy by ensuring that their air conditioning and duct systems are functioning at their optimal level. Over 7,300 tons of HVAC have been tuned since February 2000.
  - **Livingwise®** provides funding to support participation in the LivingWise energy and water conservation program at Glendale public and private schools. LivingWise provides 10 hours of intensive energy education as well as installation of energy saving devices including compact florescent light bulbs. Over 10,330 students have participated in this program since July 2001.
  - **Tree Power** provides up to three free shade trees and arborist services to ensure that the trees are planted correctly. When properly sited and cared for, a healthy, mature shade tree helps provide shade that cools the home and helps reduce air conditioning use. This program has planted 1,628 trees since July 2004.

- **Small Business DSM Programs**
  - **Small Business Peak Hogs** is modeled after the GWP's CMUA award winning residential program. It reduces peak demand and customer energy consumption, and provides bill relief for small business customers by providing incentives for small businesses and small business landlords to replace old, inefficient HVAC units.
  - **Smart Business Energy Saving Upgrades** is our CMUA award winning program that provides small business customers with comprehensive no-cost energy surveys, customized written reports, energy education, and directly installs as much as $2,000 worth of cost-effective energy conservation measures. This program has conducted 2,667 energy audits and retrofits since July 2001.
  - **Smart Business AC Tune-Ups and Duct Sealing Services** provided by Proctor Engineering, this program helps small business customers save energy by ensuring that their air conditioning and duct systems are functioning at their optimal level. Over 6,000 tons of HVAC have been tuned since February 2000.

- **Large Business DSM Programs**
  - **Business Energy Solutions (BES)** provides incentives to complete pre-approved energy audits and retrofit projects. Incentives are limited to the lesser of 25% total project costs for retrofit projects, 100 percent of the above Title 24 remodeling and/or new construction investments, or $0.06 per kWh saved over the life of the installed measures. Audit incentives are limited to $0.10 per square foot. This program has supported 154 retrofit projects since January 1999.

TIME PERIOD FOR PROGRAM PERFORMANCE DATA

- Fiscal Year Ending June 30, 2008

LOAD MANAGEMENT PROGRAMS FOR FY 2008-2009

- Begin installation of automated metering infrastructure and meter data management system to support development of new customer driven energy efficiency and demand response programs.
- Update inventory of demand response assets and implement new demand response program for commercial and industrial customers.

SUPPLY SIDE RENEWABLE ENERGY DEVELOPMENT PLANS FOR FY 2008-2009

- Completed installation of a 262 kilowatt capacity solar photovoltaic system at the local Glendale Community College. The system is expected to provide 400 megawatt hours of renewable energy each year to support our RPS goals.
- Entered into a new long term contract and are receiving 20 MW of wind generated electricity

MEASUREMENT AND VERIFICATION

Glendale has an established tracking system, provides an annual report on savings, and is working with SCPPA to hire a third-party to verify program participation and demand and energy savings. The goal is to have the third party in place in the next six months. Glendale uses the E3 model and deemed savings provided by KEMA to track demand and energy savings. With the exception of our rebate program, all residential and small business programs are direct install. All participants in our residential rebate program are subject to inspection, with a minimum 10% inspected annually. Savings for our large commercial program are documented by pre- and post-installation inspections conducted by GWP personnel with energy savings reports provided by energy engineers or calculated by GWP personnel using accepted industry standards.

GLENDALE WATER AND POWER (GWP)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Glendale										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	24	24	56,358	563,584	324	$ 17,870		$ 1,242	$ 19,112
HVAC	Res Cooling	429	194	616,398	12,902,220	8,248	$ 106,566	$ 155,657	$ 44,988	$ 307,211
Appliances	Res Dishwashers	7	5	20,663	268,616	146	$ 25,221		$ 562	$ 25,783
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	3,858	491	2,735,866	24,622,790	12,469		$ 360,340	$ 45,193	$ 405,534
Pool Pump	Res Pool Pump	17	4	25,350	253,500	149	$ 5,533		$ 591	$ 6,124
Refrigeration	Res Refrigeration	157	157	932,264	16,780,752	8,925	$ 383,817		$ 34,942	$ 418,758
HVAC	Res Shell	238	227	252,769	4,435,132	2,553	$ 139,092	$ 32,975	$ 10,426	$ 182,493
Water Heating	Res Water Heating	10	10	38,152	572,280	329		$ 7,475	$ 1,296	$ 8,770
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	306	270	358,660	6,110,334	3,521	$ 17,776	$ 56,538	$ 15,329	$ 89,642
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	952	952	4,116,010	44,121,582	24,520	$ 193,137	$ 697,299	$ 96,236	$ 986,673
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell	48	45	39,245	392,445	226	$ 6,082		$ 865	$ 6,947
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			4,356,060	10,188,180	5,562	$ 100,000	$ 368,201	$ 21,590	$ 489,791
SubTotal		6,046	2,379	13,547,794	121,211,416	66,974	$ 995,094	$ 1,678,486	$ 273,259	$ 2,946,839
T&D	T&D			125,000	2,500,000	1,441				
Total		6,046	2,379	13,672,794	123,711,416	68,415	$ 995,094	$ 1,678,486	$ 273,259	$ 2,946,839

EE Program Portfolio TRC Test	**2.39**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Glendale										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	22	22	51,524	515,242	297	$ 16,337		$ 1,135	$ 17,473
HVAC	Res Cooling	392	178	563,526	11,795,523	7,541	$ 97,425	$ 142,305	$ 41,129	$ 280,860
Appliances	Res Dishwashers	6	5	18,890	245,576	134	$ 23,058		$ 513	$ 23,571
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	3,527	449	2,501,195	22,510,753	11,400		$ 329,432	$ 41,317	$ 370,749
Pool Pump	Res Pool Pump	16	4	23,176	231,756	136	$ 5,058		$ 540	$ 5,598
Refrigeration	Res Refrigeration	144	144	852,298	15,341,371	8,159	$ 350,895		$ 31,944	$ 382,839
HVAC	Res Shell	217	208	231,087	4,054,705	2,334	$ 127,161	$ 30,147	$ 9,532	$ 166,839
Water Heating	Res Water Heating	9	9	34,879	523,192	301		$ 6,834	$ 1,184	$ 8,018
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	280	247	327,896	5,586,216	3,219	$ 16,251	$ 51,688	$ 14,014	$ 81,953
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	870	870	3,762,956	40,337,022	22,417	$ 176,571	$ 637,488	$ 87,982	$ 902,040
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell	44	41	35,878	358,783	207	$ 5,561		$ 791	$ 6,351
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			3,982,416	9,314,282	5,084	$ 91,422	$ 336,619	$ 19,738	$ 447,779
SubTotal		5,527	2,175	12,385,722	110,814,420	61,230	$ 909,739	$ 1,534,512	$ 249,820	$ 2,694,072
T&D	T&D			125,000	2,500,000	1,441				
Total		5,527	2,175	12,510,722	113,314,420	62,670	$ 909,739	$ 1,534,512	$ 249,820	$ 2,694,072

EE Program Portfolio TRC Test	**2.39**

Excluding T&D

GRIDLEY MUNICIPAL UTILITY (GMU)

- The City's electric utility was established in 1910
- 2,760 customers, 83 percent are residential
- The City of Gridley projects a growth rate of 1-2 percent for the next 5-10 years
- Peak demand – 10.6 megawatts; usually annual peaks are in July or August (10.6 megawatts reached on July 25, 2006)
- Annual energy use: 35 gigawatt-hours

Gridley (GMU) Energy Efficiency Program Overview

GMU has a high percentage of residential customers so the program offerings are tailored to residential customers and include a residential weatherization and an appliance rebate program.

Current Residential Energy Efficiency Programs:

- Energy Efficiency Hotline: A toll free line with GMU personnel is available for our customers to answer questions and provide information on energy efficiency related matters.
- Energy Audits: On-site energy audits by GMU energy specialists are available to residential customers. Energy efficiency measures are recommended based on each audit and the GMU personnel follow up with additional visits to answer questions and make additional recommendations, if requested.
- Appliance Rebates: GMU provides rebates for the purchase of several EnergyStar® appliances
- Residential Heat Pump and Efficient Air Conditioning Rebates: GMU offers rebates for residential and small business customers who install high performance heat pumps or air-conditioners that exceed current state requirement.
- Residential Lighting and Ceiling Fan Rebates: GMU offers rebates to homeowners who install compact florescent lamps (CFLs) and/or ceiling fans to replace more energy intensive cooling options (AC).
- Weatherization Incentives: GMU provides financial incentives for homeowners who invest in weatherization measures.
- Rate and Energy Assistance Programs**:** GMU offers rate assistance for customers with a medical necessity and low-income senior citizens. Also, GMU provides emergency assistance for low-income seniors.

Current Commercial Energy Efficiency Programs:

- Energy Audits: On-site energy audits by GMU energy specialists are available to commercial customers. Energy efficiency measures are recommended based on each audit and the GMU

personnel follow up with additional visits to answer questions and make additional recommendations.

- Custom Energy Efficiency Incentive Program: GMU financial incentives for commercial customers are based on individual audits and audit recommendations and are tailored to the individual customer needs based on the audit and the potential energy savings.
- Lighting retrofit: A commercial lighting retrofit program is offered to businesses in Gridley. There is a prevalence of T-12 lighting throughout the City and most high bay lighting uses high intensity discharge fixtures instead of more efficient florescent fixtures.

Education Program:

- Energy Curriculum: GMU provides 5th Grade teachers with an energy/water efficiency curriculum for use in their classrooms.

Current Renewable Energy (Solar) program

"PV Buy Down" Program: Gridley's Photovoltaic (PV) Buy-Down Program is a rebate program available to residential & commercial customers to help offset the investment in a PV system. It is compliant with Senate Bill 1.

Gridley Programs –2007/2008 Evaluation/Prospects

In the fall of 2007, using guidance from the 2006-2007 SB 1037 report and the Conservation potential study done for Gridley by RMI, the Gridley City Council established an energy-efficiency target for 2007-2008. GMU fell short of its AB 2021 goals for 2007-2008 primarily because of a significant commercial project that was not completed by June 30, 2008. That project will be completed and reported in the 2008-2009 report and with a new commercial lighting program (direct-install) coming on-line in 2009, the prospects for reaching the AB2021 target is excellent.

GMU Evaluation, Measurement and Verification for 2007/2008

In 2007-2008, Gridley, under the coordination efforts of Efficiency Services Group (ESG), joined with NCPA to develop an EM&V plan. The plan outlines the necessary steps (an Action Plan) for a full EM&V analysis of Gridley's programs. Secondly, GMU, in an attempt to coordinate with other, smaller northern California public power utilities, has hired ESG to write up their first EM&V report due by mid-March, 2009. The initial EM&V report will generally assess program operations, focusing on the program (appliance rebates) which provided the most significant savings.

2008-2009 Outlook

- Maintain existing programs at current levels
- Add new programs/projects that are cost-effective
- Ensure that all new electric load is efficient
- Evaluate the appropriateness of any new energy efficiency technologies
- Measure and evaluate the impact of energy efficiency programs

GRIDLEY MUNICIPAL UTILITY (GMU)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Gridley										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			256	2,560	1	$ 75		$ 286	$ 361
HVAC	Res Cooling	5	2	5,229	92,553	59	$ 2,573		$ 15,550	$ 18,123
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration			960	17,280	9	$ 402		$ 1,904	$ 2,306
HVAC	Res Shell	1	1	1,276	25,524	14	$ 3,237		$ 3,143	$ 6,379
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	4	4	15,829	174,117	96	$ 6,660		$ 19,812	$ 26,472
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		11	7	23,550	312,034	181	$ 12,946		$ 40,695	$ 53,641
T&D	T&D									
Total		11	7	23,550	312,034	181	$ 12,946		$ 40,695	$ 53,641

EE Program Portfolio TRC Test	**0.52**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Gridley										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			998	9,984	6	$ 293		$ 333	$ 626
HVAC	Res Cooling	21	7	20,392	360,958	231	$ 10,033		$ 12,053	$ 22,086
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	3,744	67,392	37	$ 1,568		$ 2,250	$ 3,818
HVAC	Res Shell	5	5	4,977	99,544	56	$ 12,622		$ 3,324	$ 15,946
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	15	15	61,891	680,797	377	$ 26,041		$ 22,734	$ 48,774
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		42	28	92,002	1,218,674	706	$ 50,556		$ 40,695	$ 91,251
T&D	T&D									
Total		42	28	92,002	1,218,674	706	$ 50,556		$ 40,695	$ 91,251

EE Program Portfolio TRC Test	**0.88**

Excluding T&D

CITY OF HEALDSBURG

- 5,579 customers, 4,526 are residential
- The City of Healdsburg projects a growth rate of less than 1 percent per year
- Peak demand – 21.2 megawatts; *(July 2006)*
- Annual energy use: 76,646 megawatt-hours
- Power content: Geothermal 47 percent, small hydro 1 percent, large hydro 25 percent, and nonrenewable 27 percent

City of Healdsburg Energy Efficiency Program Overview

In 2007, Healdsburg underwent an extensive redesign/upgrade of their energy efficiency and renewable energy (solar) programs. As a result, Healdsburg now manages a comprehensive energy efficiency incentive program for residential & commercial customers focusing on peak load reduction and energy conservation. For residential customers, rebates are offered for the installation of various energy efficiency measures. For commercial customers, rebates are available for upgraded lighting, HVAC equipment, and in cases where an analysis is performed rebates can be offered for additional equipment that reduces energy use and/or demand.

Current Energy Efficiency Programs

Residential Programs:

- Energy Efficiency Hotline: A toll free line is available for customers to answer questions and provide information on energy efficiency and related matters.
- Energy Audits: Complementary on-site energy audits as requested for all homes. Energy efficiency recommendations and audit follow up is available to support implementation of recommended energy efficiency measures.
- Rebate Program: Comprehensive technical support and incentives to facilitate installation of higher efficiency cooling and refrigeration equipment, envelope measures, appliances, and lighting for residential customers.

Commercial and Industrial Programs:

- Energy Audits and Rebates: This program offers complementary, on-site energy audits for both commercial and industrial customers. Energy efficiency recommendations and follow up visits support implementation of recommended energy efficiency measures. Rebates are available for energy efficiency upgrades identified in these audits.
- Commercial Lighting: This program engages local lighting and electrical contractors to promote and install energy efficient lighting upgrades using technical assistance and financial incentives available from Healdsburg.

Public Facilities and Schools:

- Energy Audits: Complementary on-site energy audits as requested for all public facilities. Energy efficiency recommendations and audit follow up visits support implementation of recommended energy efficiency measures. Rebates are available for energy efficiency upgrades identified in these audits.

Current Renewable Energy (Solar) Program

"PV Buy Down" Program: Healdsburg's Photovoltaic (PV) Buy-Down Program is a rebate program available to residential & commercial customers to help offset their investment in a PV system. The rebates reduce the initial system cost for the customer and facilitate purchase and installation of Photovoltaic (Solar Panel) systems.

Programs offered in the past that will continue forward

"Time-of-Use Rates" Program: The City of Healdsburg has implemented a "time-use-rate" program for both residential and commercial customers, enabling them to reduce their energy costs through the time management of their energy usage.

Residential "Energy Efficiency Outreach": The City of Healdsburg has implemented an energy outreach program for our Hispanic residential customers offering comprehensive energy efficiency information to improve energy efficiency and reduce energy use.

2007/2008 Energy Efficiency Target

In the fall of 2007, using guidance from the 2006-2007 SB 1037 report and the conservation potential study done for Healdsburg by RMI, the Healdsburg City Council established an energy efficiency target for 2007-2008. Healdsburg customers engaged in the programs and participated to the extent that Healdsburg reached its AB 2021 kWh savings and kW reduction targets.

2007/2008 Evaluation, Measurement and Verification

In 2007-2008, Healdsburg, under the coordination efforts of Efficiency Services Group (ESG), joined with NCPA to develop an EM&V plan. The plan outlines the necessary steps (an Action Plan) for a full EM&V analysis of Healdsburg's programs. Secondly, Healdsburg, in an attempt to coordinate with other, smaller northern California public power utilities, has hired ESG to write up their first EM&V report due by mid-March, 2009. The initial EM&V report will generally assess program operations, focusing on the program (commercial lighting) which provided the most significant savings.

2008/2009 Outlook

- Maintain existing programs at current levels
- Add new programs/projects that are cost-effective
- Ensure that all new electric loads are efficient
- Evaluate the appropriateness of any new energy efficiency technologies
- Measure and evaluate the impact of energy efficiency programs

CITY OF HEALDSBURG

Time Period for Reporting Data: Fiscal year ending 6/30/2008

Healdsburg										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	2	2	3,622	36,224	20	$ 1,500		$ 469	$ 1,969
HVAC	Res Cooling	4	3	1,240	21,226	14	$ 1,425		$ 402	$ 1,827
Appliances	Res Dishwashers			586	7,613	4	$ 450		$ 100	$ 550
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1		410	3,686	2	$ 40		$ 43	$ 83
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	7,189	129,398	70	$ 3,150		$ 1,658	$ 4,808
HVAC	Res Shell	2	2	1,823	22,860	13	$ 1,132		$ 313	$ 1,445
Water Heating	Res Water Heating			143	2,148	1	$ 100		$ 26	$ 126
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	77	77	221,336	2,434,696	1,349	$ 77,086		$ 31,991	$ 109,077
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		86	85	236,349	2,657,851	1,473	$ 84,883		$ 35,001	$ 119,884
T&D	T&D									
Total		86	85	236,349	2,657,851	1,473	$ 84,883		$ 35,001	$ 119,884

EE Program Portfolio TRC Test	**1.43**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Healdsburg										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	1	1	3,035	30,347	17	$ 1,257		$ 393	$ 1,649
HVAC	Res Cooling	3	3	1,039	17,782	11	$ 1,194		$ 336	$ 1,530
Appliances	Res Dishwashers			491	6,378	4	$ 377		$ 83	$ 460
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting			343	3,088	2	$ 34		$ 36	$ 69
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	6,022	108,403	59	$ 2,639		$ 1,389	$ 4,028
HVAC	Res Shell	2	2	1,527	19,151	11	$ 948		$ 263	$ 1,211
Water Heating	Res Water Heating			120	1,799	1	$ 84		$ 22	$ 105
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	64	64	185,423	2,039,656	1,130	$ 64,578		$ 26,801	$ 91,379
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		72	71	198,000	2,226,603	1,234	$ 71,110		$ 29,322	$ 100,432
T&D	T&D									
Total		72	71	198,000	2,226,603	1,234	$ 71,110		$ 29,322	$ 100,432

EE Program Portfolio TRC Test	**1.43**

Excluding T&D

CITY OF HERCULES MUNICIPAL UTILITY (HMU)

The Hercules Municipal Utility ("HMU") was created in 2002 to provide safe, reliable and cost-effective electric service to retail consumers in Hercules that are located in and around new development areas. Once grown out, the HMU will provide its customers with exceptional value and will provide the City and its residents with the financial benefits of a healthy and ongoing enterprise operation.

- 700 residential and 109 commercial customers, approximately 82 percent commercial energy use and 18 percent residential
- Customers are served through approximately 12 miles of 12 kilovolts underground facilities with a peak demand of 3 megawatts
- HMU's purchased power is 100 percent Green Energy backed through RECs from small hydro renewable resources

HMU Energy Efficiency Program Highlights

Current Commercial Customer Programs:

- Energy Efficiency Rebates: HMU commercial customers have just begun to which have been constructed within the last 5 years. HMU offers a vast array of lighting and general rebates
- Solar PV: The HMU offers financial incentives for the use of solar PV units.

Current Residential Customer Programs:

- Energy Audits/Education: On request, HMU will perform energy audits for customers. Energy savings tips posted on the HMU website.
- Solar PV: The HMU offers financial incentives for the use of solar PV units.
- Energy Efficiency Rebates: HMU encourages residential energy efficiency by offering incentives for the purchase and installation of high performance windows, increased Insulation, sunscreens and Energy Star® refrigerators, clothes washers and dishwashers.
- CFL Program: HMU distributes approximately 250 CFL lamps per year to residential users free of charge. Customers of both HMU and PG&E receive the lamps at various local events.
- Residential Rate Structure: HMU has in place a three-tier residential rate structure with each tier becoming increasingly more expensive. All of the rate structures encourage conservation.

Proposed Energy Efficiency Projects and Services: (2008-09)

The existing residential programs will be maintained at the current level. CFLs are provided to residential customers of both HMU and PG&E free of charge. HMU has added a new extensive commercial lighting efficiency program and sunscreen program and customers have expressed interest. HMU has also developed a generalized energy efficiency program which provides commercial rebates for any energy efficiency program with demonstrable savings.

HMU Demand Reduction Programs:

With HMU location in the East Bay, many homes do not have air conditioning units. System load is almost constant year-round except under the rarest conditions. Subsequently, demand response programs are neither existing nor planned.

CITY OF HERCULES MUNICIPAL UTILITY (HMU)

Time Period for Reporting Data*:* Fiscal Year ending 6/30/2008

Hercules										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			70	696		$ 225		$ 10	$ 235
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	11	1	7,800	70,200	37	$ 570		$ 971	$ 1,541
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration			70	1,253	1	$ 100		$ 19	$ 119
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		11	1	7,939	72,149	39	$ 895		$ 1,000	$ 1,895
T&D	T&D									
Total		11	1	7,939	72,149	39	$ 895		$ 1,000	$ 1,895

EE Program Portfolio TRC Test	**1.82**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Hercules										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			46	464		$ 150		$ 1	$ 151
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	13	3	22,520	232,120	125	$ 4,820		$ 242	$ 5,062
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration			139	2,506	1	$ 200		$ 3	$ 203
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	2	2	9,064	99,704	55	$ 230		$ 112	$ 342
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell	7	7	57,600	576,000	321	$ 6,000		$ 642	$ 6,642
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		21	11	89,370	910,794	502	$ 11,400		$ 1,000	$ 12,400
T&D	T&D									
Total		21	11	89,370	910,794	502	$ 225		$ 1,000	$ 12,400

EE Program Portfolio TRC Test	**3.73**

Excluding T&D

CITY OF INDUSTRY

- The City of Industry established a municipal utility, Industry Public Utility Commission (IPUC), in 2001. IPUC began delivering electricity to retail customers in May 2002 and currently serves commercial and industrial customers through its electric distribution system;
- IPUC developed and installed a 2 MW combined heat and power project in 2002 that supplies a large hotel with electricity and hot water;
- Peak 2008 Customer Demand: 7.5 megawatt
- Annual 2008 Energy Use: 35 gigawatt-hours
- IPUC has supplied electric power to its retail distribution customers at rates that on average have been 25% lower than Southern California Edison's (SCE)
- Mission: IPUC strives to provide reliable and cost effective electric power to help the competitiveness of local businesses.

City of Industry Program Highlights

- Pacific Palms Combined Heat and Power Project: The Project currently provides IPUC with 2 MW of local area capacity resources and supplies heat and power to the Pacific Palms resort. The Project uses both landfill and pipeline gas and continues to explore maximizing landfill gas from the nearby landfill to reduce methane emissions.
- Amonix Concentrated Solar: IPUC is engineering structural design to raise the elevation of tracking concentrated solar photovoltaic (CPV) systems and enable power generation in parking areas (dual landuse). Installation of 35 kW Amonix CPV system comprised of 5 MegaModules™, along with the required drive, hydraulic, tracking control and AC/DC control subsystems is planned in 2009 at a location within the City.

Proposed Renewable Projects and Services:

- Ground Mount Solar: IPUC is developing a ground mounted 3-5 MW photovoltaic power generating facility which would be the largest installation in the LA Basin.
- Rooftop Solar: IPUC is developing a 5 MW rooftop photovoltaic power (PV) generating facility on buildings served by the utility.
- Pumped Storage: IPUC has initiated preliminary development efforts for a 50 MW pumped storage electric project located in the LA basin.

Demand Reduction Programs:

IPUC does not currently have any demand reduction management programs in place.

ISLAND ENERGY

- Doing Business as Island Energy, the Pittsburg Power Company owns, operates and manages the electrical and gas system facilities located at Mare Island in the City of Vallejo, California.
- Island Energy supplies all retail electric and gas services to agricultural, residential, commercial and industrial customers within its service territory.
- Island Energy serves 85 commercial and 261 residential customers with 462 electric and 321 gas meters.
- Customers on Mare Island are served through our looped 12-kilovolt underground facilities with a peak demand of 4.5 megawatts.
- Commercial and industrial electrical loads consist of approximately 92 percent of the total electrical load and approximately 70 percent of the gas load.
- Hydroelectricity accounts for more than 40 percent of Island Energy's retail electric sales.
- Island Energy's Public Benefits Program funds energy efficiency and conservation programs, as well as its Solar Incentive Program.

Island Energy Efficiency Program Highlights

Current Commercial Customer Programs:

- Distribution Substation Upgrade: Island Energy is working with developers on Mare Island to upgrade its substation and backbone distribution system to improve system efficiency, and to accommodate future developments. Island Energy has committed 3 million dollars on the main station overhaul and system upgrade. This multiple-phased project will be completed in the next 1-2 years, subject to the progress of development on the island.
- Non-Residential Lighting Program: Island Energy has worked closely with the City of Vallejo to promote the installation of energy efficient lighting on the island. The plan has been realized in all new residential projects and the next endeavor will be replacing conventional street light bulbs with LED light bulbs. Island Energy provides free energy efficient CFL and LED light bulbs to commercial customers for their commercial office use. Island Energy will work with commercial customers on request for lighting system retrofit of their currently leased business units.
- Consumption Monitoring Program: Island Energy has closely monitored commercial energy consumption in an attempt to develop a better understanding of customer consumption patterns, which will be used for energy conservation programs and energy advisory services.
- Energy Advisory Services: Provide free on-site energy analysis and assessment of energy usage pattern, provide advisory services on how to conserve energy.
- Solar Incentive Program: Island Energy provides a $2.80 per installed watt rebate towards the purchase and installation of new Solar Energy System by commercial customers.

Current Residential Customer Programs:

- Energy Education Program: Island Energy provides numerous sources of energy efficiency information to educate its customers on energy saving tips, sources of energy and new technologies on renewable energies through our website, mailers and educational materials at the Island Energy office.
- Energy Efficient Housing Program: Island Energy encourages all developers on the island to use energy-efficient building practices and technologies.
- Consumption Monitoring Program: Island Energy closely monitors residential consumption patterns and is developing a good understanding of residential energy demands. Island Energy will continuously monitor residential consumption to keep track of energy conservation due to the implementation of tier rates.
- Residential Retail Lighting: Island Energy provides free energy saving kits which include five (5) CFL and two (2) LED energy efficient light bulbs per household per year to its customers to encourage energy savings.
- Appliance Efficiency Program: Island Energy offers rebates for Energy Star-rated appliance replacements, including dishwashers; clothes washers; refrigerator and air conditioners to eligible Island Energy customers.
- Solar Incentive Program: Island Energy provides $2.80 per installed watt rebates towards the purchase and installation of new Solar Energy System by residential customers

Proposed Energy Efficiency Programs and Services: (2009-2010)

- **Customer-Directed Program:** Provide funding to allow commercial and industrial electric customers to plan and develop their own energy efficiency programs in any of the public interest categories.

Island Energy Demand Reduction Programs:

Island Energy does not have any demand reduction programs. As load grows and matures, the utility anticipates evaluating such programs. The customer databases described above will be used to forecast load as well as explore energy management programs.

ISLAND ENERGY

Time Period for Reporting Data*:* Fiscal Year ending 6/30/2008

Island Energy										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			23	232		$ 75		$ 15	$ 90
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	14	2	10,211	91,901	49	$ 720		$ 300	$ 1,020
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		14	2	10,234	92,133	49	$ 795		$ 315	$ 1,110
T&D	T&D									
Total		14	2	10,234	92,133	49	$ 795		$ 315	$ 1,110

EE Program Portfolio TRC Test	**3.16**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Island Energy										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers			70	696		$ 225		$ 45	$ 270
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	13	2	9,360	84,242	45	$ 330		$ 300	$ 630
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	6	6	25,027	400,435	222	$ 15,000		$ 600	$ 15,600
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		18	7	34,457	485,374	267	$ 15,555		$ 945	$ 16,500
T&D	T&D									
Total		18	7	34,457	485,374	267	$ 15,555		$ 945	$ 16,500

EE Program Portfolio TRC Test	**5.62**

Excluding T&D

IMPERIAL IRRIGATION DISTRICT (IID)

- Established in 1936
- IID serves 144,208 customers
- Peak demand: 993 megawatts, July 21, 2006
- Annual energy sales are 3,403 gigawatt-hours in 2008

IID's Energy Efficiency Program Highlights

Total program expenditures of $4,957,332 in calendar year 2008 will result in savings of more than 30,652,476 kilowatt-hours annually. These investments in efficiency will also reduce peak purchases by 8,774 kilowatts.

IID's Energy Efficiency Program Objectives:

- Provide a positive impact on utility cost by stabilizing energy consumption and reducing purchases of expensive peak power.
- Insure the program portfolio is cost effective thereby relieving some of the upward pressure on rates.
- Assist customers by providing an opportunity to take charge of their energy utilization and by doing so, reduce their electricity cost.
- Provide customers the opportunity to improve the environment by conserving energy and/or acquiring renewable energy.
- Provide income qualified residential customers with rate assistance and positively impact their families by providing energy efficiency measures that reduce their dependency on subsidies.
- Provide all customers with the opportunity to participate in renewable energy (specifically photovoltaic) generation by providing attractive, cost-effective options.
- Increase the awareness of energy efficiency and utilization through effective promotion of programs and energy issues, and provide a forum for customer adoption of energy effective habits through energy education.

Current Commercial Customer Programs:

- IID's Energy Conservation Services: No cost energy audits, educational workshops, and a number of other services including rebate program administration.
- Commercial AC Maintenance Program: The Quality AC Maintenance Program has been expanded to increase service options for participant contractors and customers. The program delivers comprehensive HVAC maintenance and optimum operational efficiency to commercial customer's equipment.

