

Agricultural Energy Efficiency Program

1. Projected Program Budget	\$ 37,292,557
2. Projected Program Impacts	
MWh	129,368
MW (Summer Peak)	36.10
3. Program Cost Effectiveness	
TRC	1.49
PAC	2.95

4. Program Descriptors

Market Sector: Agriculture
 Program Classification: Statewide and Local
 Program Status: Revised Existing

5. Program Statement

Agricultural production and water supply customers have not adopted energy efficiency technologies and practices to nearly the extent that customers in other sectors have. There are essentially two reasons for this. One is that these customers see energy costs as relatively small among their concerns; larger concerns are overall cost (mostly labor) and issues related to the environment, i.e., water use and water, soil, and air, quality. The other reason is that efforts to encourage energy efficiency have almost exclusively focused on water pump improvements, so agricultural customers remain largely unaware of potential savings in other energy-using parts of their activities.

The *Agricultural Energy Efficiency Program* for 2006-2008 is a portfolio of products and services designed to enhance adoption of energy efficient equipment and practices among agricultural customers, and help SCE

realize the vision of DSM as a reliable and robust resource. This program addresses two

What's New for 2006-08?

- Innovation
 - Active promotion of full-facility audits and integrated reporting of results from audits and pump tests
 - On-site design assistance to optimize water and energy use
 - On-site design assistance for agricultural food processing
 - Active outreach through Agricultural Commissioners to jointly promote AEEP
 - Special initiative to evaluate and facilitate the introduction of additional measures
- Integration
 - Outreach and marketing that promotes participation with other programs, including upstream motors and demand reduction offerings
 - Partnering with Agricultural Commissioners to jointly promote program with other agencies
 - Active discussion with PG&E and Sempra to create a statewide agricultural program offering

characteristics of the sector that have historically been a stumbling block to adoption of energy efficiency throughout all regions of the country, and California in particular: diversity of the customer base and the relatively small role of electricity in their costs.

▪ The program has been designed with a number of considerations in mind, all aimed at enhancing the energy efficiency of the agriculture sector. The program responds to criteria¹ outlined by the Peer Review Group (PRG) by including the following:

- Near-term activities within a framework that has a long-term vision. A number of services, including several with demonstrated success at SCE, will be offered in 2006. Measures to address the different customer segments will be introduced, so that the entire market can be reached.
- A diverse portfolio of program components and specific products and services to accommodate the diverse needs and interests of agricultural customers. In the near term, this means focusing on adoption of key products within a few segments and developing delivery mechanisms that leverage their supply chain. In the longer term, all customer groups, products and services, and promising delivery channels can be incorporated into the offering. Feasibility and pilot studies will be used to determine this evolution.
- Diversification within the program portfolio through the bundling of “tried and true” measures, such as SCE’s nationally recognized pump testing services, with innovative measures.
- Innovation in both the types of measures offered and the way they will be delivered.
- Flexibility to modify the portfolio in response to feedback provided by ongoing process evaluation and integrated participant contact and activity tracking.
- Integration with demand response programs and other energy efficiency programs within SCE, such as Express Efficiency, statewide activities, and beyond.
- Leveraging of the energy efficiency infrastructure at SCE to conduct outreach and deliver program services
- Implementation that utilizes a broad array of competitively procured resources. Proven resources, including contractors with specific technical expertise and capabilities to deliver measures in the program design will be engaged to supplement in-house staff.
- Compliance with directives and commitments to use cost-effective energy efficiency as reliable means of resource acquisition.
- Responsiveness to Green Building Initiative Executive Order. While relatively few agricultural facilities are affected by this initiative, State-run fish hatcheries are within the targeted market.