- Energy Star® Appliance Rebate Program: Rebates offered to commercial customers that purchase Energy Star® labeled appliances including refrigerators, room air conditioners, lighting products, home/office electronics, and ceiling fans.
- Commercial Demand-Side Management Program: Offers energy analysis of large customer facilities to identify cost-effective measures which reduce peak load and energy use. This program includes incentives for lighting retrofits, high efficiency HVAC, chillers, motors, VFDs, air compressors, ice storage, and controls.
- Pumping Efficiency Program: The IID Pumping Efficiency Program offers free pump testing and incentives for recommended repairs. The target markets for this program are irrigation pumping, golf courses, and municipal systems. The program has tested 274 pumps that are in various stages of repair.
- Government Energy Manager (GEM): Late in 2007, IID launched its GEM program. This program provides municipal governments an energy manager from IID's staff. This energy manager reports to the city manager and augments the city's staff with an energy professional. The energy manager coordinates energy matters for the city, identifies energy efficiency opportunities, facilitates project implementation, and insures new construction occurring within the city addresses energy efficiency.
    - Schools/Education Program: In 2008, IID expanded the GEM program to include school districts. Partnering with one of the largest school districts in the IID service area, IID has conducted energy audits of all district schools in the area and initiated the Power Pledge program with the students and individual schools.
    - Power Pledge Program: IID has implemented the Power Pledge program, which allows city residents and/or school students to pledge to reduce their energy consumption by 10% and then provides them with access to web based energy consumption tracking software to help them validate their efforts. The Power Pledge Program provides a more interactive environment for customers and provides an opportunity for young people to engage in energy efficiency infotainment. In 2008, two cities and one school district have taken advantage of this opportunity and two others are in process.

Current Residential Customer Programs:

- IID's Inspector Energy: IID introduced Inspector Energy in 2007 and expanded the program in 2008. Inspector Energy provides no cost audits of residential homes and provides homeowners with incentive proposals and information concerning IID programs. In addition, Inspector Energy provides educational workshops and a number of other services including rebate program administration.
- Energy Star® Appliance Rebate Program: Rebates offered to residential customers that purchase Energy Star® labeled appliances such as refrigerators, room air conditioners, and home/office electronics.
- California Green Builder: IID has partnered with the Building Industry Association to deliver the California Green Builder (CGB) throughout IID's service territory. CGB provides incentives to builders to provide environmentally friendly construction. IID provides builder incentives for exceeding Title 24 by more than 15%, coordination with municipal entities through the GEM program, and promotional assistance for builders. To date, one builder has signed on to the program and five governmental entities have passed resolutions supporting CGB. This initiative has been hampered by the turn down in the building industry but has established momentum for 2009 and beyond.

- Residential HVAC Maintenance Program: The Quality AC Maintenance Program delivers comprehensive HVAC maintenance and optimum operational efficiency, air flow and refrigerant charge, to residential customer's equipment.
- Residential HVAC Duct Testing and Sealing: The Quality Ac Maintenance Program also delivers comprehensive duct testing and sealing services.
- Residential High Efficient HVAC Rebate Programs: Rebates are offered to customers installing energy efficient air conditioners and heat pumps. Program is being promoted in conjunction with Energy Star®, and is available for residential customers, replacement and new construction.
- Emergency Energy Assistance Program: Qualified low-income customers can receive financial assistance to avoid disconnection of their electric service due to non-payment.
- Residential Energy Assistance Program (REAP): Qualified low-income residents receive a 30 percent discount on their electric rate.
- Low-Income Weatherization Program: Qualifying low-income customers receive weatherization services to help minimize the effects of weather on household energy consumption. The Energy Star® refrigerator exchange is included in weatherization services offered to qualifying residents.

Photovoltaic Program

- Photovoltaic Rebate Program: IID offers rebates to residential and commercial customers that install qualifying photovoltaic generation systems. In 2008, IID provided incentives for 42 PV systems that installed 605.7 KW. IID incentives totaled $1,383,497 in 2008.
- Not-for-Profit Pilot Program: In 2008, IID funded a pilot program that increased PV incentives for Not-for-Profit entities to $4.80 per watt. One entity has been awarded an incentive of $110,925 for 26.1 KW of installed capacity under this pilot program.

Proposed IID Energy Efficiency Programs and Services: (2009)

Existing Programs:

- IID's Board of Directors adopted energy efficiency and demand reduction targets through 2017. The target for 2009 is 37,500 MWh.
- IID Energy will continue to use Inspector Energy for education and promotion within schools as well as promote the Power Pledge. This effort will incorporate CFL campaigns and use energy wisely promotion.
- IID Energy will be expanding our trade ally program in 2009. This program is designed to increase the sale of Energy Star® appliances at the point of sale.
- IID Energy has expended the residential and small commercial Quality AC Maintenance Program. The new initiatives include increased service options for participant contractors and customers. Expected benefits include streamlined administrative processes, an instant rebate for customers via the contractors invoice, and identification and early replacement of old, inefficient air conditioning systems. This program's success in 2008 is expected to continue in 2009.

Photovoltaic Program

- Currently, IID has two 1 MW projects in the early stages of development. Through February 26, 2009; a total of 21 applications have been received for a capacity of 2,944 KW and over $5 million in incentives.

New Programs:

- IID will pilot a small business energy efficiency program in 2009 targeting high density and energy consuming small businesses. This pilot will include a combination of direct install and paid from savings measures
- IID is evaluating the potential for a small business combined Thermal Energy Storage/Time of Use rate program. If this program proves viable, IID Energy will proceed with implementation.
- IID will develop and implement a large commercial lighting retrofit program in 2009 that targets large retail and office segments and will be contractor driven.
- IID has included energy efficient pool pumps to our residential appliance rebate program offering to address the 8-10k pools in the IID service area.
- IID will expand the Government Energy Manager program to include working with cities and regional government associations, such as the Coachella Valley Association of Governments, to provide demand-side management planning assistance and to incorporate aggressive outreach to residences and businesses in their communities. Outreach efforts include neighborhood energy efficiency workshops, joint facility project improvements, and more focused school events.
- IID is working with cities in our area as well as with the California Energy Commission and California Legislators to develop and provide an AB811 financing program and bridge financing for residences and businesses.
- IID will pilot an AC Diagnostic/Replacement program targeting low-income multi-family dwellings through landlord/tenant partnerships.
- IID and Southern California Gas Company are engaged in a joint effort to expand our low-income weatherization services. This arrangement is a model for other POU/IOU weatherization partnerships.

Imperial Irrigation District's 50 NegaWatt (NW) Plant

Imperial Irrigation District's (IID) DSM and Supply and Trading (S&T) groups are working together on a plan to "construct" a 50 NW plant over the next five years. These groups are pooling their resources to provide more vibrant and aggressive energy efficiency and renewable energy programs for IID's customers. This includes pooling S&T resource procurement funds together with DSM funds to increase and expand customer incentives. In this way, S&T will buy reduced load instead of acquiring energy through purchases or construction.

This is a sample of actions being considered for the initiative:

- Replacement of 6,000 old, inefficient residential central air conditioning systems.
- Retrofitting commercial lighting systems to save over 8 MW.

- Introducing and expanding an aggressive pumping program for irrigation systems and the over 8,000 residential swimming pools within the District to save over 5 MW.
- Enhancing the existing AC diagnostic and repair program to keep thousands of residential and business air conditioning systems in their most energy efficient operating condition.
- Adding Thermal Energy Storage (TES) systems to thousands of small businesses to shift load off-peak.
- Implementing a residential and business demand response program to provide over 50 MW of controlled load over the next three years.

Some of these programs are already being implemented while others are in various stages of analysis and development.

IID Demand Response Programs:

IID's Board of Directors approved the Residential and Small Business Demand Response program in 2007. Staff issued RFP's for qualified vendors and an initial selection has been accomplished. The goal of ***Energy SwingShift***, the Residential and Small business Demand Response program, is to enroll 26 MW of curtailable load over the next three years. The target for 2009 is 17 MW. This program will be launched in second quarter.

IID also has a Key Customer Demand Response program under development with a target participation of 25 MW over the next three years.

Operational Projects

Analysis of the energy use of several reservoir pumps in the IID irrigation water delivery system has identified 2,160,078 kWh in annual energy efficiency savings through the installation of variable frequency drives (VFD), energy efficient motors, and pump testing and repairs. In 2009, the installation of VFD on the pumps at the Wiley Reservoir will result in 882,714 kWh of energy savings annually. This project is scheduled to be completed in Q2 2009.

IMPERIAL IRRIGATION DISTRICT (IID)

Time Period for Reporting Data: Calendar Year ending 12/31/2008

Imperial ID										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	6,351	5,402	19,742,600	219,708,142	128,454	$ 2,320,090		$ 1,179,433	$ 3,499,523
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics	1	1	6,089	54,799	32	$ 13,806		$ 123	$ 13,929
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	12	12	69,433	1,249,790	665	$ 110,760		$ 2,676	$ 113,436
HVAC	Res Shell	53	53	108,933	2,178,656	1,254	$ 41,200		$ 5,331	$ 46,531
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	2,941	3,087	9,586,400	102,023,875	58,781	$ 854,187		$ 328,906	$ 1,183,094
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	191	182	493,554	2,073,888	1,130	$ 17,113		$ 3,029	$ 20,142
Process	Non-Res Motors	1		1,520	22,800	12	$ 700		$ 31	$ 731
Process	Non-Res Pumps			413,994	6,209,916	3,534	$ 41,399		$ 10,250	$ 51,649
Refrigeration	Non-Res Refrigeration	28	28	129,660	1,944,900	1,024	$ 12,966		$ 2,623	$ 15,589
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	9	9	91,518	1,372,764	745	$ 10,702		$ 2,007	$ 12,709
SubTotal		9,586	8,774	30,643,702	336,839,531	195,630	$ 3,422,923		$ 1,534,408	$ 4,957,332
T&D	T&D									
Total		9,586	8,774	30,643,702	336,839,531	195,630	$ 3,422,923		$ 1,534,408	$ 4,957,332

EE Program Portfolio TRC Test	**3.24**

Excluding T&D

Time Period for Forecast Data: Calendar Year ending 12/31/2009

Imperial ID										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	7,772	6,610	24,159,859	268,866,192	157,195	$ 2,839,192		$ 1,443,322	$ 4,282,514
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics	1	1	7,451	67,060	39	$ 16,895		$ 150	$ 17,045
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	15	15	84,968	1,529,422	813	$ 135,542		$ 3,275	$ 138,817
HVAC	Res Shell	65	65	133,306	2,666,114	1,535	$ 50,418		$ 6,524	$ 56,942
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	3,599	3,778	11,731,286	124,850,952	71,932	$ 1,045,305		$ 402,497	$ 1,447,802
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	234	223	603,983	2,537,904	1,383	$ 20,942		$ 3,706	$ 24,648
Process	Non-Res Motors	1	1	1,860	27,901	15	$ 857		$ 38	$ 894
Process	Non-Res Pumps			506,623	7,599,338	4,325	$ 50,662		$ 12,543	$ 63,205
Refrigeration	Non-Res Refrigeration	34	34	158,670	2,380,057	1,253	$ 15,867		$ 3,210	$ 19,077
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	11	11	111,994	1,679,910	911	$ 13,096		$ 2,456	$ 15,552
SubTotal		11,731	10,737	37,500,000	412,204,850	239,401	$ 4,188,777		$ 1,877,721	$ 6,066,497
T&D	T&D									
Total		11,731	10,737	37,500,000	412,204,850	239,401	$ 4,188,777		$ 1,877,721	$ 6,066,497

EE Program Portfolio TRC Test	**3.24**

Excluding T&D

LASSEN MUNICIPAL UTILITY DISTRICT (LMUD)

- Lassen Municipal Utility District was established in 1988
- 12,500 customers, 50 percent of energy sales are residential, with the remaining 50 percent primarily commercial with a few agricultural and industrial customers.
- The median residential income in Lassen is at or below the poverty level.
- Lassen load demand: there is little or no difference recorded between winter and summer.
- Annual energy use: 147 gigawatt-hours
- Annual power content – 2 percent geothermal, 30 percent hydro, <1 percent biomass/waste, <1 percent wind, 66 percent nonrenewable
- LMUD's mission is to provide reliable, quality power to our community at the best possible price. LMUD works closely with all of the other local agencies to promote planned economic growth in our service area.

LMUD Energy Efficiency Program Overview

In FY 07/08, LMUD spent more than $95,000 in rebates and incentives to increase energy efficiency for the community. LMUD's efforts have resulted in a load reduction of at least 90,000 kilowatt-hours per year through the use of EnergyStar® appliances, the Smart*Built* new home program, a residential heat pump program, Marathon Water Heaters rebates, commercial lighting retrofits and customized rebates for energy-saving projects in the commercial sector.

Current Programs/Services:

- Energy Efficiency Hotline: A toll free line is available for customers to answer questions and provide information on energy efficiency related matters
- Residential Rebate Program": provides rebate credits to customers who purchase and install EnergyStar® appliances and Marathon electric water heaters. LMUD also provides a residential lighting program. Rebates are offered for replacing incandescent bulbs with CFL's along with a variety of other lighting incentives.
- Custom Energy Projects: LMUD offers customized rebate programs to larger customers who have special projects that do not fit into existing rebate categories.
- "Smart*Built*" "SmartBuilt Retro": SmartBuilt targets new construction, as well as, remodeled homes to encourage homeowners and contractors to install energy saving measures such as low-e windows, upgraded insulation, energy efficient appliances and high SEER heating and cooling units.
- Energy Audits: Residential and Commercial customers may request an onsite energy audit, provided free of charge by LMUD.
- "Smart*Light*": Smart*Light* was introduced in 2008 and is LMUD's commercial lighting retrofit program. The program offers commercial customers rebates for replacing inefficient lighting

with new technology, such as removing existing T-12 fluorescent bulbs and replacing them with T-8s.

- "Community Projects" Program: Local non-profit entities submit projects based on the four guidelines of AB 1890. Qualifying projects are eligible for financial incentives equal to 50 percent of the project expenses (with a limit of $25,000).
- Energy Conservation Assistance Program "ECAP": ECAP is LMUD's low-income rate assistance program. The program is income based and allows between a 50% and 20% discount on customers first 1,000 kWh. The program also works with local service agencies to provide energy conservation classes to participating customers.
- Consumer Education: LMUD strives to reach each of our customers to educate them and help them reduce their energy consumption. The LMUD web site and "*Ruralite*" magazine offer current energy conservation tips and advice on how to implement energy conservation measures. Through the website and the *Ruralite* magazine, customers are encouraged to call our efficiency experts for help to determine their energy usage and identify appropriate conservation measures.

LMUD Energy Efficiency Program –2007/2008 Evaluation/Prospects

In the fall of 2007, using guidance from the 2006-2007 SB 1037 report and the Conservation potential study done for LMUD by RMI, the LMUD Board of Directors established an energy-efficiency target for 2007-2008. LMUD fell substantially short of the target. The shortfall can be primarily attributed to slow starts for some of the new efforts undertaken by LMUD, especially a commercial lighting program (Smart*Light)*. Progress was made during the year to find and encourage local electricians or lighting contractors to participate in the program and the future for the program looks very encouraging.

LMUD Evaluation, Measurement and Verification for 2007/2008

In 2007-2008, LMUD, under the coordination efforts of Efficiency Services Group (ESG), joined with NCPA to develop an EM&V plan. The plan outlines the necessary steps (an Action Plan) for a full EM&V analysis of LMUD's programs. Secondly, LMUD, in an attempt to coordinate with other, smaller northern California public power utilities, has hired ESG to write up their first EM&V report due by mid-March, 2009. The initial EM&V report will generally assess program operations, focusing on the program (appliance rebates) which provided the most significant savings.

2008-2009 Outlook

- Maintain existing programs at current levels
- Add new programs/projects that are cost-effective
- Ensure that all new electric loads are efficient
- Evaluate the appropriateness of any new energy efficiency technologies
- Measure and evaluate the impact of energy efficiency programs

LASSEN MUNICIPAL UTILITY DISTRICT (LMUD)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Lassen										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	14,544	145,440	80	$ 2,100		$ 3,395	$ 5,495
HVAC	Res Cooling	56	18	26,796	568,669	315	$ 35,200		$ 15,241	$ 50,441
Appliances	Res Dishwashers	2	1	5,016	65,208	36	$ 2,660		$ 1,539	$ 4,199
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	21	4	14,995	134,957	72	$ 1,827		$ 2,787	$ 4,614
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	3	3	18,749	337,478	183	$ 5,150		$ 7,782	$ 12,932
HVAC	Res Shell	125	125	23,024	517,427	292	$ 13,488		$ 13,790	$ 27,277
Water Heating	Res Water Heating	4	4	15,746	236,184	126	$ 6,500		$ 5,072	$ 11,572
Comprehensive	Res Comprehensive	24	24	4,176	75,175	38	$ 29,909		$ 1,449	$ 31,358
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		241	185	123,046	2,080,538	1,142	$ 96,833		$ 51,056	$ 147,889
T&D	T&D									
Total		241	185	123,046	2,080,538	1,142	$ 96,833		$ 51,056	$ 147,889

EE Program Portfolio TRC Test	**1.03**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Lassen										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	12	12	29,524	295,243	163	$ 4,263		$ 3,569	$ 7,832
HVAC	Res Cooling	113	36	54,396	1,154,398	639	$ 71,456		$ 13,955	$ 85,411
Appliances	Res Dishwashers	3	2	10,182	132,372	73	$ 5,400		$ 1,600	$ 7,000
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	43	9	30,440	273,962	146	$ 3,709		$ 3,312	$ 7,020
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	6	6	38,060	685,081	372	$ 10,455		$ 8,282	$ 18,736
HVAC	Res Shell	254	254	46,739	1,050,376	593	$ 27,380		$ 12,698	$ 40,077
Water Heating	Res Water Heating	7	7	31,964	479,454	257	$ 13,195		$ 5,796	$ 18,991
Comprehensive	Res Comprehensive	49	49	8,478	152,606	77	$ 60,715		$ 1,845	$ 62,560
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		488	376	249,784	4,223,492	2,319	$ 196,572		$ 51,056	$ 247,628
T&D	T&D									
Total		488	376	249,784	4,223,492	2,319	$ 196,572		$ 51,056	$ 247,628

EE Program Portfolio TRC Test	**1.17**

Excluding T&D

LODI ELECTRIC UTILITY (LEU)

- Established in 1910
- 28,900 customers (23,900 residential; 5,000 commercial/industrial; FY 07-08)
- Peak demand: 141 megawatts; occurs in: summer daytime (FY 07-08)
- Annual Energy Use: 450,407,709 kilowatt hours (FY 07-08)

LEU Energy Efficiency Program Highlights

Since 1998, LEU has spent more than $6.9 million on demand-side management rebates and programs designed to increase energy efficiency for the community, resulting in a 14 percent peak demand reduction and an 11 percent energy reduction.

Current (FY 07-08) Commercial/Industrial Customer Programs:

- *Lodi Commercial (G-1 & G-2) Rebate Program:* Provides rebates for small and medium-sized commercial customers who install designated energy efficiency measures, such as: attic insulation, window tinting/shade screens, programmable thermostats, ceiling fans, appliances, high efficiency lighting retrofits, and maintenance of refrigeration/HVAC equipment.
- *Lodi Commercial/Industrial (G-3 to I-1) Rebate Program:* Provides rebates of up to $12,500 to large commercial and industrial customers; the rebate is for pumps/motors, process equipment improvements, building envelope improvements, HVAC/chiller replacements, and high efficiency lighting retrofits.

Current (FY 07-08) Residential Customer Programs:

- *Lodi Appliance Rebate Program:* Provides rebates to all customers who purchase an EnergyStar ® refrigerator, dishwasher and or front-loading clothes washer.
- *Lodi Energy Efficient Home Improvement Rebate Program:* Provides rebates to customers for installing attic/wall insulation, attic fans, whole house fans, shade screens/window tinting, radiant barriers, as well as for repairing/replacing HVAC duct systems, and for installing high efficiency (14+ SEER) air conditioning units.
- *HVAC System Performance Test:* Provides a rebate for customers who utilize a select list of HVAC contractors capable of performing a high-end duct system performance test (the test measures air flow, air return and system balance).

Current (FY 07-08) Commercial and Residential Programs:

- *Lodi Energy Audit Program:* LEU offers on-line and on-site residential energy audits as well as on-site small commercial customer energy audits.

Current (FY 07-08) School (In-Classroom) Programs:

- *Lodi LivingWise Program:* Provides energy efficiency "kits" and manuals to 445 6th grade students in Lodi schools; the program is designed to teach the students the basics of energy and water conservation.
- *Lodi Solar Schoolhouse Program:* Provides teacher mini-grants and teacher training regarding solar/renewable energy resources; also via this program, we sponsor various solar fairs and events at individual school (students and teachers build solar-powered fountains, model race cars, houses, ovens, etc.).

Current (FY 07-08) Low-Income Residential Programs:

- *Lodi C.A.R.E. Package Program:* Provides grants to very low-income customers in need of assistance paying their electric utility account; the program coordination/customer screening is performed by the Lodi Salvation Army. In order to secure a grant payment, customers must consent to in an in-home energy audit.
- *Lodi SHARE Discount Rate:* LEU provides a rate discount of 30% for qualifying residential customers on their electric utility monthly billing statement; $400,000 annually is budgeted for this rate discount from the Lodi Public Benefits Program fund.

Measurement Methodology:

Lodi utilizes KEMA Consulting 'Measure Quantification Methodology' report for various residential and small commercial rebate programs; for large commercial and industrial customer rebates/programs, the customer is required to provide to the utility an engineered energy analysis/audit detailing their projected savings.

In addition, LEU has implemented an Evaluation, Measurement & Verification (EM & V) Plan, and has completed the first year assessment of randomly selected programs and large rebates as part of the designed EM & V Plan. For the FY 07-08, projected energy savings were verified for five (5) large customer rebates and one (1) residential program (Lodi Appliance Rebate Program) was assessed for the FY 07-08. Note: LEU retained the services of Summit Blue Consulting to assist in the creation of the aforementioned Lodi EM & V Plan, as well as the on-site, first year kWh savings verification process. LEU intends to utilize Summit Blue for similar kWh and kW verification savings in 2009.

Proposed LEU Energy Efficiency Programs and Services: (for 2009-2010)

Maintain existing programs, while possibly expending additional Public Benefit Program funds on demand-side management rebates/incentives. LEU will also endeavor to create new and innovative programs to increase participation rates. Note: LEU has projected less than 1,000,000 kWh of savings for the current year programs. This is a result of: 1) a slowed economy, whereby fewer large customers are investing in energy efficiency projects, and 2) market saturation – thousands of LEU customers have participated in various energy efficiency programs over the years.

LEU Demand Reduction Programs:

LEU does not currently have any demand reduction programs in place.

LODI ELECTRIC UTILITY (LEU)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Lodi										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	2	2	5,702	57,016	32	$ 9,000		$ 456	$ 9,456
HVAC	Res Cooling	4	4	3,711	60,060	37	$ 6,922		$ 686	$ 7,608
Appliances	Res Dishwashers	1	2	4,131	53,706	30	$ 3,850		$ 434	$ 4,284
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	3	3	18,847	339,250	184	$ 8,100		$ 2,682	$ 10,782
HVAC	Res Shell	16	16	12,049	235,081	133	$ 15,017		$ 2,120	$ 17,137
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	2	1	1,114	16,716	9	$ 1,750		$ 137	$ 1,887
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	433	117	2,855,290	33,369,924	18,493	$ 84,038		$ 273,879	$ 357,917
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	2	1	10,672	42,688	24	$ 423		$ 368	$ 791
HVAC	Non-Res Shell			707	7,072	4	$ 200		$ 57	$ 256
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			178,304	534,912	296			$ 4,529	$ 4,529
SubTotal		463	147	3,090,527	34,716,425	19,241	$ 129,300		$ 285,349	$ 414,649
T&D	T&D									
Total		463	147	3,090,527	34,716,425	19,241	$ 129,300		$ 285,349	$ 414,649

EE Program Portfolio TRC Test	**5.92**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Lodi										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	1	1	1,425	14,254	8	$ 2,250		$ 492	$ 2,742
HVAC	Res Cooling			371	6,006	4	$ 692		$ 207	$ 900
Appliances	Res Dishwashers			1,033	13,426	7	$ 963		$ 464	$ 1,426
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	4,712	84,812	46	$ 2,025		$ 2,929	$ 4,954
HVAC	Res Shell	4	4	3,012	58,770	33	$ 3,754		$ 2,030	$ 5,784
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling			279	4,179	2	$ 438		$ 144	$ 582
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	108	29	713,822	8,342,481	4,623	$ 21,009		$ 288,118	$ 309,128
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration			2,668	10,672	6	$ 106		$ 369	$ 474
HVAC	Non-Res Shell			707	7,072	4	$ 200		$ 244	$ 444
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			44,576	133,728	74			$ 4,618	$ 4,618
SubTotal		115	36	772,605	8,675,401	4,808	$ 31,436		$ 299,616	$ 331,052
T&D	T&D									
Total		115	36	772,605	8,675,401	4,808	$ 31,436		$ 299,616	$ 331,052

EE Program Portfolio TRC Test	**2.42**

Excluding T&D

CITY OF LOMPOC

- Established in 1923
- 14,700 customers; 90 percent are residential, purchasing 44 percent of total sales. Commercial customers use 21.5 percent; industrial and demand customers 25.5 percent; and municipal facilities 9 percent.
- Peak demand – 26 megawatts; (winter peak)
- The City is located in coastal climate zone 4, subsequently, there is virtually no air conditioning needed in residential construction and a limited need in commercial buildings. The City does not offer rebates for retrofit to more efficient air conditioning units. The majority of the energy efficiency programs focus on rebates to increase appliance efficiency.

Energy Efficiency Program Highlights

Lompoc initially implemented energy audit programs in 1981. In 1991, the programs were expanded to include energy efficiency education programs. In 2001, energy efficiency rebates and a low-income refrigerator subsidy program were added. Since then, additional programs have been added and existing programs modified to accommodate the community's needs.

Current Commercial Customer Programs:

- Commercial Lighting Rebate: A rebate of $15 per ballast is paid to commercial customers who replace/retrofit current lighting with more energy efficient fixtures or hard wired in lamps and ballasts. This program was first offered in May 2001.
- Exit Sign Rebate: A rebate of $15 to replace existing incandescent or fluorescent-lit exit signs with LED, or $30 the replace same signs with electro-luminescence signs. This rebate was first offered in 2002. (Net Annual Savings: 28,126 kilowatt-hours).

Current Commercial and Residential Customer Programs:

- Refrigerator Rebate: A $120 rebate is paid to electric customers or landlords who rent to City customers to replace working refrigerators or freezers manufactured before 1992 with a new model. The old appliance must be recycled at the City Landfill. (Net Annual Savings [all refrigerator programs]: 85,263 kilowatt-hours.)
- Refrigerator BuyBack Program: $35 is paid to customers who recycle, at the Landfill, any second working refrigerator or freezer. This program was first offered in May 2001.

- Clothes Washer Rebate: A $120 rebate is paid to customers who replace a working (non Energy Star®) clothes washer with a new Energy Star® model. The old clothes washer must be recycled at the Landfill. This program was first offered in March 2003. (Net Annual Savings: 3,405 kilowatt-hours).
- Dishwasher Rebate: A $50 rebate is paid to electric customers who replace working dishwashers, which were manufactured before 1994, with an Energy Star® model. The old dishwasher must be recycled at the Landfill. This program was first offered in March of 2003. (Net Annual Savings: 1,347 kilowatt-hours).
- Gas Conversion Payment: $100 is paid to electric customers who replace and recycle an electric water heater or clothes dryer with a gas appliance. The electric appliance must be recycled at the Landfill. (Net Annual Savings: 12,717 kilowatt-hours).
- LED Holiday Lighting: A rebate of $4 for up to 35 light strands and $8 for larger strands is paid to utility customers who purchase LED holiday lighting. This program was first offered in October of 2005.
- Renewable Resource Rebate: Any electric customer who installs a grid-tied self-generating electric system that is considered to be renewable energy will receive a rebate of $3.50 per watt. This program was first offered in February 2004. (Net Annual Savings: 24,000 kilowatt-hours).
- Energy Audits: Lompoc provides free energy audits for all customers and an online audit for residential customers.

Current Low Income Customer Programs:

- Income Qualifying Refrigerator Purchase Program: Up to a $570 payment is made for a new refrigerator for income qualifying customers. The old refrigerator must be in working order; must have been manufactured before 1992; and will be recycled at the landfill. The customer is required to repay the City $240 over a one-year time period.
- Rate and Energy Assistance Programs: Lompoc offers a rate discount for low-income customers and a special medical needs rate. Lompoc offers a subsidized refrigerator program to low-income customers.

Current Community Programs:

- Education Programs: Lompoc encourages energy conservation through school and community education programs.

Proposed City of Lompoc Energy Efficiency Programs and Services: **(for 2008-2009)**

- Evaluate existing programs to determine if incentives are attractive to customers and increase incentive levels if necessary to assure continued participation in all programs. Increase refrigerator/freezer rebate to $144 and increase low-income refrigerator voucher to $600. (Payback to remain at $240.)
- Offer a rebate of $.15 watt saved for any projects (both residential and commercial) that result in an energy savings.

- Ensure that energy efficiency is part of integrated resource planning by determining and implementing the most cost-effective, reliable, and feasible energy efficiency measures. Measure and evaluate the impact of energy efficiency programs.

New Energy Efficiency Programs:

- Direct install of certain refrigerator equipment to decrease energy loss from worn door gaskets, lack of strip curtains and inefficient door closures.

System upgrades:

Lompoc will continue the upgrade of all 4 kilovolts lines to 12 kilovolts distribution lines and is purchasing only low-loss transformers.

Lompoc Demand Reduction Programs:

Lompoc offers a Firm Curtailable Load Purchase Program, but no customer has utilized it since it was created. Customers who have an average peak-period demand of at least 500 kilovolt-A during each of the last six summer months may apply for this program. The customer must sign a contract for electric service for a five-year period, and will be required to reduce demand when the City requests such curtailment. The customer receives a demand payment of $6.00 per kilowatt of curtailed demand per season and $0.10 per kilowatt-hour.