What’s New for 2006-08? (continued)

- Other Program Improvements
 - Market expansion of pump testing – inclusion of water treatment pumps.
 - Use of competitively bid procured resources to reach underserved markets
 - Training of contracted resources to ensure consistency with testing protocols and standards to maintain integrity of tests
 - Expansion of AgTAC and CTAC services to include demonstration units, enhancing farming practices

¹ Memo to Utility Energy Efficiency Portfolio Managers from the PRG, April 14, 2005.

- Attraction of customers' interest in energy efficiency by offering products and services within the portfolio that also address non-energy issues important to agricultural customers. These important non-energy issues include water usage; productivity; and water, air, and soil quality. Addressing these considerations increases opportunities to recruit participation in the immediate future and opens the door to introducing new technologies as they emerge in the longer term.
- Continual assessment and annual introduction of new services. New initiatives will be introduced as certain parts of the market are transformed by the early initiatives, as feasibility studies identify new opportunities, and the market's readiness for innovation increases.
- Additionally, the program incorporates recommendations made through Program Advisory Group (PAG) and Public Workshops and submitted papers. These relevant recommendations and responses include the following:
 - To the recommendation that the program should capture lost opportunities,² the program design adequately captures lost opportunities by providing for a hands-on approach taken by agricultural account managers and ensuring that design assistance features are built into the implementation process.
 - To the recommendation that the program should recognize the embedded energy cost of water use,³ the program addresses issues related to water use efficiency practices by providing education and assistance that helps customers design irrigation systems that facilitate efficient pumping practices and providing education on efficient farming practices that, among other things, lead to reduced water consumption.
 - To the recommendation that the program should include a pump test to be conducted while the diesel engine is still operational, determine the proper size of the electric motor to be installed, ensure the motor is new premium efficiency, and these customers be encouraged to stay within the Time-of-Use schedule,⁴ the program provides recommendations and incentives for high efficiency motors, including proper sizing to meet the pumping needs and will recommend Time-of-Use schedule operation, where appropriate.

In order to better inform customers about their potential energy savings, SCE will expand the information provided as part of the pump test and/or energy audit to give customers a more comprehensive understanding of the measures and actions that they might take to save energy.

Response to other public comments:

While the proposed program does not currently offer different rebate levels for different areas in response to different avoided costs, SCE will address this issue in its first round of process evaluation studies for this program, and if appropriate, incorporate these recommendations into the resulting program modifications.

² PAG workshop

³ NRDC Energy Efficiency Program Ideas, March 29, 2005

⁴ California Energy Commission, March 18, 2005

SCE is planning to work with irrigation districts other water agencies to attract their participation in the program, particularly for testing and design of water distribution systems outside of their main treatment facility. The main treatment facilities will be addressed by the Industrial Energy Efficiency Program.

SCE already takes advantage of the opportunities to promote a variety of energy efficiency options to the agricultural customers through the current activities associated with the hydraulic pump test and account representatives. In the expanded portfolio, SCE intends to rely heavily on this vehicle for promoting the program. In order to better inform customers about their potential energy savings, SCE will expand the information provided as part of the pump test and/or energy audit to give customers a more comprehensive understanding of the measures and actions that they might take to save energy. These will be provided in a single report to each participant. Furthermore, as part of this expanded reporting mechanism, information will be included about other measures within this program and other SCE energy efficiency programs that are relevant and how they can be utilized.

To ensure that customers are satisfied with the program design, SCE intends to explicitly address satisfaction during the first round of process evaluations for this program.

The proposed program incorporates design assistance as a critical component for ensuring comprehensive and customized savings opportunities. If a program can be implemented at this stage without the need for a financial incentive, the resulting energy savings will be tracked and reported toward program goals.

A Pilots and Feasibility Assessment initiative has been included to ensure the inflow of new measures and their cost-effective viability prior to implementation; five measures are already slated for this initiative in 2006-2008.

To encourage the installation of additional and appropriate energy-saving equipment, financing in partnership with the Farm Credit Bureau is incorporated as part of the Pilots and Feasibility Assessments initiative.

As part of an expansion of activities for energy centers, SCE is proposing to increase funding for AgTAC and CTAC to enable more workshops and demonstrations and is considering the addition of a mobile agricultural technologies unit as a potential measure to be included in the program.

As part of its efforts to incorporate the Governor's Green Building Initiative for state facilities, SCE plans to include state-owned fish hatcheries for pump testing and efficiency improvements.

SCE has incorporated provisions in the program for enabling new measures to be proposed and implemented by viable third-party contractors through the Pilots and

Feasibility Assessments initiative. It is expected that the entire program service expansion for 2008 will come through these competitively procured resources.

The proposed portfolio incorporates all of these considerations within a program designed for implementation in coordination with other demand response activities within SCE, at the statewide level, and/or by other parties. This coordination, including opportunities for the participation of third parties in the delivery of energy efficiency products and services, will start immediately and evolve over the three-year program horizon.

6. Program Rationale

There is a large untapped energy efficiency potential in the agriculture and water pumping sector.

Agriculture is a key economic sector in SCE's service territory,

The size and makeup of the agricultural customer sector provides SCE with an opportunity to fulfill its vision of realizing DSM as a reliable and robust resource while preserving and enhancing the economic health of the agricultural sector.

contributing about \$13 billion of agricultural products sold in the US and using about 3% of electricity sold by SCE annually. In addition to being large, the agriculture sector is extremely diverse. While farms average about 350 acres, more than half are smaller than 50 acres and about 3% are greater than 2000 acres. And 10% of the farms generate almost 90% of the product sales. The characteristics of the agricultural market are described more fully in the work paper "A Concept for Agricultural Energy Efficiency," Attachment A filed with this plan.

The size and makeup of the agricultural customer sector provides SCE with an opportunity to fulfill its vision of realizing DSM as a reliable and robust resource while preserving and enhancing the economic health of the agricultural sector. The *Agricultural Energy Efficiency Program* is good for agricultural customers and good for California. In particular,

- Agricultural customers have specialized needs but also have needs common to other nonresidential customers. They can benefit from adopting energy efficiency in the same way that other customers have from SCE's programs.
- The products and services of the program address water use and air quality concerns, as well as energy reduction and cost savings.
- The size of the agricultural market offers considerable potential for SCE to achieve its resource acquisition goals and, simultaneously, support the economic health of the agricultural sector.
- Assisting agricultural customers to keep their businesses energy efficient can have direct impact on keeping them cost-competitive, retain their operations in California, and will have positive impacts on those market support players to the Agricultural industry.

This particular program is appropriate because it:

- Expands activities beyond the historical focus on potable water pumping to address the full set of end uses and activities, including other farm-related and agricultural product processing equipment, and non-specialized equipment (e.g., lighting, envelope and HVAC).
- Expands the types of customers targeted for services beyond crop and animal farms to include nurseries and greenhouses, and other facilities covered under the Green Building Initiative Executive Order.
- Incorporates the flexibility of phasing in additional services that promise additional cost-effective savings and monitoring the proposed activities to modify them even within the first program year.
- Provides a balance between SCE's "tried and true" activities, such as water pump testing and innovative new activities from design assistance to financing through agricultural trade allies.
- Leverages the infrastructure and experience of other programs offered by SCE to the nonresidential customer segment.
- Incorporates opportunities for implementation as a statewide initiative and through the use of third-party providers procured by a competitive bid procurement process.

7. Program Outcomes

The *Agricultural Energy Efficiency Program* will encourage agricultural production and water supply customers to improve the energy efficiency of their facilities, including electricity used for water pumping and for non-pumping activities.

The program will comprise a comprehensive set of strategies and tactics to produce energy, water, environmental, and economic benefits in all agricultural production customer segments.