CITY OF LOMPOC

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Lompoc										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	1	1	1,587	15,872	9	$ 7,440		$ 48	$ 7,488
HVAC	Res Cooling									
Appliances	Res Dishwashers			886	11,513	6	$ 1,350		$ 35	$ 1,385
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	52	4	25,781	211,272	113	$ 632		$ 602	$ 1,234
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	9	9	207,838	3,457,238	1,875	$ 33,830		$ 11,013	$ 44,843
HVAC	Res Shell									
Water Heating	Res Water Heating	46	46	9,581	143,712	77	$ 1,200		$ 420	$ 1,620
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	2	2	25,377	279,145	155	$ 1,440	$ 63,670	$ 881	$ 65,991
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			33,114	99,341	55			$ 322	$ 322
SubTotal		110	61	304,163	4,218,092	2,290	$ 45,892	$ 63,670	$ 13,322	$ 122,884
T&D	T&D									
Total		110	61	304,163	4,218,092	2,290	$ 45,892	$ 63,670	$ 13,322	$ 122,884

EE Program Portfolio TRC Test	**4.41**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Lompoc										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	1	1	1,587	15,872	9	$ 7,440		$ 47	$ 7,487
HVAC	Res Cooling									
Appliances	Res Dishwashers			886	11,513	6	$ 1,350		$ 34	$ 1,384
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	52	4	25,781	211,272	113	$ 632		$ 626	$ 1,258
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	9	9	207,838	3,457,238	1,875	$ 33,830		$ 10,241	$ 44,071
HVAC	Res Shell									
Water Heating	Res Water Heating	46	46	9,581	143,712	77	$ 1,200		$ 426	$ 1,626
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	4	3	50,754	558,290	309	$ 2,880	$ 127,340	$ 1,654	$ 131,874
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			33,114	99,341	55			$ 294	$ 294
SubTotal		112	63	329,540	4,497,237	2,444	$ 47,332	$ 127,340	$ 13,322	$ 187,994
T&D	T&D									
Total		112	63	329,540	4,497,237	2,444	$ 47,332	$ 127,340	$ 13,322	$ 187,994

EE Program Portfolio TRC Test	**4.27**

Excluding T&D

LOS ANGELES DEPT OF WATER & POWER (LADWP)

General Description of Utility

- Established in 1902 to deliver water to the City of Los Angeles. Electricity distribution began in 1916.
- Serves 3.9 million people via 1.4 million electric and 680,000 water connections. Nearly 70% of electricity usage is by the commercial/industrial sectors and over 30% by residential customers.
- A peak demand of 6165 megawatts (MW) was registered in the summer of 2006.
- Annual energy use is 24.6 million megawatt-hours (MWH).
- 8,447 employees.
- The largest municipal utility in the nation.

LADWP Energy Efficiency Program Highlights

- Los Angeles Department of Water and Power (LADWP) Energy Efficiency Program expenditures during the period beginning FY 2000-2001 through FY 2007-2008 totaled $136.7 million.
- These programs achieved peak demand reduction of 211.6 MW and 535.4 gigawatt hours (GWH) of energy savings during this period.
- The average life cycle cost of these savings was $0.024 per kilowatt hour.
- The savings are based upon estimation methodologies approved for use by both Investor Owned Utilities (IOU) and Publicly Owned Utilities (POU) for energy efficiency program reporting purposes. Savings have been adjusted annually since FY 2003-04 based on measurement and verification performed by an independent third party.

LADWP Energy Efficiency Measurement & Verification Activities

LADWP has retained the services of an independent third party to evaluate its energy efficiency programs. The firm is assessing energy efficiency projects completed in fiscal year 2007-2008 (July 1 – June 30). Projects being reviewed represent a random sampling from the full spectrum of LADWP's energy efficiency program portfolio. The final report is anticipated by the end of the fiscal year.

OVERVIEW OF LADWP'S FY 2007-2008 ENERGY EFFICIENCY PROGRAMS

Commercial Customer Programs: Total Non-Residential Program expenditures: $14.86 million resulting in 16.3 MW of peak demand reduction and 83.3 GWH of annual energy savings. The rebates and rebate levels assist LADWP customers in lowering energy consumption and energy expenses while benefiting the environment. Program enhancements were made to encourage maximum achievable program participation.

- Commercial Lighting Efficiency Offer: Provides rebates for a wide variety of high efficiency lighting measures to retrofit existing buildings. Rebates levels were increased and the list of qualifying measures expanded for FY 2007-2008. Program is largely vendor-driven.
- Chiller Efficiency Program: Provides rebates to retrofit existing buildings with high-efficiency electric chillers. Expanded the list of qualifying types of chillers, and new rebate levels designed to pay the full incremental cost of new high-efficiency units.
- Refrigeration Program: Provides incentives for a variety of energy efficient refrigeration measures. Rebate measures include ice machines, solid and glass refrigerator doors, door gaskets, night covers, strip curtains, vending machine controllers, etc. To be eligible for rebates, participating customers must reserve funds and receive approval to proceed prior to purchasing and installing the qualifying refrigeration equipment.
- Custom Performance Program: Provides incentives for cost-effective energy-saving opportunities not served by existing prescriptive offerings. Program includes equipment controls, CO sensors, high efficiency technologies, and other innovative strategies. LADWP engineers evaluate the energy-saving benefits (quantity, reliability, persistence) of each submitted measure and calculate savings-based financial incentives for participating customers. Energy saving measures, equipment or systems must exceed Title 24 or minimum industry standards
- Small Business Direct Install: Program pays 100% of the installed cost, up to a maximum of $2,500, for lighting retrofits in small business customers' facilities. Program operates using SCPPA Direct Install Program contractors made available to LADWP through a participation agreement with SCPPA. Program services deliver energy savings from typically hard-to-reach small business sector.
- New Construction Incentive Program: Provides incentives and technical assistance for new construction and major remodel projects; uses prescriptive incentives for standard new construction and more aggressive, energy points-based incentives for projects receiving LEED certification.
- Financing Program: Provides low-interest loans for the installation of energy efficient equipment in existing buildings (including city facilities).
- Energy Audits: On-site energy audits for existing non-residential buildings, available free-of-charge.
- Technical Assistance: Provides technical assistance and design review for retrofit projects in existing building and new construction projects.

Residential Customer Programs: Total Residential Program expenditures: $17.07 million resulting in 5.53 MW of peak demand reduction and 32.2 GWH of annual energy savings.

- Consumer Rebate Program: Provides rebates for the purchase and installation of Energy Star rated appliances and other high-efficiency equipment, including refrigerators, air-conditioners, windows, pool pumps, etc.
- Refrigerator Recycling Program: LADWP provides free pick-up and recycling of old, inefficient refrigerators, along with free CFLs and a rebate of $35 for each recycled refrigerator.
- Compact Fluorescent Lamp Distribution: Significantly expand distribution of free CFLs to residential customers through community and City events, via community groups, and in conjunction with other energy efficiency programs.
- Home Energy Saver On-Line Audit: Computerized energy audit analyzes energy use and makes recommendations for efficiency opportunities.
- Low-Income Refrigerator Exchange Program: Provides new energy-efficient refrigerators to low-income customers in exchange for their existing inefficient older models. Three-year program goal of 50,000 refrigerators.

Proposed FY 2008-2009 LADWP Energy Efficiency Programs and Services

Commercial Customer Programs: Total Non-Residential Program budget: $40.49 million resulting in a projected 29.31 MW of peak demand reduction and 170.4 GWH of annual energy savings.

- Commercial Lighting Efficiency Offer: LADWP anticipates continued increase in program participation from customers seeking the higher rebates offered for "Super T8" High Performance (HP) and Reduced Wattage (RW) systems ($30/fixture), and qualifying T8 and T5 high bay fixtures ($100/fixture). Eligible measures and rebate amounts (increased by as much as 25 percent in prior years) under review for possible refinement.
- Chiller Efficiency Program: Rebates available for all types of chillers (air-cooled and water-cooled). In addition, water-cooled centrifugal chillers now can be tested at either standard ARI or non-standard ARI conditions provided the cooling tower meets specified performance criteria. Higher rebate levels are based on the percentage that the chiller's Integrated Part-Load Value (IPLV) performance exceeds California's Current Title 24 requirements for chillers. In most cases, increased rebate amounts will pay for the full incremental cost of a higher efficiency chiller. Program planning includes improved outreach to equipment manufacturers.
- Refrigeration Program: This program continues to offer generous rebates for the purchase and installation of high efficiency refrigeration equipment and measures. Program planning includes improved outreach to equipment vendors.
- Custom Performance Program: This program continues offering savings-based incentives for the installation of energy saving measures, equipment or systems that exceed Title 24 or minimum industry standards. Program planning includes offering higher incentives for large-scale energy efficiency projects (annual savings of 1 GWH or more).
- Small Business Direct Install (SBDI) Program: Continuation of the three-year program, assisting small businesses (A1 rate customers) in the city of Los Angeles to become more energy efficient. Small businesses that reduce their energy load can save money and apply that savings to grow their business and create new jobs. Qualifying customers receive a FREE lighting assessment and FREE lighting upgrade and Installation (up to $2,500 in cost) from one of three authorized contractors.
- New Construction Incentive Program: Continuation of program offering two tiers of incentives to owners who build to levels that exceed required standards of energy efficiency. These incentives are being offered to encourage property owners to build to higher levels of energy

efficiency and environment responsibility. Anticipated increase in program participation due to the City of Los Angeles' implementation of a new Green Building Ordinance.

- Financing Program: Ongoing low-interest loan program for the installation of energy efficient equipment in existing buildings and city facilities.
- Energy Audits: Continued offering of free on-site energy audits for existing non-residential buildings.
- Technical Assistance: Continued offering of technical assistance and design review for retrofit projects in existing building and new construction projects.

Residential Customer Programs: Total Residential Program budget: $29.7 million resulting in a projected 18.87 MW of peak demand reduction and 102.5 GWH of annual energy savings.

- Consumer Rebate Program: Continued offering of rebates for the purchase and installation of Energy Star appliances and other high-efficiency equipment (refrigerators, air-conditioners, windows, etc.). Program planning includes offering "Point of Sale" rebates that result in maximum influence over consumer purchase decision.
- Refrigerator Recycling: Ongoing program provides free pick-up and recycling of old, inefficient refrigerators, along with free CFLs and a new cash incentive of $35 for each recycled refrigerator.
- Low-Income Refrigerator Exchange: Ongoing program provides new energy-efficient refrigerators to low-income customers in exchange for existing inefficient older models. Program planning includes improved outreach and expansion to apartment owners.
- Compact Fluorescent Lamp Distribution: Significantly expand distribution of two free CFLs to 1.2 million residential customers through direct-to-door distribution to residences; continue distribution through community events, via community groups, and in conjunction with other energy efficiency programs.
- Home Energy Saver Online Audit: Ongoing availability of web-based energy audit; analyzes energy use and makes recommendations for efficiency opportunities.

Demand Reduction and Other Programs: Total Other Program budget: $1.77 million resulting in a projected 571 kilowatts (KW) peak demand reduction and 796 MWH of annual energy savings.

- Thermal Energy Storage: Developing program for FY 2008-2009 to provide incentives and technical assistance for TES systems that shift load and include energy efficient designs.
- Educational Workshops/Audits: Provides for commercial audits by LADWP technical staff as well as an online or mail in tool to identify energy saving opportunities for residential customers.

Note: FY07/08 figures have not been audited and reporting includes previous year expenditures for projects concluded during FY07/08

Current and Future Program Plans

The LADWP continues its development of the remaining efficiency programs identified in the potential study, notably the Retro-Commissioning program and an HVAC tune-Up and Early Equipment

Replacement Program. Program plans are underway for an upstream program that will achieve energy savings in emerging technologies, specifically providing incentives to influence the manufacture and purchase of high efficiency computer desktop, desktop derived server power supplies and LCD monitors both for residential and commercial applications. Energy Efficiency staff also assesses ongoing programs to identify improvement opportunities that will prompt higher levels of customer participation with increased energy savings.

Potential Study 2009

As required by AB2021, load serving utilities need to identify achievable, cost-effective energy efficiency potential every three years and establish annual targets based on the results of the potential study. The LADWP is therefore in the process of procuring the required services needed for the next Efficiency Potential Study, the results of which will inform future program planning and budgeting necessary for the consistent achievement of the LADWP's AB2021 energy efficiency goals.

LOS ANGELES DEPT OF WATER & POWER (LADWP)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

LADWP										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	398	308	429,607	6,803,955	4,329	$ 410,652		$ 664,103	$ 1,074,755
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	4,580	583	3,247,630	29,228,669	14,802	$ 181,448	$ 123,067	$ 1,003,836	$ 1,308,352
Pool Pump	Res Pool Pump	95	41	138,720	1,387,200	817	$ 26,010		$ 96,491	$ 122,501
Refrigeration	Res Refrigeration	4,601	4,601	28,401,207	432,516,141	230,035	$ 725,473	$14,752,892	$ 1,278,638	$ 16,757,002
HVAC	Res Shell	6	6	3,590	71,808	41	$ 10,200		$ 5,132	$ 15,332
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking			273,100	4,096,506	2,157	$ 27,310		$ 6,223	$ 33,533
HVAC	Non-Res Cooling	139	139	2,591,392	51,827,846	29,864	$ 1,396,120		$ 489,004	$ 1,885,124
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	16,830	14,590	61,339,668	704,511,301	373,171	$ 10,623,781		$ 1,548,273	$ 12,172,054
Process	Non-Res Motors	152	152	1,345,952	20,189,280	10,632	$ 120,658		$ 30,670	$ 151,328
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	1,019	455	4,642,514	22,377,201	12,503	$ 206,270		$ 257,200	$ 463,470
HVAC	Non-Res Shell	230	230	1,011,720	10,471,800	6,034	$ 101,323		$ 19,393	$ 120,716
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	706	706	12,094,195	182,443,610	98,859	$ 991,240		$ 846,337	$ 1,837,577
SubTotal		28,757	21,812	115,519,295	1,465,925,318	783,244	$ 14,820,485	$14,875,959	$ 6,245,300	$ 35,941,745
T&D	T&D									
Total		28,757	21,812	115,519,295	1,465,925,318	783,244	$ 14,820,485	$14,875,959	$ 6,245,300	$ 35,941,745

EE Program Portfolio TRC Test	**3.50**

Excluding T&D

Period for Forecast Data: Fiscal Year ending 6/30/2009

LADWP										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	784	890	801,087	11,229,392	7,144	$ 626,600		$ 538,285	$ 1,164,885
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	90,670	12,401	66,506,806	598,561,250	303,124	$ 5,133,357	$ 157,500	$ 548,200	$ 5,839,057
Pool Pump	Res Pool Pump	340	136	496,052	4,960,516	2,921	$ 81,580		$ 86,033	$ 167,613
Refrigeration	Res Refrigeration	5,440	5,440	34,660,882	543,139,675	288,871	$ 3,233,117	$18,067,066	$ 1,231,960	$ 22,532,143
HVAC	Res Shell	6	6	3,520	70,400	41	$ 10,000		$ 4,023	$ 14,023
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	950	950	2,280,839	45,616,788	26,285	$ 1,500,000		$ 252,600	$ 1,752,600
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	25,319	20,439	123,735,600	1,227,105,529	679,403	$ 6,000,000	$20,000,000	$ 1,546,100	$ 27,546,100
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	1,781	578	4,910,714	57,810,897	30,550	$ 500,000		$ 415,000	$ 915,000
HVAC	Non-Res Shell	478	478	1,025,051	15,375,759	8,860	$ 349,136		$ 31,996	$ 381,132
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	6,869	7,440	39,261,912	523,408,944	283,226	$ 9,482,864		$ 2,180,604	$ 11,663,469
SubTotal		132,636	48,758	273,682,462	3,027,279,153	1,630,423	$ 26,916,655	$38,224,566	$ 6,834,800	$ 71,976,020
T&D	T&D									
Total		132,636	48,758	273,682,462	3,027,279,153	1,630,423	$ 26,916,655	$38,224,566	$ 6,834,800	$ 71,976,020

EE Program Portfolio TRC Test	**3.14**

Excluding T&D

MERCED IRRIGATION DISTRICT

Overview of Merced Irrigation District's history in electric services:

- The Merced Irrigation District (MID) has been in the business of generating wholesale electrical power from its hydro power facilities for more than 75 years. MID sells the electricity generated at its hydro facilities to PG&E under a long-term contract that expires in 2014.
- Over 12 years ago MID determined that the best way to leverage its investment in its low-cost generating facilities, and to benefit Eastern Merced County was to develop its own electric delivery system. In 1996, MID created the Electric Services Department and Foster Farms, in Livingston California became MID's first electric service customer.
- Over the years, and with rapid growth in the central valley, MID's electric services have also rapidly grown with the addition of a 34-mile transmission loop and a sophisticated distribution system now supporting over 7500 commercial, industrial and residential services.

MID Energy Efficiency Program Highlights

The Public Benefit Program at MID was started in the year 2000. The program is designed to provide benefit to all rate payer classifications that pay public benefit charges.

Current Commercial/Industrial Customer Programs:

- Commercial Energy Efficiency Retrofit Programs: Commercial, industrial, or agricultural customers in the District that pay the public benefits charge, are eligible to receive up to $150,000 in public benefit program rebates annually. For qualifying projects, MID will pay $0.07 per kWh saved over a period of one year not to exceed 50% of the project cost, whichever is lowest.

- Commercial New Construction Program: For energy savings by design on new commercial construction projects, MID pays financial incentives to customers whose new facilities exceed Title 24 or standard practice baseline by at least 10% on a whole building performance basis.

Current Residential Customer Programs:

- Home Efficiency Rebate Program: MID pays rebates to qualifying homeowners that install whole house fans, ceiling fans and CFLs.

- Residential Air Conditioning Rebate Program: Residential customers can obtain incentives for the retrofitting of inefficient residential HVAC systems with newer more efficient systems.

- Home Appliance Rebate Program: Homeowners receive rebates for the replacement of old appliances with Energy Star approved appliances.

- Spruce Up Your Home Shade Tree Program: 1,050 homeowners applied and received shade trees from MID in 2008.

- Residential Energy Assistance Program (Care): MID provides a minimum 20% discount on monthly energy bills for qualifying low income families and a Medical Baseline and Life-Support Program for those customers that depend on electrically powered equipment.

Proposed Energy Efficiency Programs and Services in 2009:

- In 2009 MID will be rolling out new turnkey lighting and mechanical equipment rebate programs for industrial and commercial customers.

MID's Investment in Renewable Energy:

- The MID Board of Directors approved a resolution in 2007 to acquire 15% energy resources by 2012.

- MID launched its Solar PV Buydown Program in 2008.

MID Demand Reduction Program:

- MID does not currently have a demand reduction program.

MERCED IRRIGATION DISTRICT

Time Period for Reporting Data: Calendar Year ending 12/31/2008

Merced										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	5	5	13,042	130,416	72	$ 4,275		$ 1,178	$ 5,453
HVAC	Res Cooling	48	49	166,779	5,001,350	3,197	$ 39,770		$ 75,681	$ 115,451
Appliances	Res Dishwashers			1,094	14,227	8	$ 1,425		$ 130	$ 1,555
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1,486	206	1,116,115	10,045,037	5,362	$ 94,470		$ 80,239	$ 174,709
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	4,867	87,610	48	$ 6,500		$ 781	$ 7,281
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	7		195,664	3,069,184	1,666	$ 25,777		$ 27,363	$ 53,139
Process	Non-Res Motors	5		9,152	137,280	73	$ 1,430		$ 1,147	$ 2,577
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	82		364,279	5,464,188	2,881	$ 31,874		$ 45,509	$ 77,383
SubTotal		1,635	262	1,870,992	23,949,292	13,307	$ 205,521		$ 232,028	$ 437,549
T&D	T&D									
Total		1,635	262	1,870,992	23,949,292	13,307	$ 205,521		$ 232,028	$ 437,549

EE Program Portfolio TRC Test	**2.67**

Excluding T&D

Period for Forecast Data: Calendar Year ending 12/31/2009

Merced										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	13,662	136,620	76	$ 4,478		$ 1,234	$ 5,712
HVAC	Res Cooling	50	51	174,713	5,239,276	3,349	$ 41,662		$ 79,282	$ 120,944
Appliances	Res Dishwashers			1,146	14,904	8	$ 1,493		$ 136	$ 1,629
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1,556	216	1,169,211	10,522,903	5,617	$ 98,965		$ 84,056	$ 183,021
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	5,099	91,777	50	$ 6,809		$ 819	$ 7,628
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	8		204,972	3,215,192	1,745	$ 27,003		$ 28,664	$ 55,667
Process	Non-Res Motors	5		9,587	143,811	76	$ 1,498		$ 1,202	$ 2,700
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	86		381,609	5,724,132	3,018	$ 33,390		$ 47,674	$ 81,064
SubTotal		1,712	274	1,960,000	25,088,616	13,940	$ 215,298		$ 243,066	$ 458,364
T&D	T&D									
Total		1,712	274	1,960,000	25,088,616	13,940	$ 215,298		$ 243,066	$ 458,364

EE Program Portfolio TRC Test	**2.67**

Excluding T&D

MODESTO IRRIGATION DISTRICT

- Established in 1887, the Modesto Irrigation District (MID), located in California's Central Valley, provides electric, irrigation, and drinking water service.
- With more than 112,000 customers, 60 percent of energy sales are commercial/industrial; the remaining 40 percent are primarily residential.
- System Peak Demand: 698 MW in July 2006.
- MID's mission is to deliver superior value to irrigation, electric and domestic water customers through teamwork, technology, and innovation.
- MID website: www.mid.org

MID Energy Efficiency Program Highlights:

2008 Residential Customer Programs:

- MPower Home: Paid over $230,000 in rebates for the installation of energy efficiency measures in existing homes. Eligible measures included air conditioners, duct sealing, whole house fans, CFLs, washers, radiant barriers, insulation, and window film/screen. The peak load reduction was 312 kW and the annual energy savings was 826 MWH.
- LIEE / Weatherization: Paid over $185,000 in direct installation costs for energy efficiency and weatherization measures in 230 qualifying dwellings. The program also provides education, information and community outreach for low-income customers. The peak load reduction was 50 kW and annual energy savings was 200 MWH.

2008 Commercial Customer Programs:

- MPower Business: Paid over $212,000 in rebates for the installation of energy efficiency measures in existing commercial and industrial businesses. Eligible measures included air conditioners, lighting, refrigeration, window film/screen, motors and computing. The peak load reduction was 589 kW and the annual energy savings was 3,990 MWH.
- MPower Custom: Paid over $479,000 in rebates for the installation of customized energy efficiency measures in existing commercial and industrial facilities. Qualifying measures included air compressors, chiller, cooling towers, VFDs, insulation and EMS. The peak load reduction was 576 kW and the annual energy savings was 6,201 MWH.
- MPower Commercial New Construction: Paid over $566,000 in rebates for the installation of energy efficiency measures in new or renovated commercial and industrial businesses. Eligible measures included air conditioning, lighting, insulation, cooking, skylights and process cooling. The peak load reduction was 1,236 kW and the annual energy savings was 4,896 MWH.

2009+ Planned MID Energy Efficiency Programs and Services:

- Evaluate the appropriateness for rebate of new, energy efficiency technologies
- Ensure that energy efficiency is part of integrated resource planning by determining and implementing the most cost-effective, reliable, and feasible energy efficiency

Energy Efficiency Funding Sources

MID presently exceeds the required annual funding level for public benefit programs (2.85 percent of revenue - AB1890/AB995) and has for several years. Over time, low income and renewable energy programs have grown significantly and now comprise the majority of public benefit expenditures, which has led MID to fund energy efficiency from both public benefit and procurement sources. MID's 2008 energy efficiency funding from public benefits and procurement was approximately $2,100,000 and $1,492,000, respectively. Essentially, MID uses public benefit dollars for the non-incentive components of EE program costs and procurement dollars for the EE incentives.

MID Demand Reduction Program Highlights:

Since the early 1980's, MID has continuously operated demand reduction programs. Their purpose is to reduce electricity demand during peak use periods, May through September, when necessitated by operational constraints or supply shortages. Bill discounts are given for both direct load control and curtailable load reduction mechanisms. Following are program highlights for 2008:

- STEP: Bill discounts of over $339,000 for residential and commercial customers participating in the "Shave the Energy Peak" (STEP) program. STEP allows MID operators to reduce electricity demand by cycling over 14,000 air conditioners. The available peak load reduction was 13 MW.
- Interruptible Rate: Bill discounts of over $390,000 for commercial and industrial customer participants. This program allows MID operators, upon customer notification, to reduce electricity demand by requiring cessation of the curtailable portion of customer load. The available peak load reduction was 21 MW.

MID Renewable Energy Program Highlights:

On December 16, 2003 MID adopted a Renewable Portfolio Standard Policy, pursuant to Section 387 of the California Public Utilities Code. Per that policy, MID continues to generate or purchase energy from qualifying sources: small hydro and wind power.

- Stone Drop: New investment operation and maintenance costs to continue operating an existing small hydroelectric power plant. The plant capacity is .23 MW and 2008 energy production was 616 MWH.
- High Winds 2004 Purchase Power Contract**:** New eligible renewable energy resources from the High Winds Project in Solano County, California. Purchased 25 MW of project capacity for a 10-year period, which began in 2004. The 2008 energy delivery was 65,989 MWH.

- Shiloh 2006 Purchase Power Contract: New eligible renewable energy resources from the Shiloh Project in Solano County, California. Purchased 50 MW of project capacity for a 10-year period, which began in 2006. The 2008 energy delivery was 169,229 MWH.
- Big Horn 2006 Purchase Power Contract: New eligible renewable energy resources from the Big Horn Project in Klickitat County, Washington. Purchased 25 MW of project capacity for a 20-year period, which began in 2006. The 2008 energy delivery was 73,059 MWH.

MODESTO IRRIGATION DISTRICT

Time Period for Reporting Data: Calendar Year ending 12/31/2008

Modesto										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	4	4	9,930	99,296	55	$ 14,980		$ 1,293	$ 16,273
HVAC	Res Cooling	131	69	130,729	2,391,259	1,511	$ 99,900	$ 50,112	$ 49,206	$ 199,218
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics			3,150	47,250	26		$ 7,612	$ 1,176	$ 8,788
HVAC	Res Heating									
Lighting	Res Lighting	306	42	233,379	2,100,409	1,121	$ 11,760	$ 17,707	$ 27,767	$ 57,234
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	48	48	399,860	7,197,480	3,904	$ 7,000	$ 98,448	$ 112,383	$ 217,831
HVAC	Res Shell	201	201	138,890	2,464,237	1,391	$ 99,932	$ 36,345	$ 38,923	$ 175,199
Water Heating	Res Water Heating			894	7,725	4		$ 309	$ 179	$ 488
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking	1	1	10,049	120,593	66	$ 782		$ 1,283	$ 2,064
HVAC	Non-Res Cooling	142	120	185,346	2,780,194	1,547	$ 58,262		$ 30,564	$ 88,826
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	605	550	4,163,837	45,593,777	25,231	$ 202,386		$ 353,684	$ 556,070
Process	Non-Res Motors									
Process	Non-Res Pumps	77	77	675,423	10,131,345	5,388	$ 35,006		$ 48,274	$ 83,280
Refrigeration	Non-Res Refrigeration	1,193	1,193	7,049,870	105,746,807	55,751	$ 741,828		$ 498,570	$ 1,240,399
HVAC	Non-Res Shell	3	3	86,952	1,174,332	653	$ 4,953		$ 7,456	$ 12,409
Process	Non Res Process	361	361	2,296,613	34,449,192	18,322	$ 169,888		$ 164,190	$ 334,078
Comprehensive	Non Res Comprehensive	95	95	594,396	7,132,752	3,760	$ 45,050		$ 71,168	$ 116,218
Other	Other			149,966	449,899	247		$ 24,885	$ 6,012	$ 30,897
SubTotal		3,167	2,765	16,129,286	221,886,546	118,978	$ 1,491,728	$ 235,417	$ 1,412,127	$ 3,139,272
T&D	T&D									
Total		3,167	2,765	16,129,286	221,886,546	118,978	$ 1,491,728	$ 235,417	$ 1,412,127	$ 3,139,272

EE Program Portfolio TRC Test	**2.71**

Excluding T&D

Period for Forecast Data: Calendar Year ending 12/31/2009.

Modesto										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	2	2	4,274	42,737	24	$ 6,447		$ 557	$ 7,004
HVAC	Res Cooling	56	30	56,266	1,029,191	650	$ 42,997	$ 21,568	$ 21,178	$ 85,743
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics			1,356	20,336	11		$ 3,276	$ 506	$ 3,782
HVAC	Res Heating									
Lighting	Res Lighting	132	18	100,446	904,010	483	$ 5,061	$ 7,621	$ 11,951	$ 24,633
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	21	21	172,099	3,097,776	1,680	$ 3,013	$ 42,372	$ 48,369	$ 93,754
HVAC	Res Shell	86	86	59,778	1,060,601	599	$ 43,010	$ 15,643	$ 16,752	$ 75,405
Water Heating	Res Water Heating			385	3,325	2		$ 133	$ 77	$ 210
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking			4,325	51,903	28	$ 336		$ 552	$ 888
HVAC	Non-Res Cooling	61	52	79,773	1,196,588	666	$ 25,076		$ 13,155	$ 38,230
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	260	237	1,792,104	19,623,436	10,860	$ 87,107		$ 152,225	$ 239,331
Process	Non-Res Motors									
Process	Non-Res Pumps	33	33	290,700	4,360,503	2,319	$ 15,067		$ 20,777	$ 35,844
Refrigeration	Non-Res Refrigeration	513	513	3,034,245	45,513,134	23,995	$ 319,281		$ 214,583	$ 533,864
HVAC	Non-Res Shell	1	1	37,424	505,429	281	$ 2,132		$ 3,209	$ 5,341
Process	Non Res Process	156	156	988,456	14,826,837	7,886	$ 73,119		$ 70,667	$ 143,786
Comprehensive	Non Res Comprehensive	41	41	255,826	3,069,917	1,618	$ 19,389		$ 30,630	$ 50,020
Other	Other			64,545	193,635	106		$ 10,710	$ 2,588	$ 13,298
SubTotal		1,363	1,190	6,942,000	95,499,357	51,208	$ 642,036	$ 101,323	$ 607,776	$ 1,351,134
T&D	T&D									
Total		1,363	1,190	6,942,000	95,499,357	51,208	$ 642,036	$ 101,323	$ 607,776	$ 1,351,134

EE Program Portfolio TRC Test	**2.71**

Excluding T&D

MORENO VALLEY UTILITY

- The City of Moreno Valley established a municipal utility in 2001, and began serving its first customers in February 2004. Moreno Valley Utility serves residential, commercial, and industrial customers.
- Moreno Valley Utility currently serves approximately 5,300 customers. Residential customers have historically comprised the majority of the energy sales for MVU, however energy sales to MVU's commercial and industrial customers are growing.
- Peak Demand: 19.2 megawatt
- Annual Energy Use: 62 gigawatt-hours
- Mission: Moreno Valley Utility strives to provide reliable, economical, and safe electric distribution service to benefit the community and the City.

Moreno Valley Utility Energy Efficiency Program Highlights

In FY 07/08, Moreno Valley spent approximately $4,300 in incentives to increase energy efficiency for the community. MVU's Energy Efficiency Program has resulted in an energy savings of approximately 298,000 kilowatt-hours per year.

Current Commercial Customer Programs and Projects:

- Energy Efficiency Program: Moreno Valley Electric Utility offers incentives to developers for buildings that exceed California Title 24 requirements by more than 10 percent.
- Val Verde Unified School District Energy Incentive Agreement: In return for an energy efficiency incentive, Val Verde's Indian Middle School design far exceeded Title 24 requirements which resulted in an Energy Incentive Agreement with MVU. The project's energy savings are approximately 298,000 kWh, which resulted in incentives of $4300 for FY 07/08.

Proposed Energy Efficiency Projects and Services: (2008-2009)

- Residential Energy Efficiency Programs: All homes within the service territory are five years old or less. This makes it difficult to offer programs to reduce the use of older appliances and upgrade to something more efficient or offer rebates for building envelope upgrades. MVU is currently seeking assistance from industry consultants in evaluating which programs will have the most impact.
- Stater Bros. Energy Efficiency Project: Multiple energy efficiency measures (EEMs) were simulated for the Stater Bros market (using DOE-2) which calculated an energy savings of 627,271 kWh as well as a demand reduction of 162 kW. Under MVU'S Energy Efficiency Program, this will result in an incentive of approximately $31,000. This Project was energized October 9, 2008.
- Highland Fairview Corporate Park Project: Highland Fairview is proceeding with the development of a corporate park which will be served by MVU. There will be five buildings which includes a 1.8 million square feet building anchored by a Fortune 500 company. The design team for this project has expressed interest in obtaining LEED certification, and MVU is

working with Highland Fairview in maximizing energy efficiency on this project. The Project is expected to be completed and energized in fourth quarter 2009.

Demand Reduction Programs:

Moreno Valley Utility does not currently have any demand reduction management programs in place.

MORENO VALLEY UTILITY

Time Period for Reporting Data*:* Fiscal Year ending 6/30/2008

Moreno Valley										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive			298,000	2,980,000	1,656	$ 4,300		$ 3,900	$ 8,200
Other	Other									
SubTotal				298,000	2,980,000	1,656	$ 4,300		$ 3,900	$ 8,200
T&D	T&D									
Total				298,000	2,980,000	1,656	$ 4,300		$ 3,900	$ 8,200

EE Program Portfolio TRC Test	**6.11**

Excluding T&D

Time Period for Forecast Data*:* Fiscal Year ending 6/30/2009

Moreno Valley										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive			627,271	6,272,710	3,486	$ 31,000		$ 8,209	$ 39,209
Other	Other									
SubTotal				627,271	6,272,710	3,486	$ 31,000		$ 8,209	$ 39,209
T&D	T&D									
Total				627,271	6,272,710	3,486	$ 31,000		$ 8,209	$ 39,209

EE Program Portfolio TRC Test	**6.11**

Excluding T&D

CITY OF NEEDLES

CITY OF NEEDLES

• The City of Needles Public Utilities Department was established in 1982.
• Needles is located in Western Area Power Authority Administration control area and is not part of the CAISO grid.
• Needles has 2,898 meters, serving 2,365 residential customers, 491 commercial customers, 35 commercial demand customers, and 7 master metered and municipal customers.
• Total energy sales are 57,553,850 kilowatt-hours (FY 2007-08); 46 percent is residential sales, 54 percent is commercial and the remainder is master metered and municipal sales.
• Peak demand is 19.1 megawatts
• Needles is an extreme summer peaking utility. Summer temperatures (late June through early September) can reach 130 degrees, and daytime temperatures range from minimum temperatures in the mid-90s with afternoon temperatures between 100 and 120 degrees.

City of Needles Energy Efficiency Program Highlights

On an annual basis, Needles' load factor is less than 37 percent. The Needles City Council approved Resolution No. 7-24-07 1 on July 24, 2007 adopting the provisions of California Assembly Bill 2021 – *Public Utilities Energy Efficiency.* The budget amount of $150,000.00 adopted for the program was based upon the Rocky Mountain Institute's analysis *" to identify all potentially cost-effective electricity efficiency savings and establish annual targets for energy efficiency savings and demand reduction for the next 10-year period"*

The City of Needles' energy efficiency programs are designed to reduce the summer air conditioning loads and increase the annual load factor. In FY 2007-08, the City of Needles' energy efficiency programs reduced peak demand by 72 kilowatts and 71,585 kilowatt-hours (per Western Area Power Authority approved Integrated Resource Plan Annual Progress Report for 2008). *Note: T*he kilowatt savings are derived from the number of hours that air conditioners are used in Needles (essentially all hours when temperature is greater than 90 degrees – April through October).

Note: At FYE 6/30/2007 the total combined residential and commercial usage was 63,930,476 kliowatts hours. At FYE 6/30/08, the combined residential and commercial usage was 57,553,850 kilowatt hours, a reduction of 6,376,626 kilowatt hours or 10%.

The City of Needles will continue to budget $150,000 annually for the existing energy efficiency programs and will allocate additional funding if customer demand is greater than the program allocation**.** The $150,000.00 is funded by ratepayers via a line item on their electric bill (*Mandated Conservation* at $0.00338/kWh). The prerequisite for eligibility for the energy efficiency program (City pays for 14 or higher SEER rated air conditioners, evaporative coolers and refrigerators) is that the rate payer's apply for weatherization through the San Bernardino Community Action Coalition ("HEAP"). Needles budgeted $50,000 for solar programs beginning in FY 2008/09.

Current Residential Customer Programs:

• Air conditioner, evaporative cooler, refrigerator replacement with SEER 14 or higher with proof of home weatherization completed.

. Air Conditioning Rebate Program: Provides installation support and financial rebates to facilitate upgrades to more efficient lighting and air conditioning systems.

• Sun Shade Program: Provides rates for the installation of residential sun shades, designed to lower house temperatures during the summers.

Proposed City of Needles Energy Efficiency Programs and Services: **(FY 2008-09)**

Maintain Existing Programs at current levels and monitor effectiveness for potential expansion (finances allowing).

City of Needles Demand Reduction Programs:

The City of Needles demand reduction program reduction target calls for 0.2mW for 2008.

CITY OF NEEDLES

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Needles										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	23	19	70,906	1,276,312	812	$ 145,493		$ 14,916	$ 160,409
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration			659	11,854	6	$ 4,510		$ 84	$ 4,594
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		23	19	71,565	1,288,166	818	$ 150,003		$ 15,000	$ 165,003
T&D	T&D									
Total		23	19	71,565	1,288,166	818	$ 150,003		$ 15,000	$ 165,003

EE Program Portfolio TRC Test	**6.69**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Needles										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	21	18	66,383	1,194,902	760	$ 136,212		$ 13,965	$ 150,177
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration			617	11,098	6	$ 4,222		$ 78	$ 4,301
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		21	18	67,000	1,206,000	766	$ 140,435		$ 14,043	$ 154,478
T&D	T&D									
Total		21	18	67,000	1,206,000	766	$ 140,435		$ 14,043	$ 154,478

EE Program Portfolio TRC Test	**6.69**

Excluding T&D

CITY OF PALO ALTO UTILITIES

- Established in 1900.
- The City of Palo Alto Utilities (CPAU) is the only municipal utility in California that operates city-owned utility services that provide electric, natural gas and water services to its customers.
- CPAU has 28,653 electric meters.
- CPAU's annual electric load is 20 percent residential, 48 percent commercial and 32 percent industrial with a customer base of 90 percent residential, 9.3 percent commercial, and 0.7 percent industrial.
- CPAU's eligible renewable energy resources comprised 17 percent of annual energy supply in 2008. The Long-term Energy Acquisition Plan sets a target of 33 percent by 2015.
- CPAU's award winning PaloAlto**Green** Program offers a voluntary 100 percent renewable energy alternative for retail customers, which added 5 percent in 2008 to the energy mix with over 20 percent of customers participating in 2008. The program received the 2008 U.S. Department of Energy award for Best Green Power program for a small utility.

CPAU Energy Efficiency Program Highlights

CPAU implemented energy efficiency programs in the 1970s. In 1996, CPAU approved a policy to fund electric, gas and water efficiency programs at one percent of revenues per year. In 1998, CPAU increased the electric public benefits program budget to approximately 3 percent of revenues, with a one-year increase of an additional 8 percent from the electric commodity purchase budget during the 2001 energy crisis. In April 2007, Palo Alto City Council approved CPAU's Ten-year Energy Efficiency Portfolio Plan, setting aggressive energy efficiency targets and adding funding from supply funds, increasing efficiency budgets by 50 percent for electric and 100 percent for natural gas.

Current Commercial Customer Programs and Services:

Commercial Advantage Program: Incentives offered to commercial customers for investments in efficient lighting, motors, HVAC and Custom Projects that target peak demand and energy reductions. The program was expanded in 2008 to include food service and refrigeration measures.

Consultant Assistance for Resource Efficiency: Comprehensive technical assistance for commercial customers to identify efficiency measures to facilitate peak demand reduction and energy savings.

MeterLinks: Online utility data accessible for large industrial customers to enable the customers in efficient implementation of load management programs and energy usage management.

Commercial Lighting Retrofit Program: Turnkey program for small commercial customers that provides an analysis of facility lighting needs and installs efficient lighting upgrades with minimal cost to the commercial customer. In 2008, the program was expanded to include refrigeration measures (primarily refrigeration gaskets).

Current Residential Customer Programs and Services:

Smart Energy Programs: A comprehensive energy efficiency incentive program for residential customers. Rebates and technical assistance promote home shell improvements, and the installation of attic/roof insulation, high efficiency cooling and refrigeration equipment, appliances and lighting. In 2008 incentives were added for residential clothes washers which previously only received a rebate from the Santa Clara Valley Water District for water savings.

Low-Income Assistance Programs: CPAU provides weatherization and equipment (refrigerators and furnaces) replacement to low-income residents.

Community Education Programs:

Community Energy Education: CPAU offers free residential online audits and other energy conservation and efficiency education programs to target groups in the community. Activities include hosting commercial Facility Manager Network meetings, residential energy workshops, participation in Chamber of Commerce meetings, neighborhood association events, and local fairs and special events.

Green@Home Audits: Beginning in late 2008, CPAU contracted with a local non-profit company to provide free in-home residential energy audits. The auditor will install a variety of low cost energy and water saving measures including three compact-fluorescent lamps and an electric usage monitoring device.

Building Operator Training: Training commercial facility managers and staff on retro-commissioning commercial facilities. CPAU hosted 8 well-attended classes in 2008.

Public Schools Program:

Palo Alto Unified School District has 17 schools with 10,000 students. CPAU provides annual education grants to the local schools to support teacher training programs and the development of curriculums

and education projects that promote energy and water efficiency. CPAU also participates in monthly school sustainability committee meetings and makes educational presentations to classes on energy efficiency and renewable energy.

Third-Party Program Evaluation, Measurement and Verification

To meet the requirements of state law, a third-party consultant was contracted with to provide evaluation, measurement and verification services (E,M,&V) for the public benefits programs. Summit Blue, the consultant, completed a measurement and verification plan for both process and impact evaluations in 2008. Installation verification and measurement began in late 2008. As required by state law, a report will be delivered on the results of the evaluations to the California Energy Commission in combination with other publicly owned utilities in early 2009.

Future Energy Efficiency Programs: (beyond 2008-09)

CPAU is increasing its investment in energy efficiency beyond what is funded through the public benefit charge. CPAU has completed a study (performed by Rocky Mountain Institute) to estimate the cost-effective potential for electric and gas energy efficiency in its service territory, which serves as the foundation for CPAU's energy efficiency targets. CPAU developed enhanced energy efficiency programs during the 2008-2009 fiscal year for implementation as laid out in its Ten-Year Plan. CPAU has released a second set of solicitations seeking third-party energy efficiency program administrators. These new programs will increase energy efficiency reductions and achieve requirements of AB2021 for outside verification of program results.

CPAU Demand Reduction Programs:

CPAU's current demand response program is voluntary with a few key customers providing 3-5 megawatts of peak reduction upon request. There is no cost for this program. CPAU also owns 4 natural gas fired generation units to add five megawatts of demand during Stage 3 alerts. The program was not needed during 2008.

CITY OF PALO ALTO UTILITIES

CITY OF PALO ALTO
UTILITIES

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Palo Alto										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	23	15	16,553	297,950	182	$ 9,700		$ 6,882	$ 16,582
Appliances	Res Dishwashers	3	4	9,446	122,803	68	$ 18,450		$ 2,068	$ 20,518
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1,338	117	785,986	6,919,832	3,694	$ 98,364		$ 206,909	$ 305,272
Pool Pump	Res Pool Pump	2	1	3,360	33,600	19	$ 750		$ 560	$ 1,310
Refrigeration	Res Refrigeration	74	74	476,965	8,585,366	4,657	$ 69,815		$ 151,016	$ 220,831
HVAC	Res Shell	4	4	3,270	65,407	37	$ 22,225		$ 3,496	$ 25,722
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	5	3	930,399	10,072,724	5,358	$ 60,441		$ 153,690	$ 214,131
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	367	318	1,722,176	19,266,557	10,666	$ 174,419		$ 405,754	$ 580,173
Process	Non-Res Motors	17	13	89,502	1,342,536	714	$ 2,880		$ 20,850	$ 23,730
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	5	5	63,908	620,173	327	$ 15,980		$ 17,806	$ 33,786
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	110	110	266	2,664	1	$ 525		$ 40	$ 565
Other	Other			297,067	891,202	493	$ 2,775		$ 39,232	$ 42,008
SubTotal		1,950	666	4,398,899	48,220,815	26,215	$ 476,324		$ 1,008,304	$ 1,484,628
T&D	T&D	156	156	763,575	38,178,750	20,128				
Total		2,106	822	5,162,474	86,399,565	46,343	$ 476,324		$ 1,008,304	$ 1,484,628

EE Program Portfolio TRC Test	**2.43**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Palo Alto										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	24	16	17,380	312,848	191	$ 10,185		$ 6,542	$ 16,727
Appliances	Res Dishwashers	3	4	9,919	128,943	71	$ 19,373		$ 2,696	$ 22,069
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1,405	123	825,285	7,265,824	3,879	$ 103,282		$ 151,929	$ 255,211
Pool Pump	Res Pool Pump	2	1	3,528	35,280	19	$ 788		$ 738	$ 1,525
Refrigeration	Res Refrigeration	78	78	500,813	9,014,635	4,890	$ 73,306		$ 188,497	$ 261,803
HVAC	Res Shell	4	4	3,434	68,677	39	$ 23,337		$ 1,436	$ 24,773
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	5	3	976,919	10,576,360	5,626	$ 63,463		$ 221,153	$ 284,616
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	385	334	1,808,285	20,229,885	11,200	$ 183,139		$ 423,010	$ 606,149
Process	Non-Res Motors	18	14	93,978	1,409,663	750	$ 3,024		$ 29,476	$ 32,500
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	6	6	67,103	651,182	343	$ 16,779		$ 13,616	$ 30,396
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	116	116	280	2,797	1	$ 551		$ 58	$ 610
Other	Other			311,921	935,762	517	$ 2,914		$ 19,567	$ 22,481
SubTotal		2,047	699	4,618,844	50,631,856	27,526	$ 500,140		$ 1,058,719	$ 1,558,859
T&D	T&D	156	156	763,575	38,178,750	20,128				
Total		2,203	855	5,382,419	88,810,606	47,654	$ 500,140		$ 1,058,719	$ 1,558,859

EE Program Portfolio TRC Test	**2.43**

Excluding T&D

PASADENA WATER AND POWER (PWP)

Background and Goals

- Established in 1906, Pasadena Water and Power (PWP) today provides electric service to more than 62,799 metered accounts over a 23 square-mile service area.
- Peak demand: 316 megawatts, occurred August 2006
- Annual energy use is 1,336,412 megawatt-hours
- The mission of PWP's energy efficiency programs is to promote the use of socially and environmentally responsible energy efficient measures and customer assistance programs for the benefit of all Pasadena residents and business customers.
- On September 18, 2006, the City of Pasadena adopted the *United Nations Urban Environmental Accords (*http://www.wed2005.org/pdfs/Accords_11x17.pdf*)*, calling for a 10 percent system demand reduction by 2012 as one of 21 environmental goals for the city.
- On December 19, 2005, the City of Pasadena adopted the Green Building Practices Ordinance requiring new standards for new construction and tenant improvements. These standards incorporate energy and water efficiency measures into the design, construction and maintenance of public and private buildings.
- On September 17, 2007, the City of Pasadena adopted the following goals: energy efficiency savings of 13.3 percent by 2016, and the installation of 14MW of customer-owned photovoltaic systems by 2017.

Energy Efficiency Program Goals:

- Identify cost-effective energy-saving opportunities, and provide solutions to help customers achieve reductions in their electric bills.
- Provide direct assistance to qualified customers who are unable to implement cost-saving energy efficiencies on their own.
- Introduce sustainable concepts and operational practices to customers to reduce the energy consumption and environmental impacts of buildings.
- Demonstrate and evaluate new and emerging technologies which encourage market transformation of energy efficiency and peak load reduction.

Actual (07/08) Energy Efficiency Program Highlights

- Total FY 07/08 program expenditures of $1,326,799 include $1,179,510 in rebates to customers and $177,289 in administration costs. PWP worked this year to develop new comprehensive programs that will be marketed heavily in 2009.

- Program activity resulted in more than 92,316 megawatt-hours of lifetime savings, or 8,178 megawatt-hours annually, with an average cost-effectiveness test of 2.3 TRC and 6.7 PAC, as follows:
- Residential efficiency programs saved 7,125 MWH and reduced peak load by 1.4 MW.
- Commercial efficiency programs saved 1,153 MWH and reduced peak load by 0.2 MW.
- Water efficiency programs (residential and non-residential) saved 890.8 million gallons and 529 MWH.
- Efficiency programs achieved 82 percent of PWP's FY07/08 efficiency goal

M&V

- Contract labor performs verification of 10 percent of all rebated residential efficiency purchases and installations (and leaves behind up to 3 CFL's)
- Utility staff and contracted labor performs pre-and post-installation verification of all non-residential customer projects
- Contracted third party engineers use e-Quest and DOE 2 program software to evaluate current year central plant projects
- DOE II-type software used to calculate savings for large customer projects, including chillers, lighting and motors
- Designing "Continuous Commissioning" demonstration projects with large institutional customers to perform facility diagnostics and measurements
- Use deemed savings per the E3 Reporting Tool for prescriptive rebates
- Use data loggers and third party engineering estimates, for quantifying actual energy saved on selected custom efficiency projects

Actual (FY07/08) Nonresidential Customer Programs:

- Energy Efficiency Partnering (EEP) Program: This program allows any building technology that saves energy to qualify for a rebate. Provides an electronic processing loop to speed up rebate processing and give the customer a rebate estimate on the spot. Rewards projects that achieve the most cost effective energy and peak load reductions. Offered customers an additional incentive bonus for projects that were completed and verified by December 30th 2008.
- Direct Install Emerging Technologies (DIET) Program: Provides free evaluations and installation of seven innovative efficient products, up to $25,000 at no cost. Technologies include daylight harvesting, HVAC Ultraviolet, hotel room keycard, CO2 sensor, Delta "P" pressure control valve, HVAC cycle management and diesel emergency generator heat pump.
- High Performance Building Program: Rebates for new or remodeled buildings which exceed Title 24 energy standards over 12 percent. The program matches one month's electricity savings for each percentage better than code.
- LEED Certification Program: Provide incentives for buildings certified by the U.S. Green Building Council's LEED™ Rating System as follows:
    - LEED™ Certified $15,000
    - LEED™ Silver $20,000
    - LEED™ Gold $25,000
    - LEED™ Platinum $30,000

- Technical Assistance: The Technical Assistance program provides walk-through assessments of facilities, third party reviews of DSM projects and information on appropriate technologies to business customers.
- Business Energy Efficiency Outreach & Education: Hosted technology workshops and promoted PWP's business energy efficiency programs at events, direct customer contact and advertising.
- Emerging Technologies Direct Installation Demonstration Program: Evaluate the appropriateness of new energy efficiency technologies.

Actual (FY07/08) Residential Customer Programs:

- Energy Star® Incentive Program: Encouraged residential customers to buy high efficiency items, including refrigerators, hard-wired lighting fixtures and ceiling fans.
- Power of 10 Challenge Free Compact Fluorescent Lamps (CFL's): Program challenges customers to replace ten of their existing incandescent light bulbs with CFL's. A package with two "earth-friendly" CFL's was mailed to all residential customers. Offer included an order form for an additional $75 worth of 15 different bulbs, shipped directly to customer.
- Refrigerator Recycling: Provides free pick up and recycling of old, inefficient refrigerators and/or retires second units. Customers are mailed a coupon for three CFL's (redeemable at local community centers) and an incentive check for $25 and $50 for their old refrigerators and freezers, respectively.
- Efficient Home Cooling: Rebates provided to residential customers who install new central air conditioners (14 SEER minimum), Energy Star® doors and windows, room air conditioners, solar attic fans, and sun shade window screens.
- Energy Use Assessments: This program sends energy conservation experts to residents' homes to identify energy conservation opportunities and provide customers with analyses of usage and high billing histories. Also provided customers with access to the Home Energy Suite, an online energy analysis tool.
- Neighborhood Energy Survey Team (NEST): Local youth conducted over 500 energy use surveys for multi-family low-income households. Distributed free CFL's, box fans and exchanged CFL torchieres for halogen torchieres. Provided efficiency tips, income-qualified program information and applications.
- Cool Residential Trees Rebates: Incentives of up to $50 per tree to residents who plant up to ten energy-saving shade trees. Provides detailed guidebook and workshops on siting, planting and maintaining shade trees.
- Residential Programs Outreach & Education: Promoted PWP's residential conservation programs via events, brochures, direct mail pieces, workshops, and advertising.
- Pool Pump Program: Provided up to $250 for the replacement of a two, four or variable speed pool pump.

Budgeted (FY08/09) Energy Efficiency Program Objectives:

- Continue implementation of cost-effective programs for all customers.
- Increase the Public Benefit Charge (PBC) rate to twice historical levels of revenue on 7-1-2008.
- Budgeted FY 08/09 program targets up to $7,410,000 may result in annual energy savings of 17,270 MWh and reduce peak demand by 1.6 MW. (minimum cost-effectiveness target of 2.0

TRC). PWP expects these results to exceed its 2009 AB2021 efficiency goals (13,500 MWh savings goal), and to reduce system-wide annual energy use by more than 1.3%.

- Challenge residential customers to replace at least ten of their incandescent lights with CFL's and saturate the market with efficient lighting.
- Ensure that energy efficiency contributes toward integrated resource planning by determining and implementing the most cost-effective, reliable, and feasible energy efficiency measures.
- Measure and evaluate the impact and potential for energy efficiency measures and programs.

Budgeted (FY08/09) Residential Customer Programs:

- Power of 10 Challenge: Challenge customers to replace at least ten of their incandescent lights with Energy Star CFL's. Each household may order up to $75 worth of a variety of CFL's which are typically not available at local retailers. No-cost CFL recycling collection points at local hardware stores and community centers. PWP's most cost-effective residential program offered this year.
- Energy Star® Incentive Program: Continue existing product menu (refrigerators, lighting fixtures) and promote the Energy Star outreach.
- Residential Efficient Cooling: Continue existing product menu (central and window air conditioners, windows and skylights, solar attic fans)
- Income Qualified Refrigerator Exchange: Free pick up and recycling of old refrigerator and delivery of new high-efficient refrigerator to income-qualified residential customers.
- Residential Pool Pump Program: Provide rebates for efficient pool pumps and encourage timers be set to off-peak hours. Substantially saves energy and reduces peak load.

Budgeted (FY08/09) Nonresidential Customer Programs:

- Energy Efficiency Partnering Program: Features an online rebate calculator and allows any lighting, motor and cooling technology that saves energy to qualify for a rebate. Rewards projects that achieve the most cost effective energy and demand reductions. Offers customers an additional incentive bonus for projects that are completed and verified by December 31, 2008
- High Efficiency Compressor Program (new): Replaced by new Energy Efficiency Program
- LED Street Signal Retrofit Project: Provide funds for LED replacements for all traffic signals, which are installed by Public Works Department.
- Direct Install Efficiency Program (DIET): Provide free evaluations and installation of seven innovative efficient technologies, up to $25,000 per metered account at no cost to customer. Technologies include daylight harvesting, HVAC Ultraviolet, hotel room keycard, CO2 sensors, Delta "P" pressure control valve, HVAC cycle management and diesel emergency generator heat pump.

Budgeted (FY08/09) Renewable Energy Programs:

- Pasadena Solar Initiative began 1-1-2008 and provides performance-based incentives of $3.50/Watt for residential and business customers and $4.00/Watt for non-profit customers through December 31, 2008.

- Study city properties for photovoltaic potential. List of facilities created with highest potential. Further study needed to prioritize facilities with upcoming scheduled roof and efficiency measures.

PWP Demand Reduction Programs:

- Demand Response Pilot Program: Evaluate technologies and program options which provide energy savings to the customer while giving the utility the ability to reduce peak demand.
- Staff is evaluating potential technologies for future demand reduction programs, such as smart metering and thermal energy storage.
- Work in conjunction with customers, other POUs and SCPPA on joint RD&D projects.

PASADENA WATER AND POWER (PWP)

PASADENA
Water&Power

Time Period for Reporting Data: Fiscal Year ending 6/30/08

Pasadena										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	14,778	147,784	85	$ 6		$ 886	$ 893
HVAC	Res Cooling	298	222	171,509	3,016,052	1,915	$ 73,811		$ 11,005	$ 84,816
Appliances	Res Dishwashers			115	1,498	1	$ 135		$ 7	$ 142
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	5,977	902	5,135,427	46,422,941	23,569	$ 377,555		$ 57,394	$ 434,949
Pool Pump	Res Pool Pump	32	18	46,440	464,400	273	$ 8,600		$ 1,755	$ 10,355
Refrigeration	Res Refrigeration	213	213	1,350,371	24,306,674	12,928	$ 276,325		$ 41,414	$ 317,739
HVAC	Res Shell	29	29	41,044	640,774	369	$ 22,278		$ 2,437	$ 24,714
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	138	138	377,383	6,632,854	3,822	$ 67,639		$ 13,030	$ 80,669
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	60	60	246,181	2,495,365	1,387	$ 52,122		$ 5,092	$ 57,214
Process	Non-Res Motors									
Process	Non-Res Pumps			529,469	7,200,783	3,792	$ 259,866		$ 38,094	$ 297,960
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			250,899	752,698	433	$ 41,173		$ 6,176	$ 47,349
SubTotal		6,753	1,589	8,163,616	92,081,823	48,574	$ 1,179,510		$ 177,289	$ 1,356,799
T&D	T&D									
Total		6,753	1,589	8,163,616	92,081,823	48,574	$ 1,179,510		$ 177,289	$ 1,356,799

EE Program Portfolio TRC Test	**2.67**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Pasadena										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	14,778	147,784	85	$ 6		$ 156	$ 163
HVAC	Res Cooling	298	222	171,509	3,016,052	1,915	$ 73,811		$ 3,191	$ 77,001
Appliances	Res Dishwashers			115	1,498	1	$ 135		$ 2	$ 137
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	7,232	1,092	6,213,866	56,171,759	28,518	$ 456,842		$ 59,425	$ 516,267
Pool Pump	Res Pool Pump	32	18	46,440	464,400	273	$ 8,600		$ 491	$ 9,091
Refrigeration	Res Refrigeration	213	213	1,350,371	24,306,674	12,928	$ 276,325		$ 25,714	$ 302,039
HVAC	Res Shell	29	29	41,044	640,774	369	$ 22,278		$ 678	$ 22,955
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	1,127	1,127	3,083,219	54,190,417	31,225	$ 552,611		$ 57,329	$ 609,939
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	494	494	2,011,299	20,387,128	11,330	$ 425,839		$ 21,568	$ 447,406
Process	Non-Res Motors									
Process	Non-Res Pumps			4,325,764	58,830,397	30,981	$ 2,123,105		$ 62,237	$ 2,185,343
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		9,431	3,201	17,258,406	218,156,883	117,626	$ 3,939,551		$ 230,790	$ 4,170,341
T&D	T&D									
Total		9,431	3,201	17,258,406	218,156,883	117,626	$ 3,939,551		$ 230,790	$ 4,170,341

EE Program Portfolio TRC Test	**5.45**

Excluding T&D

PLUMAS-SIERRA RURAL ELECTRIC COOP (PSREC)

Our mission: To provide electric service with a high level of reliability for a fair and reasonable cost. PSREC is dedicated to improving the quality of life of our member-owners and our rural communities.

- Plumas-Sierra REC was established in 1937
- 7,795 member-owners served (Revenue by rate class: 50 percent residential, 44 percent commercial/industrial, 5 percent irrigation and 1 percent other)
- Annual energy use: 163 GWh (50 percent commercial & industrial, 42 percent residential, 7 percent irrigation, 1 percent other)
- Peak demand: 31 MW (winter hours 5-10am) Estimated growth rate of 2% per year
- PSREC facilities include: two 69kV interconnect substations, 150 miles of transmission line, 11 distribution subs and 1200 miles of 12.47/7.2kV distribution line
- 77 employees, including our telecommunications subsidiaries

Plumas –Sierra Energy Efficiency Program Background

PSREC implemented energy efficiency programs beginning in the early 1980s. Our programs are designed to encourage members to be more energy efficient, decrease their energy demand and costs, and conserve resources. PSREC has consistently exceeded our AB 1890 spending requirements. PSREC uses KEMA's data for energy efficiency measure quantification.

Current Energy Efficiency Programs and Services (Calendar year 2008)

PSREC manages a comprehensive energy efficiency incentive program, helping members retrofit their homes to be more energy efficient. Generous rebates and solid technical support are available to members who purchase and install high-efficiency air and water heating systems, appliances, and lighting. The Ground Source Heat Pump Program is one of the most successful in the nation.

- Ground Source Heat Pump Program: Rebates and 0% interest loop leases offered for installation of ground-source heat pumps in residences and businesses.
- ENERGY STAR® Appliance Rebates: Rebates offered for the purchase of an ENERGY STAR® refrigerator, dishwasher, clothes washer or other small appliances.
- Non-essential Freezer/Fridge Retirement: Rebates offered for recycling a non-essential freezer or refrigerator.
- Marathon Water Heater Program: Discounted sales of high-efficiency electric water heaters.