To achieve energy

efficiency in the agricultural sector, the program design incorporates:

- Short-term focus and long-term view for achieving energy efficiency
- Internal/external integration with other SCE and statewide efforts
- Diverse portfolio of products and services
- Opportunity for a vibrant and diverse network of third-party energy efficiency providers to participate in delivering program services
- Reliable resource acquisition through cost-effective energy savings

The program will comprise a comprehensive set of strategies and tactics to produce energy, water, environmental, and economic benefits in all agricultural production customer segments. It will encourage and facilitate the following customer actions:

- Repair and/or replacement of water pumps to improve water flow and reduce energy use
- Installation of pump system controls
- Improvements to water system design to facilitate more accurate pump testing
- Installation of higher efficiency motors for water pumping, dairy operations, and agricultural product processing

- Conversion of sprinklers to micro-irrigation technology
- Installation of low-pressure sprinkler nozzles
- Installation of more efficient lighting and lighting controls, fans, chillers, and packaged AC units

8. Program Strategy

A broad array of methods will be deployed under the *Agricultural Energy Efficiency Program* to achieve the program's energy efficiency goals. Since there has not been a comprehensive program to increase the awareness, modify the attitudes, and encourage the adoption of energy efficiency in this sector before now, all these phases of program maturity are incorporated in the program. The 2006-2008 activities, especially the earlier activities prepare the groundwork for investment in energy efficiency by the customers. The different initiatives, delivery channels, and technologies are outlined below. The particular activities are described in Section 13.

A. Initiatives

- **Tests & Audits**—includes all components of SCE's well-established water pump testing service plus full-facility audits akin to the audit activities offered to small/medium nonresidential customers; purpose is to identify energy efficiency opportunities and provide this information to customers.
- **Education & Assistance**—seminars, customer segment-specific meetings, and AgTAC and CTAC exhibits/demonstrations to educate customers and trade allies about energy efficiency technologies, practices, resources, and program offerings; also includes on-site design assistance.
- **Financing & Incentives**—mechanisms to encourage customers to act on recommendations and information provided about energy efficiency opportunities at their facilities.
- **Load Management**—mechanism to facilitate participation in SCE's demand response and/or self-generation activities.
- **Pilots & Feasibility Assessments**—means of exploring the viability, cost-effectiveness, and suitable delivery channels for innovative options as the program matures.

B. New Delivery Channels

- These will supplement existing channels: SCE agricultural customer service reps, PTHS testers, and AgTAC/CTAC staff, as well as other nonresidential program implementation resources.
- Coordinated program promotion with Agricultural Commissioners at the USDA Extension Service.
- Trade association partnerships for education (e.g., dairy farmer association, Agricultural Energy Consumers Association, American Water Works Association, and Hydraulic Institute).
- Trade ally relationships for facilitation and installation of energy efficiency improvements (e.g., irrigation contractor training, farm credit bureau loan support).

- Implementation resources procured through the IDEEAS Initiative and other competitive bidding.
- Provide targeted offerings to various market segments within the agricultural classification.

C. Use and Promotion of Proven Technologies

A number of technologies will be promoted to address the needs and interests of specific customer segments. The following is an illustrative list of these technologies and applicable customer segments:

- Moisture monitors for crop and nursery irrigation
- High-efficiency fans and pumps for crop, livestock, and dairy farms
- Variable speed drive (VSD) motors
- Compressor heat recovery for dairy and agricultural processing
- Anaerobic digesters for waste treatment and pump fuel

The program will also make use of several technologies that have proven capabilities to aid in the capture and dissemination of information in implementing the program.