- Compact Fluorescent Light Bulb Program: Discounted sales of CFLs and several events to give members FREE CFLs. Additionally, rebates offered for the purchase of ENERGY STAR® CFLs from local retail locations.
- Custom Commercial Lighting Retrofit Rebates: Custom rebates offered to commercial businesses that retrofit existing lighting with more efficient lighting.
- Energy Efficient Equipment Discounts: Discounted sales of water heater blankets, low-flow showerheads, and ConvectAir heaters.
- Energy Audits: Free energy audits to assist members with energy conservation or troubleshooting high energy consumption in their home or business.
- Meter Lending Program: Members can borrow our WattsUp?® meter to plug in 120-volt appliances and help them troubleshoot energy usage.
- Green Building Program: Semi-annual presentations to introduce contractors to new technologies for building more energy efficient homes.
- Education/Outreach: Provide energy efficiency and conservation information to interested members to help them reduce their bill, understand their energy consumption and make their home more efficient.
- Weatherization Workshops: Provide basic information about the benefits of weatherizing, including costs and return in savings, and demonstrations on installing weatherization materials. Members who attend the events received their own caulking gun, a tube of caulk, spray foam sealant, a package of weather-stripping, outlet and switch gaskets, two CFLs and a tape measure.

2008 Program Summary:

Total Program Costs: $379,006
Total kW demand reduction: 266kW
Total Lifecycle kWh reduction: 9,832,861

T&D System Upgrades (Calendar year 2008)

Due to the remote nature of the PSREC system and the substantial distribution system necessary to reach all our rural members, PSREC is subject to significant system operational losses (~17,520 MWh/ year). Investment in construction upgrades yields efficiency savings from reduction in system peak losses. In 2008, PSREC completed the Clio overhead, Wingfield Road rebuild, Sierra Valley rebuild, Plumas Pines underground replacement and Center Road rebuild; cumulative reducing load by >36kW.

Analysis in Variation of Goals and Results (Calendar year 2008)

Due to the economy and slow down of new construction developments, our forecasted goals have been impacted for our Ground Source Heat Pump (GSHP) and energy efficient water heater programs. This impact was felt even with a $50 increase in rebate amounts for water heaters in 2008. The economics of how the E3 model and our custom measures calculate customer incentives has limitations. This is reflected in the incentive for GSHP as it appears to show less value on paper this year, when the impact is actually due to lower realized subsidies due to lower interest rates. The model also has limitations in how we report coincident peak demand savings since we had to use PG&E's load profile as a default. It

is important to note that PSREC is unique in that our peak demand occurs during the winter hours of 5-10 AM. Therefore, it is most cost-effective for PSREC to concentrate on programs that reduce demand in the winter, such as our extremely successful GSHP program.

We exceeded our projections in energy efficiency savings from lighting; 1,227 more CFLs were placed into member homes than projected, almost doubling our 2007 efforts. We also provided a custom rebate for a commercial lighting retrofit for the first time in 2008.

Proposed PSREC Energy Efficiency Programs and Services (for 2009)

- Maintain or accelerate existing programs.
- Continue to target businesses with large lighting loads to provide incentives for lighting retrofits.
- Expand lighting program to include Holiday LED lights and allow members to receive rebates for Holiday LED lights purchased at any retail store.
- Evaluate and implement new energy efficiency programs and technologies, as applicable.

Planned EM&V Efforts (for 2009)

PSREC's Ground Source Heat Pump Program constitutes the largest component of our residential energy efficiency programs, and is the top priority for Evaluation, Measurement, and Verification (EM&V) activities. In 2009, PSREC plans to verify the energy savings attributable to the Ground Source Heat Pump systems installed in PSREC's territory. This will be accomplished via an engineering review.

PLUMAS-SIERRA RURAL ELECTRIC COOP (PSREC)

Time Period for Reporting Data: Calendar Year ending 12/31/2008

Plumas-Sierra										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	3	3	7,779	77,792	43	$ 1,700		$ 17,030	$ 18,730
HVAC	Res Cooling									
Appliances	Res Dishwashers			1,152	14,976	8	$ 700		$ 9,972	$ 10,672
Consumer Electronics	Res Electronics			138	1,238	1	$ 80		$ 1,992	$ 2,072
HVAC	Res Heating	126	13	281,091	8,432,736	4,243	$ 182,816		$ 65,290	$ 248,106
Lighting	Res Lighting	132	20	88,982	800,842	428	$ 25,069		$ 4,101	$ 29,170
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	3	3	18,240	328,320	178	$ 5,375		$ 24,857	$ 30,232
HVAC	Res Shell									
Water Heating	Res Water Heating	2	2	7,178	107,664	58	$ 18,434		$ 2,298	$ 20,732
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	1	1	2,131	23,443	13	$ 288		$ 285	$ 573
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			15,283	45,850	25			$ 26,208	$ 26,208
SubTotal		266	42	421,974	9,832,861	4,997	$ 234,462		$ 152,033	$ 386,495
T&D	T&D	36	36	173,626	6,945,040	3,865				
Total		303	78	595,600	16,777,901	8,861	$ 234,462		$ 152,033	$ 386,495

EE Program Portfolio TRC Test	**1.30**

Excluding T&D

Time Period for Forecast Data: Calendar Year ending 12/31/2009

Plumas-Sierra										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	4	4	9,152	91,520	51	$ 2,000		$ 17,067	$ 19,067
HVAC	Res Cooling									
Appliances	Res Dishwashers		1	1,440	18,720	10	$ 875		$ 9,981	$ 10,856
Consumer Electronics	Res Electronics			275	2,477	1	$ 160		$ 1,994	$ 2,154
HVAC	Res Heating	108	11	242,320	7,269,600	3,658	$ 182,800		$ 65,472	$ 248,272
Lighting	Res Lighting	152	21	99,298	887,114	474	$ 28,243		$ 5,351	$ 33,594
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	5	5	33,700	606,600	329	$ 7,250		$ 25,391	$ 32,641
HVAC	Res Shell									
Water Heating	Res Water Heating	2	2	7,178	107,664	58	$ 18,434		$ 2,318	$ 20,752
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	4	4	15,984	175,824	97	$ 6,858		$ 1,299	$ 8,157
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other			47,760	143,280	79			$ 26,387	$ 26,387
SubTotal		275	48	457,107	9,302,799	4,757	$ 246,620		$ 155,261	$ 401,881
T&D	T&D	7	7	20,100	804,000	447				
Total		282	56	477,207	10,106,799	5,205	$ 246,620		$ 155,261	$ 401,881

EE Program Portfolio TRC Test	**1.37**

Excluding T&D

PORT OF OAKLAND

- *150-200* customers, 100 percent are commercial
- Peak demand – 13 megawatts
- Annual energy use: 83 gigawatt-hours

Port of Oakland Energy Efficiency Program Highlights

Current Commercial Programs:

- Energy Audits: The Port is currently conducting an Energy Audit program that will result in recommendations of five major energy saving retrofit/improvement projects that could be undertaken to effectively support load reduction and the more efficient use of energy in the area. The proposed energy efficiency projects will be prioritized by highest to lowest energy savings. Rebates will be provided for the energy efficiency projects completed based on the energy audit recommendations, and up to 100 percent of the total energy audit cost.
- Energy Saving Measures Exceeding Title 24 Standards: Port will provide a rebate for any new facility constructed within the Port by its electricity customers that exceed the title 24 standards in energy saving measures. Eligible facility must reduce energy usage by a minimum of 10% compared to the standard title 24 facility. This rebate will pay for a % of the cost difference between a standard and an upgraded title 24 equipment (such as HVAC units) and material.
- Energy Saving Equipment Retrofits/Improvements Rebates: The Port has implemented a program that provides generous rebates and solid technical support for the installation of new energy efficient equipment/improvements by our commercial customers. Under our program, the eligible projects must reduce energy usage by a minimum of 20 percent, to be eligible for a rebate of the equipment cost differential (up to a 90 percent rebate for energy saving of 90 percent or more).
- Lighting Retrofit: A program providing rebates for the installation of energy efficient lighting that reduces annual energy usage by at least 35 percent in commercial facilities. This rebate is based on a single flat incentive rate of $0.05 per annual kilowatt-hours saved.
- Energy Saving / Efficiency Research, Development, and Demonstration Programs: Port electricity customers that do research, development and demonstrate new energy saving/efficiency programs are entitled to a rebate up to 20% of the cost of a project based on availability of funds. To qualify for a rebate under this program all Energy Savings/Efficiency Research, Development and Demonstration Programs must be based on environmental friendly natural resources (or waste products).

Proposed Port of Oakland Energy Efficiency Programs and Services: **(for 2008-2009)**

- Maintain existing programs at current levels.

New Port of Oakland Renewable (or Green) Energy Programs:

- Photovoltaic (PV) Power Generating Systems In Accordance with Senate Bill 1 (SB1): Beginning January 1, 2008, this rebate will reimburse new solar energy generating facilities a one time flat rate of $ 3.50 per watt (Alternating Current) of installed capacity. In the event the new solar facility generates more than the electric customer's monthly electric consumption, then the Port will purchase the excess solar electric power from said facility at the same rate the Port sells power to said facility. In addition, the new solar energy generating facilities must obtain Port approval and must comply with all regulatory requirements prior to the construction of the facility. This rebate is subjected to 7% annual reduction per SB1.
- Other Renewable (or Green) Energy Programs: Beginning January 1, 2008, this rebate will reimburse new clean wind energy generating facilities that generates over 7.5 kilowatts a onetime flat rate of $ 1.50 per watt (alternating current) of installed capacity and if the facility generates less than 7.5 kilowatts then the rebate will be a onetime flat rate of $ 2.50 per watt (alternating current) of installed capacity. In the event the new wind power facility generates more than the electric customer's monthly electric consumption, then the Port will purchase the excess electric power from said facility at the same rate the Port sells electric power to said facility. In addition, the new wind power energy generating facilities must obtain Port approval and must comply with all regulatory requirements prior to the construction of the facility. All other renewable generation that qualify under this program are given a maximum rebate of 20% of the construction cost of the generating facility, based on the availability of funds.

Port of Oakland Demand Reduction Programs: The Port of Oakland does not currently have any demand reduction programs in place.

PORT OF OAKLAND

Time Period for Reporting Data: Fiscal Year ending 6/30/08.

Port of Oakland										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	61		279,720	4,475,520	2,480	$ 13,436		$ 112,177	$ 125,613
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		61		279,720	4,475,520	2,480	$ 13,436		$ 112,177	$ 125,613
T&D	T&D									
Total		61		279,720	4,475,520	2,480	$ 13,436		$ 112,177	$ 125,613

EE Program Portfolio TRC Test	**2.66**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/09.

Port of Oakland										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	31		139,860	2,237,760	1,240	$ 6,718		$ 112,177	$ 118,895
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		31		139,860	2,237,760	1,240	$ 6,718		$ 112,177	$ 118,895
T&D	T&D									
Total		31		139,860	2,237,760	1,240	$ 6,718		$ 112,177	$ 118,895

EE Program Portfolio TRC Test	**1.62**

Excluding T&D

RANCHO CUCAMONGA MUNICIPAL UTILITY

- The electric utility was established in 2001 to enable the City to deal with energy issues at the local level.
- The utility serves no residential Load.
- Developments expected to be served by the municipal electric utility include 3.0 million square feet of commercial and industrial facilities.
- In the first 5 years of operation, the utility is forecasted to serve 500 non-residential customers, a peak demand of 16.4 megawatts and sales of 72,000 megawatt-hours.
- Based upon comparable facilities in comparable climate zones, peak demand would grow to 18 megawatts and annual electric sales to 90,000 megawatt-hours by 2010.

Rancho Cucamonga Energy Efficiency Program Highlights

Commercial Customer Programs:

- RCMU has performed energy audits on nearly 50 % all of its customers.
- Exceeded its energy efficiency goals by 11 % for FY 2008,
- Energy Audits: On-site energy audits are available free of charge to all RCMU customers. Energy efficiency measures are recommended based on each audit.
- Commercial Lighting Rebate: A rebate of $0.05 per Kwh is offered for delighting and energy efficiency upgrades.
- HVAC Tune-up Rebate: A rebate of up to $300.00 is offered to customers who have their HVAC. Through FY 2008 32% of customers have had HVAC tune-up performed.
- Customized Energy Programs: Measures included are sunscreens, window film, and cool roofs.

Commercial Customer Education Programs:

- Energy Usage and Demand Analysis: RCMU analysis's energy usage and demand to facilitate customers understanding of how their usage impacts costs.

Rancho Cucamonga Demand Reduction Programs:

Rancho Cucamonga currently has a limited demand reduction program in place.

RANCHO CUCAMONGA MUNICIPAL UTILITY

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Rancho Cucamonga										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	372	372	326,911	3,269,112	1,884	$ 54,900	$ 54,900	$ 17,519	$ 127,319
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	41	41	32,477	97,430	56	$ 25,500		$ 7,111	$ 32,611
SubTotal		413	413	359,388	3,366,542	1,940	$ 80,400	$ 54,900	$ 24,630	$ 159,930
T&D	T&D									
Total		413	413	359,388	3,366,542	1,940	$ 80,400	$ 54,900	$ 24,630	$ 159,930

EE Program Portfolio TRC Test	**2.56**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Rancho Cucamonga										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	414	414	363,853	3,638,532	2,097	$ 61,104	$ 61,104	$ 19,499	$ 141,706
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other	45	45	36,147	108,440	62	$ 28,382		$ 7,915	$ 36,296
SubTotal		459	459	400,000	3,746,973	2,159	$ 89,485	$ 61,104	$ 27,413	$ 178,003
T&D	T&D									
Total		459	459	400,000	3,746,973	2,159	$ 89,485	$ 61,104	$ 27,413	$ 178,003

EE Program Portfolio TRC Test	**2.56**

Excluding T&D

REDDING ELECTRIC UTILITY (REU)

- REU provides electric service to approximately 42,000 residential and business customers within the City of Redding
- Annual energy use – 842 gigawatt-hours
- Peak demand – 245 megawatts
- Summer peaking utility
- Renewable Supply Portfolio – 26 percent of supply resources are renewable (including only small hydro) and 50 percent renewable (including large hydro)

REU Energy Efficiency Program Highlights

Since 1998, REU has spent more than $20 million in numerous rebate and incentive programs to increase the energy efficiency in the Redding community. These programs have raised customer awareness of energy efficiency with the installation of high efficiency measures and through increased education. REU's programs have reduced peak demand by more than 12 megawatts with an associated cumulative energy savings of 30,000 megawatt-hours.

Current REU Energy Efficiency programs:

- High Efficiency Heating Ventilation and Air-Conditioning (HVAC) Rebate Program: REU provides financial incentives for HVAC systems with a SEER of 14 or greater and a minimum EER of 12. These incentives also include requirements for duct pressure testing results above Title 24 standards. REU's HVAC program also provides incentives for duct repair/replacement and HVAC servicing, as well as installation of evaporative coolers and whole house fans.
- Energy Star® Appliances: To date, REU has provided more than 17,000 rebates to our customers for their purchase of Energy Star®-approved dishwashers, clothes washers, refrigerators, and windows, as well as high efficiency electric water heaters.
- Weatherization Programs: REU supports the installation of insulation, caulking, weather stripping, water heater wraps, radiant barrier roof sheathing and window treatments to improve the thermal integrity of building envelopes through rebate programs for our customers.
- Earth Advantage® Green Building Program: REU's Green Building program includes many environmental benefits. All homes that are built to Earth Advantage standards must be at least 20 percent more efficient than Title 24 requirements. In addition to this feature and the many sustainable building products and measures that can be included in these homes, REU performs blower door and duct pressurization testing and verification of all Earth Advantage homes to

insure they meet our program criteria and will provide long-term energy savings and comfort to the occupants. 25 percent of the homes completed in Redding during 2007 and 2008 were built to Earth Advantage standards.

- Residential and Commercial lighting incentive programs were significantly increased in 2008. Unfortunately, due to poor economic conditions many lighting projects were not pursued by various businesses in Redding. REU will continue to pursue this market for cost-effective energy savings.

- Thermal Energy Storage: REU has begun the introduction and implementation of an aggressive thermal energy storage program. This program will use existing and new, small-scale, refrigerant-based air conditioning systems to make ice in off-peak hours for use during on-peak hours to condense the refrigerant -- instead of using the systems' compressor. Local test results show a 94-95 percent reduction in peak demand and an overall energy savings of 15-20 percent.

In addition to the required annual reporting of energy efficiency program performance, REU has contracted with Summit Blue Consulting to perform an independent, third party evaluation, measurement and verification (EM&V) study of REU's energy efficiency programs' performance during fiscal year 2007. Based on the preliminary results of the evaluation of REU's program management, data collection and verification of energy efficiency measure deployment, the REU energy efficiency programs are meeting and exceeding the combined savings previously deemed or expected. This EM&V work will be completed in the 1st quarter of 2009.

REDDING ELECTRIC UTILITY (REU)

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Redding										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	41	41	98,155	981,552	542	$ 9,665		$ 6,496	$ 16,161
HVAC	Res Cooling	312	265	275,976	4,963,095	3,173	$ 474,639		$ 56,994	$ 531,633
Appliances	Res Dishwashers	6	6	19,483	253,282	140	$ 11,625		$ 1,550	$ 13,175
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	951	134	792,567	7,385,441	3,943	$ 71,873		$ 35,345	$ 107,218
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	7	7	38,564	694,152	377	$ 26,388		$ 3,643	$ 30,031
HVAC	Res Shell	308	308	267,528	3,887,745	2,194	$ 498,191		$ 42,728	$ 540,919
Water Heating	Res Water Heating	1	1	3,629	54,432	29	$ 2,138		$ 283	$ 2,421
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	12	447	7,440	111,600	140	$ 981,475		$ 37,605	$ 1,019,080
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	30	23	136,235	1,367,933	758	$ 36,637		$ 7,393	$ 44,030
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		1,667	1,233	1,639,577	19,699,232	11,295	$ 2,112,631		$ 192,038	$ 2,304,669
T&D	T&D									
Total		1,667	1,233	1,639,577	19,699,232	11,295	$ 2,112,631		$ 192,038	$ 2,304,669

EE Program Portfolio TRC Test	**1.84**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Redding										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	41	41	98,155	981,552	542	$ 9,665		$ 8,021	$ 17,686
HVAC	Res Cooling	343	292	303,573	5,459,405	3,490	$ 522,103		$ 44,611	$ 566,714
Appliances	Res Dishwashers	6	6	19,483	253,282	140	$ 11,625		$ 2,070	$ 13,695
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	951	134	792,567	7,385,441	3,943	$ 71,873		$ 60,349	$ 132,222
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	7	7	38,564	694,152	377	$ 26,388		$ 5,672	$ 32,060
HVAC	Res Shell	385	385	334,410	4,859,682	2,742	$ 622,739		$ 39,710	$ 662,449
Water Heating	Res Water Heating	1	1	3,629	54,432	29	$ 2,138		$ 445	$ 2,583
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	12	447	7,440	111,600	140	$ 981,475		$ 912	$ 982,387
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	45	35	204,353	2,051,900	1,136	$ 54,956		$ 16,767	$ 71,722
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	138	138	1,000,000	4,000,000	2,257	$ 50,000		$ 32,685	$ 82,685
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		1,927	1,485	2,802,174	25,851,445	14,796	$ 2,352,961		$ 211,242	$ 2,564,203
T&D	T&D									
Total		1,927	1,485	2,802,174	25,851,445	14,796	$ 2,352,961		$ 211,242	$ 2,564,203

EE Program Portfolio TRC Test	**2.10**

Excluding T&D

RIVERSIDE PUBLIC UTILITIES

Established in 1895, Riverside Public Utilities is a consumer-owned water and electric utility that is governed by a Board of nine community volunteers. Riverside Public Utilities serves over 106,000 electric and 63,000 water customers within the City of Riverside. Peak demand was reached on August 31, 2007, with 609 megawatts. Annual energy use is approximately 2,700 gigawatt-hours. RPU is committed to the highest quality water and electric services at the lowest possible rates to benefit the community.

Riverside is committed to meeting the goals it has established for energy reduction by 2016. The reduction goal of 240,038 MWh's across 10 years was established in 2006. Riverside is working towards this goal looking at the total lifetime savings of its energy efficiency measures. A table, included below, shows the actual lifetime savings Riverside is realizing for its programs. These kWh savings do not include measures taken by the Utility through line loss upgrades, light standard retrofits from mercury vapor to high pressure sodium, etc. Utility efforts save an additional 200,000 kWh's annually with lifetime averages in excess of 10 years.

	Budgeted kWh Annual	Budgeted kWh Lifetime	Actual kWh Annual	Actual kWh Lifetime
FY 06/07	3,059,978	85,260,676	5,849,147	124,317,036
FY 07/08	11,841,565	177,596,093	7,259,573	109,346,640
FY 08/09	12,189,487	147,009,587		

As you will see from the table above, Riverside is well on its way, using lifetime actuals, to meeting it's over goal of 240,038 MWh reduction.

RPU Energy Efficiency Program Highlights

Total program expenditures of $5,954,997 in FY 2007-2008 resulted in savings of more than 7,259,573 kilowatt hours (kWh) annually or 109,346,640 kWh lifetime. Since FY 2001-2002 total program costs for all energy efficiency programs were $47,474,845, resulting in 149.33 GWH reductions.

RPU Energy Efficiency Program Objectives:

- Work collaboratively with City Departments to support common economic and business development goals and promote public outreach.
- Explore new opportunities to increase Energy Efficiency Program awareness.
- Implement energy efficiency measures at various City facilities for demonstration of new technologies in a responsible and cost-effective manner.
- Introduce and encourage latest energy technologies to advance market transformation.
- Evaluate program effectiveness and the needs of the customer and make the necessary guideline revisions to increase program participation.
- Develop a comprehensive weatherization program targeting low-income customers that includes an educational component.
- Increase current School Education Program efforts with additional funding.
- Expand awareness of "green power" by educating customers on the benefits of reducing the use of traditional electric generation and how it can reduce harmful effects on the environment.
- Support energy efficiency research and development efforts of large commercial and industrial customers.

Current Commercial Customer Programs:

- Air Conditioning Rebate for Replacement and/or New Units: Offers incentives for replacement or installation of HVAC units with high efficiency equipment. The incentive is intended to close the gap in cost between new standard HVAC equipment and high efficiency equipment. Incentive amounts are based on the unit's rating - Seasonal Energy Efficiency Ratio (SEER) as defined by California Title 24 codes.
- New Construction: Offers non-residential customers technical assistance during the design and planning stages of pre-construction of facility additions to maximize their energy efficiency and energy savings by exceeding California's Title 24 state standards.
- Custom Energy Efficiency Technology Grant Program: Supports businesses, non-profit organizations, educational institutions or groups of customers working in collaboration in research, development, and effective use of innovative energy technologies. Grant funding supports projects related to the efficient and innovative use of energy that are not covered under our existing non-residential programs.
- Energy Innovations Grant for Post-Secondary Educational Institutions: This program is for the funding of research, development, and demonstration programs for the public interest to advance science or technology in electric related projects in the institutions of higher education within the city of Riverside.
- Energy Efficiency Incentives for Lighting: Offers incentives for replacing older inefficient lighting with high efficiency units. The incentive is offered to close the gap between standard lighting equipment and high-efficiency equipment.

- Technical Assistance Program: Offers all non-residential customers a comprehensive energy audit using a software program designed specifically for businesses. Demand Rate and Time-of-Use customers can receive the services of a technical assistance consultant in addition to the audit.
- Energy Management Systems Assistance Program: Provides incentives for energy management system upgrades for non-residential customers. RPU offers cost sharing incentives to assist the customer in technology purchases that provide energy savings. The incentive is the cost sharing of 1/2 of the project based on overall customer load.
- Shade Tree Planting for Cooling Efficiency: Provides incentives to non-residential customers to plant shade trees around their business or organization to help save on summer cooling costs. Program is based on the American Public Power Associations" Tree Power" program. Customers receive a rebate check from RPU for up to $25 per tree toward their cost to purchase up to five trees annually.
- Energy Education Campaign - Residential, Business: Energy information is provided to all residential and business classes; small and large commercials customers on energy conservation and demand reduction. Onsite energy audits are also available.
- Thermal Energy Storage and Feasibility Study Incentives: Incentives are provided to close the gap in cost between standard HVAC equipment and new cooling technologies such as thermal energy storage. The incentive amount of $200 per kilowatt is based on the on-peak kilowatt demand savings. Funding for 50 percent or up to $5,000 is also available for a study to analyze the feasibility of installing a system. A feasibility study is required prior to a customer entering into the agreement development phase of the program.
- Customer Directed Funding: Customers who enter into multi-year, energy service agreements with RPU can direct a portion of their Public Benefit funds directly to their specific needs. Customer directed funds can be used for a variety of energy conservation and assistance programs that promote renewable resources, and research and development.
- Auto Meter Reading: This program provides a tool to non-residential customers that monitor the electric load on 15-minute intervals. The program allows non-residential customers the ability to view, via the internet, usage patterns.
- Efficient Motors: Incentives for the replacement or purchase of new premium motors.
- Performance Based Incentives: Provide rebates to those customers who can demonstrate a kWh savings based on an energy efficiency measures implemented in their business that is not already provided through a standard rebate program.
- Commercial Photovoltaic Incentive: This rebate is to encourage the installation of photovoltaic panels. Rebates are provided to customers who install PV on their business to reduce peak load. Rebates are $3 per watt up to 50% of the project cost not to exceed the appropriate cap starting at $50,000 and going up to $500,000 depending on the customer size.

Current Residential Customer Programs:

- Air Conditioning Rebates for New or Replacement Units: Offers incentives for replacement or installation of central HVAC units and/or room units with high efficiency equipment. The incentive is intended to close the gap in cost between standard HVAC equipment and high efficiency equipment. Incentive amounts are based on the unit's rating - Seasonal Energy Efficiency Ratio (SEER) as defined by California Title 24 codes.

- Energy Star® Appliance Rebates: In conjunction with the Department of Energy this program offers rebates to customers who purchase appliances or equipment carrying the "Energy Star®" label.
- Refrigerator Purchase Rebate: Provides incentives for the purchase of new high efficiency Energy Star® rated refrigerators that use 20 percent to 50 percent less electricity than standard units of comparable size.
- Online Home Energy Analysis: Generates an analysis of home energy that identifies energy efficiency measures and savings. Customers complete the survey online and can view the results instantly. The web also provides conservation information.
- Refrigerator/Freezer Recycling: This program provides for recycling of old operating inefficient refrigerators and/or stand alone freezers that are picked up and transported to a recycling facility for processing.
- Shade Tree Planting for Cooling Efficiency: Incentives for residential customers to plant shade trees around their home to help save on summer cooling costs. Customers receive rebates of up to $25 per tree for the purchase of up to five trees annually. In addition, every March a free Shade Tree Coupon comes on the back of the March bill. The coupon can be redeemed for one tree worth up to $25.
- Pool Saver Swimming Pool Pump Incentive: This program offers swimming pool owners a $5 credit on their monthly electric bill for setting their pool pump timers to operate off-peak hours.
- Low-Income Assistance: Credit of up to $150 toward their electric deposit or bill payment assistance for qualified low-income applicants once every 12 months.
- We Care Program: Provides disabled, seniors, and/or low-income residents free installation by a representative of energy efficient/weatherization products in the home.
- Weatherization Incentive Rebate: This program is a whole house approach to improving the energy efficiency of residential homes by providing rebates on attic insulation, duct insulation, duct testing/sealing, window replacement, window shading, whole house fans, programmable thermostats, and evaporative coolers.
- Residential Photovoltaic Incentive: This rebate is to encourage the installation of photovoltaic panels. Rebates are provided to customers who install PV on their home to reduce peak load. Rebates are $3 per watt up to 50% of the project cost not to exceed $25,000, whichever is less.
- Low Income Refrigerator Giveaway: Provides qualifying residents with a new Energy Star refrigerator while recycling the old efficient machine.

Public Facilities/Community:

- Photovoltaic (PV) Projects: As part of RPU's renewable goal of having 1 megawatt of local renewable generation, the following are the completed projects as of December 2008 totaling over 954 kilowatts.
- Utilities Operations Center Carport: Located in the employee parking lot of the Utilities Operations Center. The system provides enough power to run approximately 100 homes. Built to serve as a carport, the modules also provide shade for 152 parking spaces.
- La Sierra Metrolink Station Carport: Located at the La Sierra Metrolink Station, the system creates enough power to run approximately 100 homes. The structure provides a shade structure for over 200 commuters.

- Autumn Ridge Apartments: The Autumn Ridge Apartment complex was a joint effort with Riverside Housing Development Corporation, and provides low-income residents an opportunity to reap the benefit of a very low electric bill every month.
- Oak Tree Apartments: The Oak Tree Apartment complex was a joint effort with Riverside Housing Development Corporation, and provides low-income residents an opportunity to reap the benefit of a very low electric bill every month.
- City Pool Facilities: Provides power to the pool facilities before energizing the grid.
- Janet Goeske Senior Center Carport: Located in the Janet Goeske Senior Center parking lot, the system provides enough power to run approximately 75 homes. Built to serve as a carport, the modules also provide shade for 100 parking spaces.
- City Hall 7th Floor Patio Structure: Located on the 7th floor of City Hall on the Mayor's Patio.
- Orange Terrace Community Park: The Orange Terrace Community Park provides a community center and public access Library for the South end of the City.

City Schools:

- School Education Program: RPU supports public and private schools by providing a variety of energy and water-related curriculum, conducting field trips and classroom presentations. To date over 23,000 students have been reached. (The water portion of this program is provided by water operation funds, which are not included in this budget).