Among these are:

- Handheld information storage devices for use in pump testing and audits
- Pumping system analysis tool for agricultural processing pump testing

Table. 8.1. Agricultural Energy Efficiency Program Delivery Strategy

Expenditure Type	Agricultural Energy Efficiency Program Delivery Strategy
Program Administration	
Direct Services:	
SCE Field Reps	13 FTE to perform 4,500 pump tests in 2006; increase by 1 FTE in 2007 to increase tests 4%/year in 2007 and 2008
Contracted Resources	Perform 500 pump tests, 350 audits in 2006; escalate 10% annually Conduct training and seminars Certification for pump testers Provide design assistance Conduct 5 feasibility assessments; design and implement 3 pilots; assess and implement full scale, as appropriate
Rebate Processing	Process 1,100+ rebates in 2006; escalate number of rebates by 10% annually
Miscellaneous	Equipment for pump testing, including separate equipment to include testing of non-potable water pumps Procurement and software modification to handheld test/audit recording devices Interval meters for Demand Response participants @ \$350/meter Materials for AgTAC technology demonstrations and training

Marketing, Outreach, and Advertising	<p>Develop 1 brochure folder and multiple inserts for different initiatives/measures/customer segments; print 100K brochures @ <\$2 ea.; revise and reprint annually, as needed to reflect portfolio</p> <p>Develop website for the program</p> <p>Distribute 100,000 brochures via Field Reps, AgTAC, contractors, and trade shows</p> <p>Relationships with trade allies and associations to promote program</p> <p>Direct mail/e-mail to pump test and audit participants follow up on recommendation reports</p> <p>Ads in trade association and water agency newsletters (3 ads in 4 different customer segment newsletters)</p>
Incentives	<p>Offer incentives based on rates used in the Business Incentives and Services Portfolio.</p> <p style="padding-left: 40px;">Interior Lighting and Daylighting Systems - \$.05 per kWh</p> <p style="padding-left: 40px;">HVAC* - \$.14 per kWh and \$.60 per therm</p> <p style="padding-left: 40px;">Process and Other Systems - \$.08 per kWh and \$.60 per therm</p> <p style="padding-left: 40px;">Service Hot Water - \$.60 per therm</p> <p>Special incentive rates may be established and implemented to gain enhanced submarket participation.</p> <p>Incentive rates will be reviewed and may be adjusted to encourage the broadest participation by all customer sub-segments to this program.</p> <p>AEEP will also offer design assistance services. Any energy savings that result from such services will be included as reportable results.</p>

9. Program Objectives

The planned accomplishments for the *Agricultural Energy Efficiency Program* include:

- Perform 10% more pump tests and at a greater diversity of sites each year
- Expand repair services and rebates to non-farm pump users (e.g., water districts) beyond the 2004/5 Pumping Efficiency Program
- Provide design assistance to customers/contractors to design irrigation systems that facilitate pump testing and assessment of how effectively pumped water is being used
- Provide design assistance to agricultural processing customers to install energy-efficient technologies for pumping, refrigeration, water treatment
- Financial incentives to install proven technologies, including: moisture monitors for crop and nursery irrigation; high-efficiency fans and pumps for crop, livestock, and dairy farms; variable speed drive (VSD) motors for dairy and agricultural processing pumps; anaerobic digesters for waste treatment; compressor heat recovery for dairy and agricultural processing

- Ensure that agricultural and water supply customers are targeted for outreach to participate in other nonresidential programs (e.g., audits and incentives to install lighting)
- Expand offerings by AgTAC (e.g., seminars for water system contractors, consider mobile demonstration units)
- Conduct feasibility studies in new technologies and trade ally relationships to introduce additional cost-effective measures within and beyond this program cycle
- The combination of informational and incentive measures will educate farmers, water suppliers, and agricultural product processors on the benefits of modifying their energy consumption behavior and making wise energy-efficient modifications to their operations. This will lead to sustainable energy savings and peak demand reductions. The details of these objectives are provided in Section 13.

10. Program Implementation

The Agricultural Energy Efficiency Program will engage a combination of historically successful and innovative new mechanisms for implementing the program. These were

- **The *Agricultural Energy Efficiency Program* will engage a combination of historically successful and innovative new mechanisms for implementing the program. These were developed to meet the aggressive energy savings goals, while maintaining the high standards of integrity that SCE has established for the delivery of services to its customers.**

developed to meet the aggressive energy savings goals, while maintaining the high standards of integrity that SCE has established for the delivery of services to its customers.

In designing the mechanisms, heed is paid to additional goals for the program, including integration with other SCE and non-SCE energy efficiency and demand response programs, leveraging SCE and non-SCE resources to manage costs and not duplicate efforts, development of relationships with agencies and associations with ties to the agricultural community, and inclusion of opportunities for third parties to participate in the implementation of the program.

Key elements of the implementation system include:

- Supplement SCE reps with other proven resources to address increase in pump tests and facility audits
- Provide water pump repair and rebate services using third parties procured via competitive bid

- Provide certification/training to pump testing contractors to ensure use of SCE standards for testing and improvements
- Provide design assistance by using specialized contractors familiar with optimal water system and other pumping design
- Leverage other nonresidential energy efficiency program resources (e.g., Audits, SPC, Express Efficiency, Upstream HVAC) and also demand response and self-generation resources to ensure that agricultural customers are actively included in participation recruitment
- Engage cooperation of USDA Agricultural Commissioners to promote the program

The program implementation components are described below.

A. Program Development and Startup

Develop Certification and Verification Process

This program will rely heavily upon the use of subcontracts with qualified professionals to expand the number and type of pump tests, to provide design assistance for pumping systems and for agricultural processing improvements, and to provide training on efficient and energy-efficient farming practices. To ensure that these contractors maintain the same standards SCE uses for its testing and training, SCE will consider instituting a certification process for contractors and will require contractors to perform verification activities to ensure and document savings claims.

Coordinate with Existing Utility and National Programs

Establish a matrix of relevant SCE, statewide, regional, (e.g., Western Area Power Administration), and national (e.g., EPA) energy efficiency programs that apply to the *Agricultural Energy Efficiency Program* participants for energy efficiency measures to be implemented under this program. For other SCE programs, this includes working proactively to ensure that agricultural accounts are included in outreach and participation in far greater numbers than in the past, by assisting with that outreach and recruitment.

Develop Outreach Plan

Outreach will be key to the implementation of the expanded measures for this sector over previous years' activities. The diversity of the agricultural sector is recognized and addressed in all aspects of the program design, from the program statement and rationale, through strategy and marketing. The program recognizes distinct customer segments including farms, water suppliers, and agricultural product processors. The initiatives will be implemented with specific segments of the agricultural customer base in mind. Efforts will include identification and prioritization of key customer action opportunities.

Customer Awareness and Marketing

Agricultural customers, many of whom are quite familiar with the pump testing activities SCE has conducted for many years, need to be made aware of the broad array of services that this new program provides. A marketing plan will be developed that ensures all eligible customers are aware of the opportunities for education, on-site assistance, and financial support that have been developed specifically to meet their needs and interests.

The key channels for marketing the program will be SCE's agricultural account managers and pump testers, who have gained the trust of these customers, as well as a new set of resources, including Agricultural Commissioners, trade associations (such as the California State Grange, California Farm Bureau, Agricultural Energy Consumers Association, and Community Alliance with Family Farmers), and trade allies (such as pump system designers and equipment distributors).

B. Delivery of Informational and Education Initiatives

Outreach and Education of Prospects and Participants

Contact customers in the target segments and provide information on energy efficiency and the program to them.

- Select customers for pump tests and full-facility audits, perform the services, and report back to customers (see below)
- Recruit farming customers for participation in educational workshops on efficient farming practices and energy efficiency opportunities
- Leverage agricultural trade associations to educate specific customer segments on technologies and/or practices of particular relevance to them
- Identify candidates and provide design assistance as outlined in the initiative

At each point provide mechanism for customers to take the next step in making the relevant improvements (e.g., during a workshop for crop and nursery farmers on efficient water use, provide rebate application and contact number for installation of moisture monitors)