Proposed RPU Energy Efficiency Programs and Services: **(for 2008-2009)**

RPU plans to maintain the current level of programs and services to its customers. A few additions will be made to some existing programs including:

- Residential and Small Business HVAC Tune-Ups
- Residential CFL Direct Mail
- HID Changeout
- LED Security Wall-packs
- Small Business Direct Install – lighting
- Demand Response Programs
- Vending Mizers

RIVERSIDE PUBLIC UTILITIES

WATER | ENERGY | LIFE

CITY OF RIVERSIDE

PUBLIC UTILITIES

Time Period for Reporting Data: Fiscal Year ending 6/30/08

Riverside										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	9	9	20,694	206,944	119	$ 66,900		$ 2,077	$ 68,977
HVAC	Res Cooling	517	551	1,604,755	47,867,364	30,497	$ 402,225		$ 841,754	$ 1,243,979
Appliances	Res Dishwashers	5	7	16,666	216,653	114	$ 32,550		$ 1,982	$ 34,532
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump	24	13	34,720	347,200	204	$ 3,875		$ 3,711	$ 7,586
Refrigeration	Res Refrigeration	20	20	115,301	2,075,414	1,104	$ 155,800		$ 19,771	$ 175,571
HVAC	Res Shell	28	28	42,405	848,097	488	$ 17,127		$ 9,219	$ 26,346
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	95	110	224,226	4,484,526	2,584	$ 99,000		$ 53,491	$ 152,491
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	892	880	4,433,798	45,630,362	23,878	$ 263,650	$ 259,853	$ 391,637	$ 915,140
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	153	153	767,008	7,670,080	4,039	$ 47,938		$ 66,592	$ 114,530
Other	Other									
SubTotal		1,743	1,771	7,259,573	109,346,640	63,029	$ 1,089,065	$ 259,853	$ 1,390,233	$ 2,739,151
T&D	T&D									
Total		1,743	1,771	7,259,573	109,346,640	63,029	$ 1,089,065	$ 259,853	$ 1,390,233	$ 2,739,151

EE Program Portfolio TRC Test	**4.05**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/09

Riverside										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	7	7	17,400	174,000	100	$ 56,250		$ 1,471	$ 57,721
HVAC	Res Cooling	481	501	1,462,415	43,529,507	27,725	$ 363,711		$ 644,367	$ 1,008,079
Appliances	Res Dishwashers	4	6	14,080	183,040	97	$ 27,500		$ 1,411	$ 28,911
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	6,682	905	4,941,600	44,474,400	22,523		$ 488,940	$ 311,302	$ 800,242
Pool Pump	Res Pool Pump	15	9	22,400	224,000	132	$ 2,500		$ 2,017	$ 4,517
Refrigeration	Res Refrigeration	18	18	103,600	1,864,800	992	$ 140,000		$ 14,965	$ 154,965
HVAC	Res Shell	17	17	27,992	559,840	322	$ 11,000		$ 5,127	$ 16,127
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	640	640	3,200,000	32,000,000	16,851	$ 200,000		$ 234,042	$ 434,042
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	480	480	2,400,000	24,000,000	12,639	$ 150,000		$ 175,532	$ 325,532
Other	Other									
SubTotal		8,345	2,582	12,189,487	147,009,587	81,381	$ 950,961	$ 488,940	$ 1,390,233	$ 2,830,135
T&D	T&D									
Total		8,345	2,582	12,189,487	147,009,587	81,381	$ 950,961	$ 488,940	$ 1,390,233	$ 2,830,135

EE Program Portfolio TRC Test	**3.78**

Excluding T&D

ROSEVILLE ELECTRIC (RE)

- Established in 1912
- 50,862 customers (44,662 residential and 6,200 businesses). Roseville projects an average 1563 new meters annually for the next 10 years.
- Peak demand – 338.35 megawatts; summer afternoon peak.
- Annual energy use: 1,247 gigawatt-hours (FY08).
- 139 employees

RE ENERGY EFFICIENCY PROGRAM HIGHLIGHTS:

- RE began offering energy efficiency programs in the early 1980s.
- From 2001 to 2008 these programs have resulted in peak demand reductions of 13.3 MW and cumulative energy savings of over 95,000 MWh.
- Roseville's total expenditures for energy efficiency programs during fiscal year ending June 30, 2008: $2,189,726.

TIME PERIOD FOR PROGRAM PERFORMANCE DATA—Fiscal year ending June 30, 2008

CURRENT RE ENERGY EFFICIENCY PROGRAMS AND SERVICES

Business and Residential Customer Programs

- Energy Efficiency Incentive Programs: RE offers comprehensive incentives to facilitate installation of incrementally higher-efficiency cooling and refrigeration equipment, envelope measures, appliances, lighting and controls for business and residential customers.
- Energy Audits: Free, on-site energy audits by RE personnel are available for both business and residential customers. Online audits are also available for residential customers.
- Shade Tree Program: Provides complimentary shade trees for the properties of both residential and business customers to reduce air conditioning load. The program also provides educational information regarding the care of trees to help ensure energy savings.

Rate and Energy Assistance Programs:

- Energy Information Systems Program provides Large General Service customers with Profiler On-Line, a web based energy use visualization tool to track, analyze and evaluate 15 minute load profile curves. This provides the customer with information to reduce load and to evaluate energy efficiency project impacts.

- Low Income Rate Assistance: A rate discount is available for very low-income customers, low-income seniors, and low-income customers with special medical needs.
- Large General Service rates are time-of-use to encourage energy conservation during peak periods.

New Construction Programs

- New Construction Agreements: RE requires developers to commit to new construction development agreements that contain specific energy efficiency requirements, including increased efficiency requirements for air conditioners.
- Residential New Construction Program: RE also provides incentives to builders to exceed the above agreements. The Preferred Homes energy efficiency and the BEST Homes energy efficiency and roof-top solar electric programs are popular among local builders. In fiscal year 2008, over 20% of all new single family dwelling units took part in the BEST Homes program.
- Business New Construction Program: The business new construction program provides assistance in bringing energy efficiency into the design and construction of the facility. The goal is to control peak load and reduce overall energy use. The program includes lighting, mechanical, envelope or whole-building measures. RE's Business New Construction Design Incentives feature tiered incentive levels that encourage owners and builders to include measures that conserve energy during the project's design phase. The earlier the customer plans, the larger the rebate.

Municipal Facilities Programs

- Municipal Facilities Upgrades: RE is continuing a 10-Year Plan to upgrade the efficiency of municipal facilities beyond code requirements during renovations and capital improvement projects. These projects include:
    - Upgrades to improve the operations and performance of electrical and mechanical systems.
    - Lighting re-designs to reduce watts per sq ft in city buildings and improve worker environment.
    - HVAC upgrades: to more efficient HVAC units.
    - Use of properly selected and planted shade trees to reduce energy consumption.
    - Thermally restrictive windows (dual pane) to reduce the heat gain in the building space.
    - Solar electric generation on select City buildings.
    - New construction design features on City buildings including; LEED certification, shade overhanging eves and skylights to reduce lighting needs.
- Utility Exploration Center: RE and other City departments funded the development of and participate in educational programs at the new “Utility Exploration Center”, which opened in January 2008. This facility is an educational resource for the community emphasizing energy and water efficiency and conservation as well as recycling solid waste.
- Photovoltaic Systems: Three community buildings and one public pool generate power through rooftop photovoltaic systems.

School Programs

- Roseville Electric staff is acting as an advisor to one District's Energy Committee offering advice and guidance as they develop their mission, goals and evaluation criteria to obtain a 10 percent reduction in energy use.
- Assisted local schools with T12 to T8, T12 to T5, and HID to HIF retrofits.
- Provided incentives for upgrades to more efficient HVAC units.
- Supported the LivingWise program, a turn-key educational program made available to all 6th grade students in Roseville. The program educates as to the importance of energy and water conservation. Students conduct an audit of their home and install CFL's, low flow shower heads, new A/C filters, etc.

10 Year Demand Side Management Plan

- Completed 10 year DSM plan in May 2008. Assessment preformed by KEMA. Plan proposes updates to programs and more contractor-driven emphasis.
- Began to implement goals and program suggestions recommended in the DSM plan.

Energy Savings Comparison to Target

- RE surpassed the 2008 target of 7,751 MWH by 1,563 MWH, or 20 percent. However, compared to our two-year cumulative target of 15,208 MWH for 2007 & 2008, RE is below target by 1,568 MWH, or 10 percent for the cumulative period.
- Several large customer projects scheduled for 2007 were delayed, which pushed them into 2008 for reporting their savings. This resulted in under performance in 2007 and over performance in 2008.
- Due to the slow economy we do not anticipate maintaining the 2008 level of savings in future years. A portion of the target is based upon assumptions of new construction load which has not occurred and is not expected rebound to projected levels in the near future.
- RE rebated a large industrial project in 2008 that will not occur annually due to the limited industrial sector in Roseville.

PROPOSED ENERGY EFFICIENCY PROGRAMS FOR 2008-2009

- Focus on increasing participation in the residential and business air conditioning and lighting programs.
- Enhance rebates to increase participation in the Business Lighting program. The conversion from T12 to T8 fixtures and the conversion from Metal Halide HID's to Linear Fluorescent Hi-Bay's are the two most active technologies within the overall program. The budget is expected to be awarded prior to the completion of the fiscal year.
- Participation in the Preferred and BEST Homes programs is projected to be in excess of 30% of all new single family units. New residential is expected to continue at a significantly reduced level, however, the active builders in Roseville continue to participate in the Preferred and BEST Homes programs.
- Promote the new construction program for businesses to encourage all new buildings to surpass Title 24.

- Investigate new energy efficient strategies.
- RE is researching a direct install commercial refrigeration program. This program may include the replacement of door gaskets, auto door closers, and strip curtains.

DEMAND REDUCTION PROGRAM – our goal for all programs is 5% of peak demand by 2012.

Fiscal year 2008

- Implemented a residential load management program using AC switches. As of June 30, 2008, 1737 switches (1.7 MW) were installed in Roseville.
- Commercial/Industrial voluntary load reduction program with a 4 MW potential.
- Total expenditures for load management programs: $611,458

Proposed 2009

- Continue residential load management program using AC switches. Install additional 3.3 MW to reach overall goal of 5 MW by summer 2009.
- Investigate new demand reduction and load shifting technologies such as thermal energy storage.
- Maintain and increase the voluntary Commercial/Industrial load reduction program.

RENEWABLE ENERGY DEVELOPMENT

Fiscal year 2008

- As of June 30, 2008, RE's Green Roseville (green energy pricing) program for residential and business customers had 1972 participants, in excess of 1.5% of total energy requirements.
- As of June 30, 2008, 1,013 kW of solar generation had been installed in Roseville.
- Continued the solar incentive programs for the existing and new construction markets for both residential and business customers.
- RE is also worked with NCPA to insure the efficiency and longevity of geothermal resources.

Proposed 2009

- Continue with 2008 programs and initiatives concentrating on contractor driven programs.
- RE will continue to partner with builders to install renewable energy generation facilities in new developments.
- Revise solar incentive programs for SB1 compliance.

ENERGY EFFICIENCY PROGRAM EXPENDITURES

Fiscal year 2008

- RE spent $5,622,465, or 4.65% of total revenues, on Public Benefits programs other than energy efficiency. (Low-Income Assistance, Demand Reduction, Research, Development and Demonstration, and Renewable Energy Technology and Resource Programs).
- Expenditures were $2,189,726, or 1.81% of total revenues, for Energy Efficiency programs. This amount includes $2,057,660 of procurement funds for cost effective energy efficiency programs.

Proposed 2009

- RE has budgeted $5,595,651, or 4.27% of total revenues, on Public Benefits programs other than energy efficiency. (Low-Income Assistance, Demand Reduction, Research, Development and Demonstration, and Renewable Energy Technology and Resource Programs).
- RE has budgeted $2,490,405, or 1.9% of total revenues, for Energy Efficiency programs. This amount includes $2,368,535 of procurement funds for cost effective energy efficiency programs.

EVALUATION, MEASUREMENT AND VERIFICATION

Proposed 2009

- EM&V plan complete December 2008.
- As recommended by Summit Blue, the consultancy developing the EM&V Plan for Roseville, RE contractors implemented the evaluation plan methods for at least 3 programs by March 2009.
- Complete review of EM&V internal procedures for all RE commercial and residential energy efficiency programs by June 30, 2009.

ROSEVILLE ELECTRIC (RE)

Time Period for Reporting Data: Fiscal Year ending 6/30/08

Roseville										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	15,683	156,832	87	$ 16,900		$ 3,998	$ 20,898
HVAC	Res Cooling	603	568	1,059,375	20,094,105	12,846	$ 450,530	$ 88,781	$ 138,842	$ 678,153
Appliances	Res Dishwashers	3	5	11,162	145,101	80	$ 10,900		$ 2,707	$ 13,607
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	5	1	31,432	282,890	151	$ 14,317		$ 9,104	$ 23,421
Pool Pump	Res Pool Pump	5	3	7,840	78,400	43	$ 1,400		$ 261	$ 1,661
Refrigeration	Res Refrigeration	108	108	683,415	12,301,474	6,673	$ 50,900	$ 8,264	$ 50,536	$ 109,700
HVAC	Res Shell	51	51	50,383	652,738	368	$ 34,120		$ 3,256	$ 37,376
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	444	352	2,937,127	43,715,327	24,317	$ 105,023		$ 91,271	$ 196,295
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	800	795	3,547,338	39,422,585	21,847	$ 551,173	$ 45,726	$ 163,676	$ 760,575
Process	Non-Res Motors	12	12	55,776	836,640	445	$ 6,160		$ 103	$ 6,263
Process	Non-Res Pumps	59	59	498,751	8,977,518	4,774	$ 169,249		$ 1,121	$ 170,370
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell	8	8	64,505	645,048	359	$ 6,403		$ 1,323	$ 7,726
Process	Non Res Process									
Comprehensive	Non Res Comprehensive	40	40	350,784	7,015,680	3,888	$ 30,600		$ 1,015	$ 31,615
Other	Other									
SubTotal		2,144	2,007	9,313,572	134,324,338	75,879	$ 1,447,676	$ 142,771	$ 467,214	$ 2,057,660
T&D	T&D									
Total		2,144	2,007	9,313,572	134,324,338	75,879	$ 1,447,676	$ 142,771	$ 467,214	$ 2,057,660

EE Program Portfolio TRC Test	**3.49**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/09

Roseville										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	13,958	139,580	77	$ 15,041		$ 705	$ 15,746
HVAC	Res Cooling	603	568	1,059,375	20,094,105	12,846	$ 450,530	$ 88,781	$ 101,560	$ 640,871
Appliances	Res Dishwashers	3	4	10,269	133,493	74	$ 10,028		$ 675	$ 10,703
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	2		15,716	141,445	76	$ 7,159		$ 715	$ 7,873
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	81	81	512,561	9,226,105	5,005	$ 38,175	$ 6,198	$ 46,631	$ 91,004
HVAC	Res Shell	46	46	45,345	587,464	331	$ 30,708		$ 2,969	$ 33,677
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	345	262	2,154,455	32,009,409	17,804	$ 94,521		$ 161,783	$ 256,304
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	594	590	2,625,402	29,200,916	16,183	$ 440,939	$ 36,581	$ 147,588	$ 625,107
Process	Non-Res Motors	12	12	55,776	836,640	445	$ 6,160		$ 4,229	$ 10,389
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell	4	4	34,833	348,326	194	$ 3,458		$ 1,761	$ 5,218
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		1,695	1,573	6,527,691	92,717,484	53,034	$ 1,096,718	$ 131,560	$ 468,615	$ 1,696,893
T&D	T&D									
Total		1,695	1,573	6,527,691	92,717,484	53,034	$ 1,096,718	$ 131,560	$ 468,615	$ 1,696,893

EE Program Portfolio TRC Test	**3.29**

Excluding T&D

SACRAMENTO MUNICIPAL UTILITY DISTRICT (SMUD)

SMUD Profile (2007)[4]

- Total Customers (year-end): 589,599
- Annual Energy Sales to Customers: 10,817,859 kWh (thousands)
- Record Net System Peak Demand – 1 hour: 3,280,000 kW (July 24, 2006)

SMUD Energy-Efficiency Program Highlights

- SMUD has been continuously operating energy-conservation, load management, and energy-efficiency programs since 1976.
- In 2007, the SMUD Board of Directors approved a significant expansion in annual savings goals for its energy-efficiency resources, from approximately 0.6% of annual sales to an annual average of approximately 1.5% over the following decade. The expanded goals were part of the Board's vision to "empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region." SMUD is presently in the midst of redesigning its energy-efficiency portfolio to expand existing programs, plan and implement new programs, and develop and implement a broader marketing and engagement plan that will meet these expanded goals and the Board's vision.
- For 2008 (as of October 30), SMUD is projecting to spend $29.8 million for residential and commercial energy-efficiency programs, compared to a budget of $34.4 million.[5] All expenditures are public-goods funded. These programs are currently forecasted to deliver 24.3 megawatts (MW) of peak-load reduction and 123.6 million kilowatt-hours (GWh) of annual energy savings, compared to annual goals of 26.7 MW and 114.8 GWh.
- For 2009 residential and commercial energy-efficiency programs, SMUD has budgeted $35.8 million in PG funds.[6] These programs are projected to deliver 34 MW of peak-load reduction and 156 GWh of annual energy savings.

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[4] SMUD 2007 Annual Report, p. 25.

[5] Includes market research, planning, M&V, and emerging technologies R&D.

SMUD 2009 Energy-Efficiency Programs

Commercial/Industrial Retrofit Programs

Commercial/industrial energy efficiency retrofit programs for existing buildings and facilities are budgeted for $9.3 million, with goals of 14.3 of peak-load reduction and 63.4 GWh in annual energy savings.

- Customized Energy Efficiency Incentives Promotes the installation of energy-efficient equipment controls and processes at all commercial and industrial customer facilities. Provides incentives to contractors and/or customers to promote efficient practices for the following measures: lighting and controls, HVAC and refrigeration equipment and controls, and process improvements.
- Express Efficiency Incentives Provides prescriptive incentives to participating qualified contractors for high-efficiency equipment across a variety of end-uses: lighting, HVAC, refrigeration, food-service equipment, and office-network PC power-management software. Incentives are targeted to the contractor/supplier in an effort to stimulate the market for energy-efficient equipment and services, and are designed to cover a significant portion of the incremental cost of the high-efficiency equipment.
- Retrocommissioning (RCx) Designed to garner cost-effective energy savings and reductions in peak demand by fine-tuning energy control systems and ensuring that major energy-using equipment is operating at design efficiency levels. The RCx program is intended to reduce overall building energy consumption through low-cost/no-cost operational improvements and on-site training of building operators. A secondary goal is to guide the customer toward more far-reaching improvements that may become evident in the course of the commissioning process.
- Prescriptive Lighting Promotes the installation of energy-efficient lighting equipment and controls in commercial and industrial customer facilities by providing financial incentives to contractors who install efficient lighting and controls.
- Distributor Incentives: Promotes the installation of energy-efficient packaged-HVAC equipment and premium motors. Provides incentives to manufacturers and distributors to encourage warehouse stocking and marketing of premium-efficiency motors and high-efficiency packaged-HVAC units. These incentives are paid per sale of energy-efficient packaged-HVAC unit and per sale of premium-efficiency motor.
- Large Public Buildings Energy Service Agreements In this pilot program, SMUD will execute energy-service agreements with owners of large public buildings to provide and fully finance energy-efficiency upgrades. Work will be performed by implementation contractors under contract to SMUD. Financing and the scope of work will be structured to guarantee the customer a cash-neutral or cash-positive position for the duration of the payback period. SMUD will recoup all program costs from the customer. The program may be extended to other large commercial customers in the future.

Residential Programs

Residential energy-efficiency programs for existing homes are budgeted for $15.5 million, with goals of 15.1 MW of peak-load reduction and 74.4 GWh in annual energy savings.

- Shade Trees Provides free shade trees to SMUD customers. Implemented through the community-based non-profit Sacramento Tree Foundation (STF). STF foresters review tree selection and site locations with customers, who plant the trees.
- Equipment Efficiency Provides rebates and/or SMUD financing for qualifying (Energy Star, Consortium for Energy Efficiency, and/or other high-efficiency) efficiency improvements to homes' building shells and equipment. Improvements include central air conditioners and heat pumps, duct sealing, windows, attic and wall insulation, insulated siding, solar domestic water heaters, and cool roofs. Two new program components will likely be added in 2009: Quality Installation for new or replacement HVAC, involving at a minimum tightly sealed ducts and correct sizing; and Quality Maintenance for existing HVAC, involving duct sealing and replacement, corrections to refrigerant charge and air flow, and other HVAC-performance improvements.
- Whole-House Performance Participating contractors use building-science principles and diagnostic equipment to evaluate the current performance of the whole house, and then recommend comprehensive improvements that will yield an optimal combination of savings and comfort for homeowners. Once the homeowner selects the improvements that fit their needs and budget, participating contractors will do the work or enlist other professionals to have the job done. In 2008, the focus has been to develop and educate the contractor base from which to launch a more comprehensive program in later years.
- Appliance Efficiency Provides rebates for qualifying (Energy Star or Consortium for Energy Efficiency-listed) appliances: clothes washers, dishwashers, refrigerators, and room air-conditioners. Beginning in 2009, two formerly separate programs, budgets and goals, will be combined with Residential Appliance Efficiency. Refrigerator/Freezer Recycling provides rebates for the free pick-up and environmental recycling of old refrigerators and freezers. Pool Efficiency provides educational information to customers on the benefits of installing high-efficiency variable-speed pumps and motors, and encourages customers to operate pool equipment during off-peak hours. Pool Efficiency also focuses on educating the pool-contractor community on practices for retrofit and new-pool installations that maximize pumping efficiency and minimize energy use and peak demand.
- Home Electronics This program will have multiple implementation components: *Education*—Educate consumers on ways to reduce usage by the increasing proliferation of electronic devices in homes that consume energy even when turned off. *Collaboration*—SMUD, collaborating with other utilities, regional and national advocacy organizations, and the U.S. EPA, will influence electronics standards-setting, and will design and deploy program and best-practices guidelines to coordinate impacts of other developing home-electronics programs. *Incentives*—Later in the year, SMUD will implement an upstream OEM- and retail-incentive program that can be replicated by utilities across the nation.
- Retail Lighting Brings a variety of Energy Star lighting products, at reduced prices, to local hardware, grocery, drug, discount, big-box, and home-improvement retailers. Implemented through agreements with manufacturers and retailers that involve cost buy-downs, marketing, and/or advertising by SMUD and/or manufacturer and retailer partners.
- Multi-Family (Apartment and Condominium) Retrofit This program is designed to capture some of the significant energy-savings potential in existing apartments and condominiums and their common areas not addressed by current SMUD programs. The foundation of the program is developing business relationships among the key players affecting the multi-family (MF) market segment, for the sole purpose of maximizing the efficiency of MF energy use, and offering rebates and financing to help buy down the higher cost of efficiency improvements. The program targets, builds, and fosters relationships with property managers and owners of MF

rental property, owners of condominiums, property-management associations, condo-homeowners associations, vendors, and service providers.

- Residential Advisory Service Provides on-site energy audits of homes, on-line and CD-based energy audits, and telephone assistance for customers, with recommendations to reduce their homes' energy use (and bills). Recommendations include practices and home-improvement projects that will increase the energy efficiency of their dwellings.
- PowerCost Monitor (Home Energy-Use Display) Will provide residential customers an idea of how their energy use actions influence their electric bills in real time by providing an in-home, real-time, energy use display unit that customers can purchase for a discounted price and install themselves to assist them in making smart energy use choices. This program is considered a bridge program until full deployment of Automated Metering is completed over the next several years.
- Home Electricity Reports A scientifically designed pilot program to measure the impact of sending electricity-usage reports to residential customers. The reports compare the customer's monthly usage to that of the previous year and to 100 neighbors in similar-size homes. The reports are customized to each house and provide energy tips to assist the customer in making behavior changes that reduce their energy use.

New-Construction Programs

New construction programs are budgeted for $4.6 million, with goals of 4.6 MW of peak-load reduction and 18.6 GWh in annual energy savings.

- Residential New Construction Provides incentives to builders to build homes that exceed the Title 24 energy-efficiency standards by 20 percent or more. A separate but integrated Solar Smart Energy Homes component provides incentives and marketing support to builders to build homes that include PV and have net electricity consumption that is 60 percent lower than typical new homes.
- Savings by Design Provides incentives to builders and their design teams to design new commercial and industrial buildings 10-30 percent more energy efficient than required by Title 24 (or typical new construction in the case of Title 24-exempt buildings and processes).

Demand-Reduction Programs

- Peak Corp (Residential Air Conditioner Load Management) Customers volunteer to allow SMUD to install a radio-controlled cycling device on their central air conditioners, and to send a radio signal that switches or cycles off their air conditioners during an electric-system emergency.
- Voluntary Emergency Load Curtailment Calls on commercial and industrial participants to reduce their electrical use by a pre-determined amount. There is no obligation and no penalty if the business is unable to respond to SMUD's request to reduce usage.
- Curtailment Agreements Agreements in place with largest industrial customers to reduce usage on an on-call basis to help manage system peak loads.

Measurement and Verification Plans – 2009 AB 2021 Report

In concert with its commitment to significantly ramp up energy-efficiency activities over the next decade, SMUD has established a framework to develop yearly measurement and verification (M&V) action plans. SMUD is planning M&V activities for all of its major programs, scheduled at fixed intervals (two to four years apart), with the intention of evaluating all programs on a continued cyclical basis through 2017. For methodological approaches needed to perform specific types of evaluations, SMUD will be guided by the CPUC's "California Evaluation Framework" (June 2004) and "California Energy Efficiency Evaluation Protocols" (April 2006).

SMUD is planning to allocate approximately 3% of its total energy-efficiency budget towards impact- and persistence-focused M&V studies. These studies will be conducted primarily through the use of third-party contractors, with management and oversight by SMUD's Business Planning Department.

SMUD has awarded or is in the process of awarding contracts for consultants to perform evaluations of the following programs in 2008 and 2009:

Residential—

- Energy Advisory Services
- Pool & Spa Efficiency
- Appliance Efficiency
- Retail Lighting
- Home Electricity Reports
- Home Energy Use Display
- Solar Smart Homes

Commercial—

- Custom Incentives
- Express Incentives
- Prescriptive Lighting
- HVAC & Motor Distributor Incentives

SMUD's Recent and Planned Evaluation Projects

Market Sector/DSM Program	Program Name	Pre-2004 and 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Commercial Energy Efficiency	HVAC & Motor Distributor Incentives	**None**--Recently implemented program approach (2006).			None planned.		Impact evaluation to be completed.		Impact			Impact			Impact
Commercial Energy Efficiency	Savings by Design (New Construction)	**None** since late 1990s.						Impact		Impact	Persistence		Impact		Persistence
Commercial Energy Efficiency	Prescriptive Lighting Incentives	SB5x impact evaluation.		Completed impact evaluation of 2005 program. Included on-site inspections of a sample of retrofitted facilities, and measurement of hours of use of lighting fixtures.	Completed persistence study of lighting retrofits performed in 2001-2002 and market/process study to assess feasibility of alternative program-delivery mechanisms or incentive structures.		Impact	Persistence		Impact	Persistence			Impact	Persistence
Commercial Energy Efficiency	Custom EE Incentives Express EE Incentives Retrocommissioning	SB5x impact evaluation of 2001-2002 program, completed in 2003.				Impact and persistence evaluations due. These programs provide over 95% of the post-audit visits (PAVs). Focus on Custom Incentives, which includes lighting & controls, HVAC & controls, process & controls, refrigeration & controls,		Impact of Retrocommisioning if there are enough projects completed	Impact	Persistence		Impact	Persistence		Impact
Residential Energy Efficiency	Residential Energy Advisory Services	**None** since late 1990s.					Impact evaluation possibly using a billing analysis to validate savings.			Impact / Persistence			Impact / Persistence		
Residential Energy Efficiency	Refrigerator/Freezer Recycling	SB5x impact evaluation.			Completed impact evaluation. Study included energy-use monitoring of sample of old refrigerators collected.			Impact			Impact			Impact	
Residential Energy Efficiency	Pool & Spa Efficiency	On-site verification of pool filter-pump time-clock settings to determine extent of compliance with off-peak operation (2005).				Pre/post load-monitoring of a sample of pool-pump motors replaced by high-efficiency models, satisfaction survey of purchasers, on-site verification of timeclock settings.			Impact / Persistence			Impact / Persistence			Impact / Persistence
Residential Energy Efficiency	Appliance Efficiency						Impact			Impact			Impact		
Residential Energy Efficiency	Equipment Efficiency	SB5x impact evaluation of HVAC retrofits in 2003.	Impact evaluation of Aeroseal Duct Sealing element of program (2004-2005).			Completed impact evaluation of incentives for higher-efficiency replacement HVAC systems, duct sealing, sizing, RCA; and market study of size & characteristics of replacement HVAC			Impact evaluation of "AquaChill"?			Impact			Impact
Residential Energy Efficiency	Retail Lighting			Completed impact evaluation of CFLs sold in Fall 2005 campaign. Study included interviews with customers at time of purchase and follow-up interviews to identify rate of installation and usage patterns. Adjustments to savings estimates incorporated into 2007 program.			Evaluation of persistence? Repeat class study of '04.			Impact	Persistence		Impact	Persistence	
Residential Energy Efficiency	Home Electronics							Impact		Impact			Impact		
Residential Energy Efficiency	Home Electricity Reports						Impact evaluation to identify savings and where these savings are coming from -- structural or behavioral.	Persistence	Impact	Persistence	Impact		Impact	Persistence	Impact
Residential Energy Efficiency	Home Energy-Use Display						Impact		Impact / Persistence			Impact / Persistence			Impact / Persistence
Residential Energy Efficiency	Whole-House Performance							Impact			Impact			Impact	
Residential Energy Efficiency	Single-Family and Multi-Family New Construction				Began load monitoring of 30-40 T-24 homes.	Continue to increase and monitor sample of T-24 homes.	Continue to increase and monitor sample of T-24 homes.	Impact		Impact		Impact			Impact
Residential Energy Efficiency	Solar Smart Homes (New Construction)					Monitoring of whole-house, AC, and PV loads.	Continue to increase and monitor sample of homes.	Impact			Impact / Persistence			Impact	
Cross-Sector Energy Efficiency	Multi-Family Retrofit							Impact			Impact			Impact	
Load Management/ Demand Response	Demand-Bid	Measurements of load reduction achieved during pilot phase in 2002.	None	None	None	Program terminated 12/31/08.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Load Management/ Demand Response	PowerChoice TOU Pilot Program	Impact evaluation completed in 2002.	None	None	Installed smart meters in ~300 residential and ~100 commercial premises.	Impact / Market	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Load Management/ Demand Response	Small Commercial Summer Solutions TOU/Critical Peak Pricing Pilot	None	None	None	Installed smart meters in ~80 commercial premises and t-stats in ~70 of the 80.	Impact / Market	Install controls and meters for follow-on residential and small commercial TOU/CPP pilot. Obtain baseline load and market data.	Impact / Market / Persistence	?	?	?	?	?	?	?
Load Management/ Demand Response	Voluntary Emergency Curtailment Program (VECP)	None	None	None	None	None	None	None	None	None	None	None	None	None	None
Load Management/ Demand Response	Residential Air Conditioner Load Management (ACLM)	Most recent evaluation was analysis of data from old load sample (c. 2001). Program has been maintained only for emergency use in recent years.		"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	Conduct inspections of a representative sample of cycling switches on individual AC units to assess operability and missing units. "Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.	"Nick" test to assess MW load reduction at "full shed" condition on hot summer day.

SACRAMENTO MUNICIPAL UTILITY DISTRICT (SMUD)

SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT
The Power To Do More.®

Time Period for Reporting Data: Calendar year ending 12/31/08

SMUD										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	26	26	234,000	3,510,000	1,422	$ 114,207		$ 42,794	$ 157,001
HVAC	Res Cooling	4,020	4,020	4,146,000	62,190,000	25,187	$ 1,864,800		$ 2,466,976	$ 4,331,776
Appliances	Res Dishwashers	5	5	39,500	592,500	240	$ 17,752		$ 20,507	$ 38,259
Consumer Electronics	Res Electronics									
HVAC	Res Heating			429,000	7,722,000	3,127	$ 331,100		$ 106,050	$ 437,150
Lighting	Res Lighting	6,725	6,725	43,489,000	360,958,700	146,188	$ 2,388,000		$ 2,106,702	$ 4,494,702
Pool Pump	Res Pool Pump	860	860	420,000	6,300,000	2,552	$ 84,000		$ 141,256	$ 225,256
Refrigeration	Res Refrigeration	810	810	6,047,700	49,591,140	20,084	$ 512,480		$ 1,445,246	$ 1,957,726
HVAC	Res Shell	100	100	297,000	5,940,000	2,406	$ 32,973		$ 10,788	$ 43,761
Water Heating	Res Water Heating	40	40	257,000	5,140,000	2,082	$ 135,000		$ 20,245	$ 155,245
Comprehensive	Res Comprehensive	805	805	5,750,000	17,825,000	7,219	$ 936,000		$ 1,971,864	$ 2,907,864
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	2,090	2,090	10,072,000	151,080,000	61,187	$ 1,231,125		$ 2,294,514	$ 3,525,638
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	4,640	4,640	26,070,000	104,280,000	42,233	$ 3,961,864		$ 1,973,162	$ 5,935,026
Process	Non-Res Motors	125	125	800,700	12,010,500	4,864	$ 33,955		$ 41,523	$ 75,479
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	10	10	90,000	900,000	365	$ 10,120		$ 28,770	$ 38,890
HVAC	Non-Res Shell									
Process	Non Res Process	240	240	1,120,000	11,200,000	4,536	$ 81,011		$ 244,821	$ 325,832
Comprehensive	Non Res Comprehensive	2,600	2,600	15,400,000	129,360,000	52,391	$ 1,365,000		$ 2,129,392	$ 3,494,392
Other	Other								$ 821,000	$ 821,000
SubTotal		23,096	23,096	114,661,900	928,599,840	376,083	$ 13,099,387		$ 15,865,613	$ 28,965,000
T&D	T&D									
Total		23,096	23,096	114,661,900	928,599,840	376,083	$ 13,099,387		$ 15,865,613	$ 28,965,000

EE Program Portfolio TRC Test	**1.93**

Excluding T&D

Time Period for Forecast Data: Calendar year ending 12/31/09

SMUD										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	21	21	194,500	2,917,500	1,182	$ 81,000		$ 89,890	$ 170,890
HVAC	Res Cooling	3,500	3,500	4,845,000	72,675,000	29,433	$ 2,188,750		$ 2,530,276	$ 4,719,026
Appliances	Res Dishwashers	4	4	35,500	532,500	216	$ 12,120		$ 50,677	$ 62,797
Consumer Electronics	Res Electronics	500	500	3,250,000	32,500,000	13,163	$ 1,045,505		$ 365,956	$ 1,411,461
HVAC	Res Heating			767,250	13,810,500	5,593	$ 271,875		$ 123,237	$ 395,112
Lighting	Res Lighting	7,100	7,100	45,500,000	377,650,000	152,948	$ 2,350,000		$ 2,327,086	$ 4,677,086
Pool Pump	Res Pool Pump	850	850	170,000	2,550,000	1,033			$ 135,005	$ 135,005
Refrigeration	Res Refrigeration	700	700	5,431,000	24,439,500	9,898	$ 320,000		$ 1,201,041	$ 1,521,041
HVAC	Res Shell	90	90	290,000	5,800,000	2,349	$ 24,820		$ 11,633	$ 36,453
Water Heating	Res Water Heating	90	90	58,000	1,160,000	470	$ 300,000		$ 31,914	$ 331,914
Comprehensive	Res Comprehensive	2,650	2,650	13,840,000	56,744,000	22,981	$ 2,642,381		$ 3,285,354	$ 5,927,735
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	2,200	2,200	4,068,000	61,020,000	24,713	$ 841,436		$ 1,096,277	$ 1,937,713
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	6,200	6,200	34,566,300	138,265,200	55,997	$ 4,065,406		$ 2,988,467	$ 7,053,873
Process	Non-Res Motors	150	150	800,000	12,000,000	4,860	$ 35,000		$ 52,719	$ 87,719
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	120	120	504,300	5,043,000	2,042	$ 25,097		$ 70,824	$ 95,921
HVAC	Non-Res Shell									
Process	Non Res Process	475	475	4,191,000	41,910,000	16,974	$ 107,266		$ 384,365	$ 491,631
Comprehensive	Non Res Comprehensive	9,050	9,050	37,321,000	313,496,400	126,966	$ 1,645,544		$ 3,924,792	$ 5,570,336
Other	Other								$ 983,303	$ 983,303
SubTotal		33,700	33,700	155,831,850	1,162,513,600	470,818	$ 15,956,200		$ 19,652,818	$ 35,609,018
T&D	T&D									
Total		33,700	33,700	155,831,850	1,162,513,600	470,818	$ 15,956,200		$ 19,652,818	$ 35,609,018

EE Program Portfolio TRC Test	**2.02**

Excluding T&D

CITY OF SHASTA LAKE

- Electric utility was established in 1945 with the City incorporating in 1993.
- City owns and operates electric transmission and distribution facilities, including two small solar installations. The largest is 11.4 kilowatts and both are located on City facilities.
- City provides retail electric service to customers located within the City's corporate limits, as well as certain adjacent areas.
- City serves approximately 4,464 retail customers (meters), of which 4,110 are residential. Residential users account for approximately fifty (54.5%) percent of annual retail sales.
- Shasta Lake has nine industrial customers with retail sales representing 28.65 percent of total retail sales.
- The City's power and energy requirements are greatly influenced by residential customers, with year-to-year variations in peak demand and energy sales representative, in part, of the effect of local weather conditions on the residential class usage patterns.
- Peak demand: 33.3 megawatts on August 15, 2008, at 6 pm
- Annual energy use is 189 gigawatt-hours.

Overview of Shasta Lake Energy Efficiency Programs

Ninety-two percent of the City of Shasta Lake's customers are residential. Energy efficiency programs are primarily focused on residential appliance rebates and lighting (both residential and commercial). Our goal is to help our customers use electricity more efficiently.

In September, 2007, in compliance with AB 2021, the City Council of Shasta Lake adopted an energy-efficiency target of 157,000 kWh and a 14 kW demand reduction. In 2007/2008, Shasta Lake spent approximately $65,000 in rebates and administrative costs to support energy efficiency programs. Net annual savings were 40,000 kilowatt-hours, calculated using a CEC-approved spreadsheet calculation methodology. All of these savings came from the residential sector (HVAC, appliances and weatherization measures).

Current Residential Customer Programs:

- Energy Efficiency Hotline: A toll free line is available for customers to answer questions and provide information on energy efficiency related matters.

- Free Energy Audits: Free, on-site energy audits as requested for all homes. Energy efficiency recommendations and audit follow up is available to support implementation of recommended energy efficiency measures.
- Rebate Program: Comprehensive technical support and incentives to facilitate installation of higher efficiency cooling and refrigeration equipment, envelope measures, appliances, and lighting for residential customers.
- Low Income Program: The City's low-income program provides a 17 percent reduction in rates for the first 800 kilowatt-hours to customers that meet the City's eligibility of low-income with disabilities.

Current Commercial and Industrial Customer Programs:

- Free Energy Audits and Rebates: This program offers free, on-site energy audits and is available for both commercial and industrial customers. Energy efficiency recommendations and follow up visits support implementation of recommended energy efficiency measures. Rebates are available for energy efficiency upgrades identified in these audits.

Public Facilities and Schools:

- Free Energy Audits: Free, on-site energy audits as requested for all public facilities. Energy efficiency recommendations and audit follow up visits support implementation of recommended energy efficiency measures. Rebates are available for energy efficiency upgrades identified in these audits.

Shasta Lake Demand Reduction Programs:

For the past several months, remote-read meters have been installed and the entire service territory will have these meters before the end of June, 2009. It is anticipated that this remote meter reading system would allow the City to implement an interruptible load program, time of use metering and other such programs.

City of Shasta Lake–2007/2008 Evaluation/Prospects

In the fall of 2007, using guidance from the 2006-2007 SB 1037 report and the conservation potential study done for Shasta Lake by RMI, the Shasta Lake City Council established an energy-efficiency target for 2007-2008. Shasta Lake fell substantially short of the target. The shortfall can be primarily attributed to slow starts for some of the new efforts undertaken by Shasta Lake and insufficient marketing efforts. Progress has been made recently to re-invigorate community exposure for the energy during the year to find and encourage local electricians or lighting contractors to participate in commercial lighting upgrades.

Shasta Lake Evaluation, Measurement and Verification for 2007/2008

In 2007-2008, Shasta Lake, under the coordination efforts of Efficiency Services Group (ESG), joined with NCPA to develop an EM&V plan. The plan outlines the necessary steps (an Action Plan) for a full EM&V analysis of Shasta Lake's programs. Secondly, Shasta Lake, in an attempt to coordinate with other, smaller northern California public power utilities, has hired ESG to write up their first EM&V report due by mid-March, 2009. The initial EM&V report will generally assess program operations, focusing on the program (appliance rebates) which provided the most significant savings.

2008-2009 Outlook

- Operate revised/updated programs at updated funding levels.
- Ensure that all new electric load is efficient.
- Evaluate the appropriateness of any new energy efficiency technologies.
- Measure and evaluate the impact of energy efficiency programs.

CITY OF SHASTA LAKE

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Shasta Lake										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	2	2	3,878	38,784	21	$ 1,200		$ 2,781	$ 3,981
HVAC	Res Cooling	10	4	12,702	226,167	141	$ 6,995		$ 23,892	$ 30,887
Appliances	Res Dishwashers			528	6,864	4	$ 200		$ 498	$ 698
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	4,093	73,670	40	$ 1,875		$ 5,209	$ 7,084
HVAC	Res Shell	8	8	9,096	150,795	85	$ 10,430		$ 11,749	$ 22,179
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		21	14	30,298	496,281	292	$ 20,700		$ 44,129	$ 64,829
T&D	T&D									
Total		21	14	30,298	496,281	292	$ 20,700		$ 44,129	$ 64,829

EE Program Portfolio TRC Test	**0.66**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Shasta Lake										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	8	8	20,090	200,901	111	$ 6,216		$ 3,449	$ 9,665
HVAC	Res Cooling	53	20	65,799	1,171,547	732	$ 36,234		$ 20,111	$ 56,345
Appliances	Res Dishwashers	1	1	2,735	35,556	20	$ 1,036		$ 610	$ 1,646
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	4	4	21,201	381,613	207	$ 9,713		$ 6,551	$ 16,263
HVAC	Res Shell	41	41	47,117	781,120	441	$ 54,028		$ 13,409	$ 67,437
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		107	73	156,941	2,570,736	1,510	$ 107,227		$ 44,129	$ 151,356
T&D	T&D									
Total		107	73	156,941	2,570,736	1,510	$ 107,227		$ 44,129	$ 151,356

EE Program Portfolio TRC Test	**1.03**

Excluding T&D

SILICON VALLEY POWER

SILICON VALLEY POWER, CITY OF SANTA CLARA (SVP)

- Established in 1896
- 51,027 customers; 83.7% are residential customers but only 8.6% of power sales are residential. 87.5% of sales are to the 1,934 industrial customers. SVP projects an average increase of 1.29% annually in sales.
- Peak demand: 452 megawatts; occurred August 30, 2007 at 1500 hours; 74.6% load factor.
- Annual energy use: 2,827 gigawatt-hours in 2007.
- SVP owns power generation facilities. Has invested in joint ventures that produce electric power and trades on the open market. 28.5% of its power comes from geothermal, wind, and other eligible renewable sources.
- The City of Santa Clara employs 144 in the Electric Department (SVP).
- SVP mission: To ensure the citizens, organizations and businesses of Santa Clara a low-cost, reliable and stable source of electric power.

SVP Energy Efficiency Program Highlights:

SVP's Public Benefit Programs are separated into residential and business programs, with the majority of funding toward the business sector since that is the customer class that represents 90.6% of the sales. Total program expenditures are about $6 million per year. Savings of more than 165 million kilowatt hours were achieved in the first year of the program in 1998. Total program cost for energy efficiency programs in fiscal year 2007-2008 was $5,803,152 ($6,222,027 on all public benefit programs), resulting in 2053 kW demand reduction and 24,509 GWH reductions. Since 1998, total program costs for all public benefit programs were $48,919,573, resulting in 920,613 GWH in cumulative first year savings.

SVP's goals and objectives for implementation of energy efficiency programs include:

- cost-effective programs to lower energy use
- programs that create value to for the community and meet all applicable legal requirements.
- programs that assist Divisions and City Departments in achieving optimal energy efficiency at City facilities and assist in implementing new energy related technologies for the benefit of the City and community
- programs to support renewable power generation that increase resource diversity and minimize adverse environmental impacts from electric generation and operation of the electric system.
- programs that support emerging technologies
- programs that assist low-income residents in paying their electric bills and installing energy efficient appliances and other measures.

- Determination of the best energy programs to offer Santa Clara customers by collecting input from community organizations, businesses and other City departments.

Current Commercial Customer Programs:

- Business Audits: Free energy efficiency audits to business customers.
- Rebates: A comprehensive portfolio of energy efficiency rebates (for purchase and installation of energy efficient lighting, motors, air conditioners, motion sensors, programmable thermostats, new construction, and customized energy-efficiency installations).
- Compressed Air Management Program (CAMP): Provides assistance to large commercial and industrial facilities to assist them in upgrading poorly functioning and inefficient compressed air systems.
- Retrocommissioning (RCx): Provides commissioning and retro commissioning services to data centers, commercial buildings, educational facilities, and hotels.
- "Keep Your Cool" Program: Provides service through a third party to repair or replace broken refrigeration door gaskets and to install new strip curtains for businesses in Santa Clara.
- Business Energy Information: Management information on energy usage through 15-minute interval meters, Itron's 'EEM Suite' software, training, and other sources.
- Energy Innovation Program: This program encourages businesses to demonstrate new products and product applications not yet commercially viable in today's marketplace, install energy efficient technologies not generally known or widely accepted, yet show potential for successful market growth, successfully apply energy efficiency solutions in new ways, or introduce energy efficiency into industries or businesses that are resistant to adopting new technologies or practices.
- LEED Rebate for Energy Efficient Building Design: If your building meets LEED criteria and exceeds Title 24 energy requirements by at least 10 percent, you can get a rebate of up to $47,500.
- Business Solar Photovoltaic Rebate: Provides financial incentives for the installation of solar systems at business sites. Businesses can receive rebates starting at $3.00 per output watt up to a total of $300,000 per customer for systems up to 100 kW. The former rebate was $2.50 per watt for a maximum of $125,000 or a 50kW system. Businesses installing systems between 100kW and 1 MW are eligible for a Performance Based Incentive of $0.40 per kWh. Businesses are required to complete an energy audit in order to receive a rebate, as is the case with the statewide California Solar Initiative.

Current Residential Customer Programs:

- Residential In-Home Energy Audits and Education: Through this technical support program SVP staff provides on-site audit analysis, energy efficiency recommendations and distributes energy saving items (four compact fluorescent lights, "lime lites," and programmable thermostats). The Solar Explorer and the SVP information booth participate in major city events, providing education on energy efficiency and solar electric generation systems. In collaboration with the Santa Clara Police Department, compact fluorescent light bulbs (CFL's) and educational materials are distributed to residents participating in the National "Night Out" Program in August.
- Residential Appliance Rebates: Rebates encourage residents to purchase and install ENERGY STAR® labeled refrigerators and recycle their old refrigerators.
- Residential Attic Insulation Rebates: These rebates encourage the installation of attic insulation by providing incentives for both single-family and multi-family units. All homes are inspected to ensure installation has been completed.

- Neighborhood Solar Program: SVP customers have the option to pay into a special fund to support the installation of solar electric systems at non-profit community buildings. The third installation will be located at the Bill Wilson Center and is scheduled for completion in April 2009. Industrial customers provided $10,000 of the funding for this installation.
- SVP Plug-ins Catalog: Energy-efficient product catalogs are delivered four times per year to residents. Monthly promotions are available to customers who order on the web. The printing of catalogs and fulfillment of customer orders is done by Energy Federation, Inc.
- Rate Assistance Program: Qualified low-income customers receive a discount on their electric bill (low-income program).
- Refrigerator & Room Air Conditioner Recycling: Rebate for recycling old refrigerators and room air conditioners.
- Residential Solar Photovoltaic Rebate*:* Provides significant financial incentive to residential customers for installation of solar systems. Customers receiving the rebate are required to also complete an energy audit, as is the case with the statewide California Solar Initiative. The rebate is currently at $4.50 per watt, up to a maximum system size of 10 kW.

Current Community Programs:

- Public Facilities' Energy Efficiency Program: SVP provides technical assistance and financial incentives for the expansion, remodel, and new construction of City of Santa Clara buildings. Included in this program are higher levels of rebates for qualifying equipment, energy management assistance, and a small budget for retro commissioning.

Time Period for Reporting Data: Fiscal Year ending 6/30/08.

Proposed Energy Efficiency Programs and Services: **(for 2008-2009)**

(Continuation of Existing Programs):

Commercial Customer Program:

- Small Business Efficiency Services Program, formerly known as the "Optimal Power Use Service^{sm}" (OPUS)
- Business Audits
- Business Energy Information
- Business Rebates
- Compressed Air Management Program (CAMP)
- Retrocommissioning (RCx)
- "Keep Your Cool" Program
- Energy Innovation Program
- LEED Rebate for Energy Efficient Building Design
- Business Solar Photovoltaic Rebate

Residential Customer Programs:

- Residential In-Home Energy Audits, Education, and Hot Line
- Residential Appliance Rebates
- Residential Insulation Rebates

- Neighborhood Solar Program
- SVP Plug-ins Catalog
- Rate Assistance Program
- Low-Income Refrigerator Replacements
- Refrigerator & Room Air Conditioner Recycling

Community Programs

- Public Facilities' Energy Efficiency Program

(Modifications to Existing Energy Efficiency Programs and New Programs)

Business Customer Programs:

- "Optimal Power Use Service[sm]" (OPUS): Provides installation support and financial rebates to small and medium sized businesses to facilitate upgrades to more efficient lighting and air conditioning systems. This program is being renamed the "Small Business Efficiency Services Program" in Fiscal Year 2008-2009, but the parameters of the program remain the same.
- Express Refrigeration Program: This program will deliver energy efficiency measures such as refrigeration controls, motors, and LED lights at no cost to customers with commercial refrigeration equipment. The target market will be small businesses such as mini markets and restaurants.
- Data Center Optimization program (DCOP): This program will target small data centers under 10,000 square feet within existing office or other buildings. The program will deliver an assessment of all electric end uses such as facility site infrastructure loads (cooling, fans, pumps, lighting, and uninterruptible power supplies), network equipment, storage, and servers. The program scope includes comprehensive facility assessments, reports, project management service during implementation, financial incentives for energy reductions, and savings verification services.

Residential Customer Programs*:*

- Low-Income Refrigerator Replacements: Replaces old, energy-wasting refrigerators for eligible low-income residents with new, energy-saving appliances. SVP has offered this popular program in the past and will bring it back in FY 2008-2009
- Expanded Appliance Rebates: SVP will add rebates for Energy Star ceiling fans, solar attic fans, pool pump replacements with the new efficient pumps and new Energy Star room air conditioning units, but only in conjunction with recycling the old unit. The pool pump replacement rebate and the window AC unit rebate are both targeted at customers with existing, inefficient units. These rebates are not available for first-time purchasers of the products.

Demand Reduction:

In 2007, SVP had a load factor of 74.6%, primarily due to a large percentage of sales to large high tech firms that operate three daily shifts daily, 365 days per year. Because of the relatively mild climate, residential customers often do not have air conditioning, and do not have the peak in energy usage that occurs in other parts of the state.

Due to this very high load factor, SVP's demand response program is a voluntary load-shedding program called the "Power Reduction Pool." Through a voluntary arrangement, participating customers reduce their load by at least 200 kW during system emergencies. The communication network of customers and SVP staff for these shutdowns is tested at least once per year. In addition, one industrial customer is on an interruptible rate. This customer is interrupted for both economic and system emergency conditions.

Evaluation, Measurement & Verification (EM&V):

Silicon Valley Power contracted with Summit Blue Consulting, LLC to create an EM&V plan, which was delivered in Fall 2008. Resulting from that plan, SVP contracted with Summit Blue to perform the evaluation of its FY 2007-2008 energy efficiency programs. The evaluation is currently under way and the report is scheduled to be complete at the end of January 2009.

SILICON VALLEY POWER

Time Period for Reporting Data: Fiscal Year ending 6/30/08

Silicon Valley Power										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	1		304	3,677	2	$ 400	$ 130	$ 6,940	$ 7,470
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics	1	1	4,205	16,819	9	$ 2,400		$ 20	$ 2,420
HVAC	Res Heating									
Lighting	Res Lighting	424	102	338,326	3,039,152	1,622	$ 1,707	$ 24,490	$ 202,899	$ 229,096
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	137	137	889,829	16,016,918	8,688	$ 31,885		$ 113,690	$ 145,575
HVAC	Res Shell	7	7	4,212	84,240	48	$ 11,375		$ 17,628	$ 29,003
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking			7,780	93,360	52	$ 750		$ 322	$ 1,072
HVAC	Non-Res Cooling	254	134	6,288,515	124,609,471	69,336	$ 1,392,465		$ 569,784	$ 1,962,248
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	652	580	3,813,571	46,754,249	25,877	$ 344,018	$ 7,350	$ 457,569	$ 808,937
Process	Non-Res Motors	35	26	8,324,357	124,865,362	66,403	$ 1,074,258		$ 479,146	$ 1,553,404
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	542	137	1,297,883	5,495,751	3,011	$ 5,190	$ 121,374	$ 121,378	$ 247,941
HVAC	Non-Res Shell									
Process	Non Res Process			3,452,851	55,245,616	29,379	$ 420,387		$ 141,986	$ 562,373
Comprehensive	Non Res Comprehensive			25,200	504,000	280	$ 6,502		$ 1,844	$ 8,346
Other	Other			62,406	187,219	103		$ 59,086	$ 186,183	$ 245,269
SubTotal		2,053	1,125	24,509,440	376,915,835	204,811	$ 3,291,336	$ 212,429	$ 2,299,387	$ 5,803,153
T&D	T&D									
Total		2,053	1,125	24,509,440	376,915,835	204,811	$ 3,291,336	$ 212,429	$ 2,299,387	$ 5,803,153

EE Program Portfolio TRC Test	**4.38**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/09

Silicon Valley Power										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling	1		304	3,677	2	$ 400	$ 130	$ 21	$ 551
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics	1	1	4,205	16,819	9	$ 2,400		$ 98	$ 2,498
HVAC	Res Heating									
Lighting	Res Lighting	424	102	338,326	3,039,152	1,622	$ 1,707	$ 24,490	$ 17,671	$ 43,868
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	172	172	1,112,286	20,021,148	10,861	$ 39,856		$ 116,411	$ 156,267
HVAC	Res Shell	7	7	4,212	84,240	48	$ 11,375		$ 490	$ 11,865
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking			7,780	93,360	52	$ 750		$ 543	$ 1,293
HVAC	Non-Res Cooling	254	134	6,288,515	124,609,471	69,336	$ 1,392,465		$ 724,527	$ 2,116,992
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	815	725	4,766,964	58,442,812	32,346	$ 430,022	$ 9,188	$ 339,809	$ 779,019
Process	Non-Res Motors	35	26	8,324,357	124,865,362	66,403	$ 1,074,258		$ 726,015	$ 1,800,273
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	813	205	1,946,825	8,243,627	4,516	$ 7,785	$ 182,060	$ 47,932	$ 237,777
HVAC	Non-Res Shell									
Process	Non Res Process			3,452,851	55,245,616	29,379	$ 420,387		$ 321,219	$ 741,606
Comprehensive	Non Res Comprehensive			25,200	504,000	280	$ 6,502		$ 2,930	$ 9,432
Other	Other			78,008	234,024	129		$ 73,858	$ 1,361	$ 75,218
SubTotal		2,521	1,373	26,349,833	395,403,307	214,983	$ 3,387,907	$ 289,725	$ 2,299,027	$ 5,976,659
T&D	T&D									
Total		2,521	1,373	26,349,833	395,403,307	214,983	$ 3,387,907	$ 289,725	$ 2,299,027	$ 5,976,659

EE Program Portfolio TRC Test	**4.02**

Excluding T&D

TRINITY PUBLIC UTILITY DISTRICT

- Created in 1982 as a result of the Trinity River Division Act of 1955, in which Congress provided mitigation for the economic devastation to the local economy resulting from the Act.
- The Congressional mitigation provides the TPUD enough low cost and clean hydroelectric power to meet all of its load for the next several decades, but forbids the TPUD from selling any of the energy it does not need to meet load.
- Serves small economically depressed area in northern California consisting of 7,000 meters in mountainous terrain covering a area the size of Vermont.
- TPUD is comprised of nine small substations serving 560 miles of distribution line.
- TPUD has a peak coincident demand of less than 20 megawatts, may occur in winter or summer.
- More than 60 percent of TPUD's load is residential and only two customers have a peak demand of more than 150 kilowatts.

TPUD Energy Efficiency Program Highlights

Since FY 2000, TPUD public benefits expenditures on energy efficiency total approximately $256,000 and have resulted in kilowatt-hours savings of more than 145,000 kilowatt-hours.

Current TPUD Energy Efficiency Programs:

- Weatherization Program: Provides incentives for installation of cost-effective weatherization measures including insulation and energy efficient windows in electrically heated homes for all new buildings and major remodels, about 30 per year.

Proposed TPUD Energy Efficiency Programs and Services: **(for 2008-09)**

- Maintain existing programs at current levels.

TPUD Demand Reduction Programs:

TPUD does not have much of an air conditioning load and measures the demand of only one of its customers, none of the TPUD's power costs is dependent on demand and therefore the TPUD has no plans to implement a demand reduction program.

TRINITY PUBLIC UTILITY DISTRICT

TRINITY P.U.D.
"Serving Trinity County Since 1982"

Time Period for Reporting Data: Fiscal year ending 6/30/2008

Trinity PUD										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell			11,628	151,164	92	$ 26,684			$ 26,684
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal				11,628	151,164	92	$ 26,684			$ 26,684
T&D	T&D									
Total				11,628	151,164	92	$ 26,684			$ 26,684

EE Program Portfolio TRC Test	0.02

Excluding T&D

Time Period for Forecast Data: Calendar year ending 6/30/2009

Trinity PUD										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell			15,134	196,742	119	$ 35,500			$ 35,500
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting									
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal				15,134	196,742	119	$ 35,500			$ 35,500
T&D	T&D									
Total				15,134	196,742	119	$ 35,500			$ 35,500

EE Program Portfolio TRC Test	0.02

Excluding T&D

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

- Established in 1927
- 13,155 customers, 88 percent are residential
- TDPUD projects an average growth rate of 1-3 percent per year, for the next 10 years
- 2008 Peak demand – 35.1 megawatts (winter peaking)
- 2008 Energy Use – 148.3 gigawatt-hours

TDPUD Energy Efficiency Program Highlights

- In 2008, the Truckee Donner Public Utility District (TDPUD) made significant investments in our Public Benefits and energy efficiency program's and staff capacity. This includes elevating energy efficiency to a management level position with the creation of a Conservation Manager position and increasing Public Benefit and energy efficiency spending to ~4 percent of gross electric sales in calendar year 2008 with a calendar year 2009 budget of ~5 percent of gross electric sales. The TDPUD targeted the most cost-effective programs and partnered with local agencies, businesses, and community groups to effectively implement programs. The TDPUD is seeing increasing acceptance of the economic and community benefits of energy efficiency investments.

2008 Highlights include:

- Implemented programs with the potential to reduce electric usage by ~3 percent annually. This result greatly exceeds our target of 0.675 percent per year over 10-years established as part of the reporting requirements. The District was able to achieve this performance through a combination of cost-effective measures (mostly lighting), effective program management, and leveraging the District's position within the community.
- Created an Evaluation, Measurement, & Verification (EM&V) Plan for calendar year 2008 programs and completed the final EM&V report within 3-months of calendar year 2008 end. The EM&V report concluded: Net Annual kWh Savings of 4,455,607 kWh, Net Lifecycle kWh Savings of 36,792,306 kWh, Net Peak kW Savings of 927 kW, and a TRC of 7.12**.**
- Effectively delivered programs for a cost of less than one quarter of the District's power purchase costs and a fraction of the customer's rate.
- Significant investments in community outreach, communications, and marketing are tapping increasing interest in energy efficiency programs. As an example, the TDPUD's recent LED (Light Emitting Diode) Holiday Light Program achieved ~5 percent customer participation over a 5-week period and all of the customers came to the TDPUD office where they were educated and given information on other energy efficiency opportunities.

2008 Commercial Customer Programs

- Commercial Energy Audits: TDPUD offers free on-site energy audits conducted by a TDPUD Energy Specialist for commercial customers that provide specific recommendations on cost-effective energy improvements to manage and reduce energy use and load.
- Commercial Energy Conservation Rebate Program: TDPUD provides a comprehensive commercial energy efficiency incentive program; focusing on peak load reduction and energy savings. Generous rebates and technical support are available to commercial customers to promote the installation of energy efficiency measures. This includes an appliance efficiency program for clothes washers, dishwashers and refrigerators; a building efficiency program that includes building envelope and forced-air distribution system leak testing and mitigation; a lighting efficiency program that includes any and all high efficiency lighting measures; space heating system efficiency program including ground source heat pumps and a water heating efficiency program including the purchase of energy efficient electric water heaters and solar water heater tanks.
- Commercial Water Conservation Rebate Program**:** TDPUD offers rebates to commercial customers for the installation of water-saving measures including water-efficient clothes washers. Additional water-efficient investments including low-flush toilets; waterless urinals and other water saving devices may soon be eligible for this rebate.
- Solar PV Program: TDPUD offers financial incentives to commercial customers who incorporate solar PV technologies into their businesses (SB-1).

2008 Residential Customer Programs

- Residential Energy Audits: TDPUD offers free on-site energy audits conducted by a TDPUD Energy Specialist for commercial residents that provide specific recommendations on cost-effective energy improvements to manage and reduce energy load and provided savings.
- Residential Energy Conservation Rebate Program: TDPUD provides a comprehensive residential energy efficiency incentive program, focusing on peak load reduction and energy savings. Generous rebates and technical support are available to residential customers to promote the installation of energy efficiency measures. This includes an appliance efficiency program for clothes washers, dishwashers and refrigerators; building efficiency program includes building envelope and forced-air distribution system leak testing and mitigation; residential compact fluorescent lighting (CFL) efficiency program including a multi-family unit CFL light bulb give away; space heating system efficiency program includes ground source heat pumps and the water heating efficiency program includes the purchase of energy efficient electric water heaters and solar water heater tanks.
- Residential Water Conservation Rebate Program: TDPUD offers financial rebates to residential customers for the installation of water-saving measures including water-efficient clothes washers. Additional water-efficient investments including low-flush toilets; waterless urinals and other water saving devices will soon be eligible for this rebate.

2008 Residential Customer Programs (cont.)

- Low-Income Weatherization: TDPUD provides home energy weatherization services to low-income residential customers.

- Solar PV Program: TDPUD offers financial incentives to residential customers who incorporate solar PV technologies into their homes (SB-1).

2008 Community Programs

- Energy Conservation & Efficiency Workshops*:* TDPUD staff offered numerous energy conservation and efficiency seminars and workshops in 2008.
- Million CFL Program*:* The Million CFL program is a 10-year program starting in 2008 designed to provide incentives and CFL give-a-ways that will result in significant lighting efficiency savings.
- LED Holiday Light Swap Program: The District began an LED (light emitting diode) Holiday Light swap program in 2007. The program involves giving District customers up to three strands of LED holiday lights in exchange for their old inefficient holiday lighting.
- Landscape Water Conservation Workshops: TDPUD partnered with local nurseries to conduct landscape water conservation workshops for the community.
- Green Building Education/Installer**:** TDPUD has partnered with the local Sierra Green Building Association and the Town of Truckee Green Building Committee to design and implement green building education and training programs for the Truckee-Tahoe communities**.**
- Green Buildings Tour: TDPUD works with the Sierra Green Building Association and local groups to provide tours of buildings in the community that incorporate green building design features**.**

2008 Education Programs - Public Schools:

- Energy Education: A TDPUD personnel gives presentations on energy topics to local schools each year.
- "Living Wise" Resource Efficiency Program: TDPUD collaborates with the 6th grade staff at the local middle school to provide the curriculum and resources for the "Living Wise" Resource Efficiency program.
- Climate Change Symposium: TDPUD assists the Tahoe-Truckee Regional Education Coalition with Education Symposiums every year.

2008 Community Education Programs:

- Green Building Symposium: TDPUD helps organize and conducts a presentation at the Truckee Home Show's Green Building Symposium.
- Regional Sustainability Assessment/Education: TDPUD collaborated with the Northern Nevada AIA on Regional Sustainability Assessment Education.
- Green Schools Education Program: The District expanded its school education programs in 2008 to include the new community college.

2008 Business Partnership Programs (Green Partners)

- Retail: TDPUD encourage restaurants to install energy-efficient lighting and other energy efficiency measures. The District also works with and encourages local hardware and grocery stores to market, sell and install energy-efficient products and services.

- Restaurant: Encourage restaurants to install energy-efficient lighting, cooking, dishwashing, and heating, ventilation and air conditioning equipment.
- Hospitality: Encourage hotels, motels, and resorts to implement LEED design principles and energy-efficient lighting, controls, HVAC, water heating, pool/spa, restaurant, renewable energy and green building technologies.

2008 TDPUD Website

The TDPUD continues to improve our website and conservation/energy efficiency pages that are an on-line resources to our customers regarding programs, rebates, application information, and local resources. The TDPUD is going to upgrade its website in 2009 with a Power of Conservation focus and an on-line energy efficiency competition. There will be many new enhancements added to the website that will go a long way in promoting energy efficiency, conservation and renewables.

2008 TDPUD Demand Reduction Programs

The TDPUD does not currently have any demand reduction programs in place since there is very little air conditioning load and the TDPUD high demand time is winter. However, many of our energy efficiency programs address our unique load profile.

2008 Wires-to-Water Efficiency Program

In 1998, TDPUD staff started a review and testing program for all of the wells and pumping facilities in the district. It was determined that all of the water pumping and well facilities were not energy efficient. After the initial evaluation, an efficiency standard was developed to provide guidance in meeting the long term goal of energy efficient delivery of water.

From 2001 to the present, existing facilities were rebuilt with higher efficiency pumping systems than would have normally been purchased. This is an ongoing project and the TDPUD will continue to evaluate the energy efficiency gains and cost effectiveness of this program. Measured energy savings for this program are based on the following system-wide results:

- 2001: Baseline annual energy use - 5,586 kilowatt-hours per MG
- 2006: Improvements reduced usage to – 4,688 kilowatt-hours per MG (2,370 MG total)
- 2007: Improvements reduced usage to – 4,612 kilowatt-hours per MG (2,433 MG total)
- 2008: Improvements reduced usage to – 4,484 kilowatt-hours per MG (2,303 MG total)

TRUCKEE DONNER PUBLIC UTILITY DISTRICT

Time Period for Reporting Data: Calendar year ending 12/31/2008

Truckee Donner										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	2	2	11,376	170,640	94	$ 8,850		$ 3,746	$ 12,596
HVAC	Res Cooling									
Appliances	Res Dishwashers	2	2	12,008	180,120	100	$ 9,500		$ 3,954	$ 13,454
Cons Elect's	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	2,290	512	3,140,252	27,849,791	14,765	$ 126,536		$ 111,482	$ 238,019
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	17	17	79,150	573,000	311	$ 17,217		$ 6,433	$ 23,650
HVAC	Res Shell	37	37	87,539	1,313,079	741	$ 74,555		$ 28,373	$ 102,928
Water Heating	Res Water Heating	6	6	19,698	197,870	106	$ 4,050		$ 1,783	$ 5,833
Comprehen	Res Comprehensive	28	28	91,960	459,800	245	$ 9,991		$ 4,362	$ 14,353
Process	Non-Res Cooking			2,436	12,180	7	$ 1,000		$ 366	$ 1,366
HVAC	Non-Res Cooling			99,389	1,391,443	762	$ 8,000		$ 7,385	$ 15,385
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	323	323	911,799	4,644,383	2,574	$ 41,563		$ 24,165	$ 65,728
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehen	Non Res Comprehensive									
Other	Other									
SubTotal		2,705	927	4,455,607	36,792,306	19,705	$ 301,262		$ 192,050	$ 493,312
T&D	T&D									
Total		2,705	927	4,455,607	36,792,306	19,705	$ 301,262		$ 192,050	$ 493,312

EE Program Portfolio TRC Test	**7.12**

Excluding T&D

Time Period for Forecast Data: Calendar year ending 12/31/2009

Truckee Donner										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	2	2	12,640	189,600	105	$ 18,144		$ 1,217	$ 19,361
HVAC	Res Cooling									
Appliances	Res Dishwashers	2	2	12,640	189,600	105	$ 18,452		$ 1,217	$ 19,669
Cons Elect's	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	2,042	453	2,940,334	24,007,852	12,765	$ 201,335		$ 154,129	$ 355,464
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	33	33	151,500	1,044,000	566	$ 50,990		$ 6,702	$ 57,692
HVAC	Res Shell	11	11	16,904	253,563	143	$ 31,533		$ 1,628	$ 33,160
Water Heating	Res Water Heating	15	15	49,245	494,675	265	$ 17,411		$ 3,176	$ 20,586
Comprehen	Res Comprehensive	6	6	20,868	104,342	56	$ 4,184		$ 670	$ 4,853
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	175	175	529,986	2,870,411	1,591	$ 42,708		$ 18,428	$ 61,136
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehen	Non Res Comprehensive									
Other	Other									
SubTotal		2,285	696	3,734,117	29,154,043	15,595	$ 384,756		$ 187,167	$ 571,923
T&D	T&D									
Total		2,285	696	3,734,117	29,154,043	15,595	$ 384,756		$ 187,167	$ 571,923

EE Program Portfolio TRC Test	**6.87**

Excluding T&D

TURLOCK IRRIGATION DISTRICT

In 1887, TID became the first publicly owned irrigation district in the state of California. Today, TID provides irrigation water to more than 5,800 growers in a 307-square-mile service area that incorporates 149,500 acres of fertile Central Valley farmland. Since 1923, TID has also been providing safe, reasonably priced and reliable electricity to a growing retail customer base in an electric service area that encompasses 662 square miles in portions of Stanislaus, Merced, Tuolumne and Mariposa counties.

TID SYSTEM OVERVIEW:

- 98,548 customers
- 72% are residential
- Peak demand (2008) 520 MW (Summer Peak)
- 2008 energy use: 2,021 gigawatt-hours

CUSTOMER PROGRAMS

Commercial, Industrial and Agricultural Customer Programs

- Meter Manager*:* TID offers an on-line energy management tool for business customers so they can monitor their energy usage and utilize that information to more efficiently manage their energy consumption simply by logging into a secure web site.
- Comprehensive Energy Audits: TID offers free on-site energy audits and recommendations designed to improve energy efficiency of the customers' operations.
- Custom Rebates: TID offers custom rebates along with comprehensive technical support to promote investment in energy efficiency equipment.
- Lighting Rebate: Provide incentives to invest energy efficient lighting.
- Refrigeration Rebate: Provide automatic door closers, replacement gaskets and strip curtains to commercial customers in need of repairs.
- Demand Reduction: Informal communication structure exists with large customers to meet demand reduction needs as necessary.

Residential Customer Programs

- Residential Energy Audits**:** TID provides free in-home energy audits to customers who would like to learn how to reduce their energy use.
- Residential Rebate Programs: TID offers customers rebates for purchasing and installing:
    - Energy Star Refrigerator
    - Energy Star Room AC

    - Energy Star Clothes Washer
    - Whole House Fan
    - Shade Screens
- Refrigerator Recycling Program: Financial incentives offered to customers that surrender their old operational refrigerator for recycling.
- Shade Tree Rebate: TID provides rebates for up to 3 trees per year that are planted to provide shade.
- CFL Rebate Program: TID provides a rebate for the purchase and installation of CFLs.
- New Construction Rebate: TID offers a rebate to home builders for exceeding Title 24 energy standards.
- Weatherization: Provide weatherization measures and Energy Star refrigerators for income-qualified customers.
- "Energy Wise" Education Program: Provides energy saving education and kits to 6th grade students in the TID service territory.
- Education Specialist: Outreach education provided to schools and community groups.
- Rate Discount: The TID CARES program provides a discount equal to $9 per month plus a discount of 15 percent off the energy charge for the first 800 kWh's of energy use

Time Period for Reporting Data: Calendar Year ending 12/31/08

Proposed New Energy Efficiency Programs (2009)

- Increase participation levels of existing programs.
- Evaluate the incorporation of a residential air conditioning program.
- Evaluate the potential for energy efficiency in our water operations.
- Evaluate the appropriateness of any new energy efficiency technologies.

Modifications to Existing Energy Efficiency Programs: **(2009)**

- All programs are evaluated annually to ensure they meet program objectives.
- Programs may be modified as a result of the recommendations made from the external Evaluation Measurement & Verification report.

Evaluation Measurement & Verification (EM&V)

- EM&V plan was created in the first quarter of 2008.
- Plan will be implemented and 2008 program achievements will be evaluated in the first quarter of 2009.

NEW INVESTMENTS IN RENEWABLE ENERGY

- In partnership with the City of Turlock, TID is in the process of installing a 1.2 MW fuel cell project. The project will convert methane from the City of Turlock's Regional Water Quality Control Facility into electricity. The project is expected to be completed in January 2009.
- Tuolumne Wind Project: New eligible renewable resource from the Tuolumne Wind Project in Klickitat County, Washington along the Columbia River. This 137 MW project is expected to be operational in March 2009.

- Completion of these projects in 2009 will take the Districts portfolio to 28 percent eligible renewable energy, eight years ahead of the Board adopted goal of 20 percent by 2017.

TURLOCK IRRIGATION DISTRICT

WATER & POWER
Serving Central California since 1887

Time Period for Reporting Data: Calendar Year ending 12/31/2008

Turlock ID										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	5	5	12,110	121,104	67	$ 18,270		$ 594	$ 18,864
HVAC	Res Cooling	52	52	41,761	480,876	307	$ 15,097		$ 2,749	$ 17,846
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	217	217	468,106	4,212,952	2,249	$ 1,970	$ 54,993	$ 19,517	$ 76,480
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	17	17	128,781	1,372,294	744	$ 32,363		$ 6,628	$ 38,990
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive	1	1	11,499	229,974	130	$ 15,539		$ 1,293	$ 16,831
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	8	8	35,908	538,620	300	$ 1,796		$ 2,758	$ 4,553
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	1,142	1,142	8,700,195	95,702,145	53,028	$ 344,442		$ 471,504	$ 815,947
Process	Non-Res Motors	201	201	1,206,941	18,104,115	9,628	$ 29,673		$ 87,769	$ 117,442
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	68	68	331,697	4,955,649	2,613	$ 1,209	$ 12,502	$ 23,595	$ 37,306
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		1,710	1,710	10,936,997	125,717,730	69,066	$ 460,358	$ 67,495	$ 616,407	$ 1,144,259
T&D	T&D									
Total		1,710	1,710	10,936,997	125,717,730	69,066	$ 460,358	$ 67,495	$ 616,407	$ 1,144,259

EE Program Portfolio TRC Test	**4.53**

Excluding T&D

Time Period for Forecast Data: Calendar Year ending 12/31/2009

Turlock ID										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	6	6	17,285	172,851		$ 36,193		$ 1,178	$ 37,371
HVAC	Res Cooling	59	59	59,605	686,350		$ 29,907		$ 5,452	$ 35,358
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	248	248	582,861	5,245,747		$ 112,842		$ 38,708	$ 151,550
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	19	19	183,808	1,958,662		$ 64,109		$ 13,145	$ 77,254
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive	1	1	16,412	328,240		$ 30,782		$ 2,564	$ 33,346
Process	Non-Res Cooking									
HVAC	Non-Res Cooling	9	9	41,001	615,014		$ 3,557		$ 5,469	$ 9,026
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	1,304	1,304	9,934,163	109,275,791		$ 682,333		$ 935,135	$ 1,617,469
Process	Non-Res Motors	229	229	1,378,124	20,671,861		$ 58,781		$ 174,073	$ 232,854
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration	78	78	378,742	5,658,519		$ 27,160		$ 46,797	$ 73,957
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		1,953	1,953	12,592,000	144,613,035		$ 1,045,665		$ 1,222,521	$ 2,268,185
T&D	T&D									
Total		1,953	1,953	12,592,000	144,613,035		$ 1,045,665		$ 1,222,521	$ 2,268,185

EE Program Portfolio TRC Test	

Excluding T&D

UKIAH PUBLIC UTILITY

- City of Ukiah Electric Utility Department (EUD) is Mendocino County's only customer-owned electric utility.
- UEU supplies electricity to Ukiah's 16,000 plus residents and businesses.
- Peak demand: 36 megawatts – July 2006
- Annual energy use: 124,000 megawatt-hours
- Power content (4th quarter 2008): Geothermal 42 percent, small hydro 11 percent, large hydro 20 percent, Natural gas 13 percent, Nuclear 1 percent, Coal 13 percent. [53 percent eligible renewable]
- Renewable generation and hydropower provide over 73 percent of Ukiah's power needs

UPU Energy Efficiency Program Overview

In 2007, EUD underwent an extensive redesign/upgrade of their energy efficiency and renewable energy (PV) program. In the 2007/2008 fiscal year these programs got started, ramped up and produced positive results.

Current Energy Efficiency Programs

Residential Programs:

- Energy Efficiency Hotline: A toll free line is available for customers to answer questions and provide information on energy efficiency related matters.
- Free Energy Audits: Free, on-site energy audits as requested for all homes. Energy efficiency recommendations and audit follow up is available to support implementation of recommended energy efficiency measures.
- Rebate Program: Comprehensive technical support and incentives to facilitate installation of higher efficiency cooling and refrigeration equipment, envelope measures, appliances, and lighting for residential customers.

Commercial and Industrial Customer Programs:

- Free Energy Audits and Rebates: This program offers free, on-site energy audits and is available for both commercial and industrial customers. Energy efficiency recommendations and follow up visits support implementation of recommended energy efficiency measures. Rebates are available for energy efficiency upgrades identified in these audits.

- Commercial Lighting: This program engages local lighting and electrical contractors to promote and install lighting upgrades using technical assistance and financial incentives available from Ukiah.

Public Facilities and Schools:

- Free Energy Audits: Free, on-site energy audits as requested for all public facilities. Energy efficiency recommendations and audit follow up visits support implementation of recommended energy efficiency measures. Rebates are available for energy efficiency upgrades identified in these audits.

Current Renewable Energy (Solar) program

"PV Buy Down" Program: EUD's Photovoltaic (PV) Buy-Down Program is a rebate program available to residential & commercial customers to help offset the investment in a PV system. The rebates reduce the initial system cost for the customer and facilitate purchase and installation of Photovoltaic (Solar Panel) systems.

Ukiah Programs –2007/2008 Evaluation/Prospects

In the fall of 2007, using guidance from the 2006-2007 SB 1037 report and the Conservation potential study done for Ukiah by RMI, the Ukiah City Council established an energy-efficiency target for 2007-2008. EUD customers engaged in the programs that were offered generated the addition of a new measure in the commercial sector (evaporative fan controllers) and participated to the extent that EUD reached its AB2021 kWh savings and kW reduction targets.

Ukiah Evaluation, Measurement and Verification for 2007/2008

In 2007-2008, EUD, under the coordination efforts of Efficiency Services Group (ESG), joined with NCPA to develop an EM&V plan. The plan outlines the necessary steps (an Action Plan) for a full EM&V analysis of EUD's programs. Secondly, EUD, in an attempt to coordinate with other, smaller northern California public power utilities, has hired ESG to write up their first EM&V report due by mid-March, 2009. The initial EM&V report will generally assess program operations, focusing on the program (appliance rebates) which provided the most significant savings.

2008-2009 Outlook

- Maintain existing programs at current levels
- Add new programs/projects that are cost-effective
- Ensure that all new electric loads are efficient
- Evaluate the appropriateness of any new energy efficiency technologies
- Measure and evaluate the impact of energy efficiency programs

UKIAH PUBLIC UTILITY

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Ukiah										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	1	1	2,168	21,680	12	$ 900		$ 294	$ 1,194
HVAC	Res Cooling	13	11	4,358	74,438	47	$ 5,813		$ 1,472	$ 7,285
Appliances	Res Dishwashers			586	7,613	4	$ 450		$ 104	$ 554
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1		784	7,056	4	$ 36		$ 85	$ 121
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	5,958	107,251	58	$ 2,625		$ 1,442	$ 4,067
HVAC	Res Shell	21	21	15,322	294,310	166	$ 10,602		$ 4,399	$ 15,001
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	57	57	249,544	2,744,984	1,465	$ 44,016		$ 33,200	$ 77,216
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		95	92	278,721	3,257,332	1,757	$ 64,442		$ 40,998	$ 105,440
T&D	T&D									
Total		95	92	278,721	3,257,332	1,757	$ 64,442		$ 40,998	$ 105,440

EE Program Portfolio TRC Test	**1.49**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Ukiah										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers	1	1	2,053	20,535	11	$ 852		$ 279	$ 1,131
HVAC	Res Cooling	13	11	4,128	70,507	45	$ 5,506		$ 1,395	$ 6,900
Appliances	Res Dishwashers			555	7,211	4	$ 426		$ 99	$ 525
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting	1		743	6,683	4	$ 34		$ 81	$ 115
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration	1	1	5,644	101,587	55	$ 2,486		$ 1,366	$ 3,852
HVAC	Res Shell	20	20	14,513	278,766	157	$ 10,043		$ 4,167	$ 14,209
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	54	54	236,364	2,600,007	1,388	$ 41,691		$ 31,447	$ 73,138
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		90	88	264,000	3,085,295	1,664	$ 61,038		$ 38,833	$ 99,871
T&D	T&D									
Total		90	88	264,000	3,085,295	1,664	$ 61,038		$ 38,833	$ 99,871

EE Program Portfolio TRC Test	**1.49**

Excluding T&D

CITY OF VERNON LIGHT & POWER

- The City of Vernon began serving industrial customers in 1933. In 2005, the City celebrated its 100th anniversary.
- Vernon is part of the California Independent System Operator Control Area and is a Participating Transmission Owner.
- Vernon's customer base is comprised primarily of industrial and commercial interests.
- During the fiscal year ending 2007, the electric system served approximately 1,966 customers, supplied approximately 1,185,000 megawatts, and had a peak demand of 206.3 megawatts.

City of Vernon Energy Efficiency Program Objectives

- To provide a host of programs that will enable business customers to conserve energy and utilize energy efficiently.
- To inform Vernon electric utility customers of the Public Benefit Programs and the associated benefits of participating in these programs.
- To monitor and evaluate the effectiveness of the programs.

Overview of City of Vernon Energy Efficiency Programs:

Public Facilities Programs: [Total Cost: $60,259; Resulting in: Net annual kilowatt-hours savings: 934,734; Net peak kilowatts savings: [192]

- LED Traffic Signal Retrofits

Current Commercial Customer Programs: [Total Cost/Results: N/A for FY 06/07]

- Customer Incentive Program: Fund the exploration and implementation of energy efficient technologies and equipment, such as lighting technologies, variable speed drives, air compressors, motors, refrigeration, and air conditioning. Provide cash incentives to businesses that install energy efficient technologies.
- Customer-Directed Program: Fund customized projects demonstrating energy and cost savings and/or commercial market potential in the area of energy efficiency. Customers must fund at least 25 percent of total project cost. Projects are only eligible if they do not qualify for any of the other programs.

- Energy Education & Demonstration Workshops: Provide customers with an array of information resources to encourage energy efficiency measures through energy efficiency workshops and other forms of customer outreach.
- Energy Audit Program: Provide on-site audits for commercial/industrial businesses. A comprehensive audit includes an analysis of energy usage and costs, identification of energy conservation measures, and recommended actions.

Proposed City of Vernon Energy Efficiency Programs and Services: (for FY 2007-2008)

- Maintain existing programs.
- Ensure that all new electric load is efficient.
- Evaluate the appropriateness of any new energy efficiency technologies.
- Ensure that energy efficiency is part of integrated resource planning by determining and implementing the most cost-effective, reliable, and feasible energy efficiency measures.
- Measure and evaluate the impact of energy efficiency programs.

Investment in Renewable Energy:

Vernon plans to examine options for future investment in renewable energy.

Transmission and Distribution Energy Efficiency Efforts:

Vernon is also focusing on improving the energy efficiency of its electric distribution system. Vernon has converted 3.6 miles of 7 KV circuits with a connected consumer transformer bank load of 4.5 MW with 1.8 miles 16 KV line and the connected 4.5 MW transformer bank load. The conversion replaced the 7 KV circuits 2/0 CU conductors with 16 KV line using 653.9 ACSR conductors. Significant system energy savings will be achieved through these efforts.

Vernon Demand Reduction Programs:

The City of Vernon does not currently have any demand reduction programs in place.

CITY OF VERNON LIGHT & POWER

Time Period for Reporting Data: Fiscal Year ending 6/30/2008

Vernon										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	192	166	934,730	14,955,674	8,312	$ 60,257		$ 60,259	$ 120,516
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		192	166	934,730	14,955,674	8,312	$ 60,257		$ 60,259	$ 120,516
T&D	T&D									
Total		192	166	934,730	14,955,674	8,312	$ 60,257		$ 60,259	$ 120,516

EE Program Portfolio TRC Test	**6.33**

Excluding T&D

Time Period for Forecast Data: Fiscal Year ending 6/30/2009

Vernon										
Program Sector (Used in CEC Report)	Category	Net Demand Savings (kW)	Net Peak kW Savings	Net Annual kWh Savings	Net Lifecycle kWh savings	Net Lifecycle GHG Reductions (Tons)	Utility Incentives Cost ($)	Utility Direct Install Cost ($)	Utility Mktg, EM&V, and Admin Cost ($)	Total Utility Cost ($)
Appliances	Res Clothes Washers									
HVAC	Res Cooling									
Appliances	Res Dishwashers									
Consumer Electronics	Res Electronics									
HVAC	Res Heating									
Lighting	Res Lighting									
Pool Pump	Res Pool Pump									
Refrigeration	Res Refrigeration									
HVAC	Res Shell									
Water Heating	Res Water Heating									
Comprehensive	Res Comprehensive									
Process	Non-Res Cooking									
HVAC	Non-Res Cooling									
HVAC	Non-Res Heating									
Lighting	Non-Res Lighting	250	216	1,215,148	19,442,376	10,805	$ 78,335		$ 72,311	$ 150,645
Process	Non-Res Motors									
Process	Non-Res Pumps									
Refrigeration	Non-Res Refrigeration									
HVAC	Non-Res Shell									
Process	Non Res Process									
Comprehensive	Non Res Comprehensive									
Other	Other									
SubTotal		250	216	1,215,148	19,442,376	10,805	$ 78,335		$ 72,311	$ 150,645
T&D	T&D									
Total		250	216	1,215,148	19,442,376	10,805	$ 78,335		$ 72,311	$ 150,645

EE Program Portfolio TRC Test	**6.44**

Excluding T&D

Appendix B: References to Documents Supporting Report

California Energy Commission, *Funding and Energy Savings from Investor-Owned Utility Energy Efficiency Programs in California for Program Years 2000 through 2004*, CEC Publication CEC-400-2005-042-REV2, August 2005.

California Energy Commission, 2007 Integrated Energy Policy Report, CEC Publication CEC-100-2007-008-CMF, November 2007.

California Energy Commission, 2008 Integrated Energy Policy Report Update, CEC Publication CEC-100-2008-008-CTF, November 2008.

California Municipal Utilities Association, *Energy Efficiency in California's Public Power Sector: A Status Report*, December 2006

California Municipal Utilities Association, *Energy Efficiency in California's Public Power Sector: A Status Report*, March 2008

California Public Utilities Commission, *Rulemaking R.04-04-025, Various Decisions D.05-04-024, D.06-06-063, and Decision D.08-01-006* regarding avoided cost methodologies and the Total Resource Cost test.

Energy and Environmental Economics, "*Methodology and Forecast of Long Term Avoided Costs for The Evaluation of California Energy Efficiency Programs*." Available at http://www.ethree.com/cpuc_avoidedcosts.html

KEMA Incorporated. *Measure Quantification Methodology: Statewide Savings and Costs,* 2006 Report, August 2006. Available at http://www.ncpa.com/energy-efficiency-reports.html

KEMA Incorporated. *Measure Quantification Methodology: Statewide Savings and Costs,* 2008 Supplement, Addendum 2008-1, February 2008. Available at http://www.ncpa.com/energy-efficiency-reports.html

U.S. Environmental Protection Agency, *Model Energy Efficiency Program Impact Evaluation Guide*, A Resource of the National Action Plan for Energy Efficiency, November 2007.

California Air Resources Board AB 32 Scoping Plan, adopted December 11, 2008. Available at http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm

Appendix C: List of Available Evaluation Reports

The below listed evaluation reports are available (dates as noted) for downloading at: http://www.ncpa.com/energy-efficiency-m-v-reports.html

Utility Name	Evaluation Report(s)
Alameda	1. *Evaluation, Verification, and Measurement Study*, May 2009, Summit Blue Consulting (available – May 2009)
Biggs	1. *2008 Energy Efficiency Program Evaluation Plan*, Jun 2008, Summit Blue Consulting
Gridley	1. *2008 Energy Efficiency Program Evaluation Plan*, Jun 2008, Summit Blue Consulting
Healdsburg	1. *2008 Energy Efficiency Program Evaluation Plan*, Jun 2008, Summit Blue Consulting
Lodi	1. *2008 Energy Efficiency Program Evaluation Plan*, May 2008, Summit Blue Consulting 2. *Process Evaluation of Lodi Electric Utility's Efficiency Program and Impact Evaluation of the Non-Residential Custom Program-Lighting and Appliance Rebate*, Nov 2008, Summit Blue Consulting
Lompoc	1. *2008 Energy Efficiency Program Evaluation Plan*, Jun 2008, Summit Blue Consulting 2. *Evaluation, Verification, and Measurement Study*, Mar 2009, Summit Blue Consulting (available – April 2009)
Modesto Irrigation District	1. *Evaluation, Measurement and Verification Plan for Modesto Irrigation District*, April 2009, Taylor Systems Engineering (available – May 2009)
Palo Alto	1. *Evaluation, Verification, and Measurement Study*, Feb 2009, Summit Blue Consulting
Plumas Sierra REC	1. *2008 Energy Efficiency Program Evaluation Plan*, May 2008, Summit Blue Consulting
Port of Oakland	1. *Evaluation, Verification, and Measurement Study*, Feb 2009, Summit Blue Consulting
Redding	1. *2008 Energy Efficiency Program Evaluation Plan*, Jun 2008, Summit Blue Consulting 2. *Evaluation, Verification, and Measurement Study*, Mar 2009, Summit Blue Consulting (available – May 2009)
Roseville	1. *Evaluation, Measurement and Verification Plans for Roseville Electric*, Dec 2008, Summit Blue Consulting 2. *Process and Impact Evaluation of Roseville Electric's Residential New Construction, HVAC Retrofit, and Commercial Custom Rebate Programs*: FY2007/08, Feb 2009, Morrison Energy Services
Silicon Valley Power	2. *Evaluation, Verification, and Measurement Study, Mar 2009*, Summit Blue Consulting (available - March 2009)
SMUD	1. *Evaluation of Prescriptive Lighting Program*, Nov 2007, ADM Associates, Inc. 2. *Measure and Verify Savings of Refrigerator Recycling Program*, May 2007, ADM Associates, Inc. 3. *Residential HVAC Program Evaluation*, Mar 2008, RLW Analytics, Inc.

Utility Name	Evaluation Report(s)
TID	1. *2008 Energy Efficiency Program Evaluation Plan*, May 2008, Summit Blue Consulting 2. *Evaluation, Verification, and Measurement Study*, Mar 2009, Summit Blue Consulting (available – April 2009)
Truckee Donner PUD	1. *Evaluation, Measurement and Verification Plan for Truckee Donner Public Utility District 2008Energy Efficiency Programs*, Feb 2009, Robert Mowris and Associates
Ukiah	1. *2008 Energy Efficiency Program Evaluation Plan*, Aug 2008, Summit Blue Consulting