Report Opportunity Results to Customers

The results of pump tests and full-facility audits will be provided to the customer, along with an assessment of opportunities for improvement, including estimates of energy savings and results from making the improvements. The following items could be included in the report for the customer:

- Measures' descriptions
- Equipment specifications
- Estimated energy savings resulting from project
- Cost-effectiveness analysis
- Cash flow/payback
- Guidelines for available financing
- Steps needed to be taken to implement project and obtain rebate,
- Delivery of Technical and Financial Assistance to Participants

Identify Customers with Opportunities

From the outreach and education activities, SCE will be able to identify customers with know opportunities to make energy efficiency improvements at their facilities. The financing and incentive measures will be directed to these customers.

Provide Financing and Incentives for Qualified Actions

Rebate offers will be issued by SCE staff and contracted resources to encourage action on recommendations and information from pump tests, audits, and educational measures.

The rebates will be processed by the SCE processing center already established and used by other energy efficiency programs.

C. Customer Contact and Activity Tracking

Successfully identifying opportunities for energy efficiency improvement and then converting those opportunities to realize savings will hinge on the development and continuous use of a system that tracks all contacts with customers in this sector. It is through this tracking that SCE will be able to document and demonstrate savings claims beyond those measured by the trail of cash incentives. It must cover customer participation in all the available initiatives, including Tests & Audits and Education & Assistance, as well as Financing & Incentives and Load Management.

These contacts include:

- awareness and recruitment outreach,
- pump test or audit scheduling, on-site visits (e.g., for pump test, audit, or design assistance),
- information on specific recommendations provided,
- customer participation in workshops, customer use of financing and rebates,
- follow-up calls to learn about actions taken without financing and rebates, and
- results of on-site visits to verify (selected) improvements.

A similar database could be developed to track services provided to and actions then taken by pump system designers, equipment vendors/contractors, and specialized facility contractors which also result in energy savings.

D. Measurement and Evaluation

Process Evaluation and Market Assessment

Ongoing assessment of measures and implementation, including customer satisfaction

Tracking and Documentation of Savings

Verification of installations made by implementation contractors

Integrated system for tracking customer action to recommendations and for documentation of savings

11. Customer Description

The *Agricultural Energy Efficiency Program* is targeted to customers that engage in farming, agricultural product processing, and water distribution systems. There are many customer segments within this group, reflecting the diversity of activities and facilities therein. The following customer segments are included in the target group:

- Crop Farms—includes cultivation of grains, cotton, sugar crops, irish potatoes, other non-grain field crops, vegetables and melons, berries, grapes, fruits, and nut trees
- Greenhouses and Nurseries—includes cultivation of crops grown under cover and ornamental nursery products
- Animal Farms—includes facilities for beef cattle, hogs, sheep, goats, other livestock, poultry and eggs, horses, animal aquaculture, other animal specialties,

and fish hatcheries and preserves; the latter includes State facilities covered by the Green Building Initiative Executive Order

- Dairy Farms—includes the maintenance of livestock for dairy production and on-site dairy product manufacture integrated with livestock care
- Agricultural Processing—includes crop preparation services, cotton ginning, and fluid milk processing
- Refrigerated Warehousing and Storage—includes warehousing of any products needing refrigeration; this is not strictly agricultural production but includes some accounts currently serviced by SCE’s agricultural account managers
- Water Supply/Distribution Systems—includes all potable water supplies for agricultural and non-agricultural uses, e.g., municipal water districts. The main treatment plant systems will be addressed by the Industrial Energy Efficiency Program. Both programs will work together to facilitate a seamless and coordinated approach.

12. Customer Interface

Considerable attention will be given to making program services easy to use.

- Integrated reporting of test and audit results with recommendations and information on additional program services to facilitate making the improvements
- Integrated delivery of all relevant energy efficiency programs and measures by assigned account managers
- Program brochure with links to all other related SCE programs
- Portion of SCE website devoted to providing information on and assistance with the *Agricultural Energy Efficiency Program*

13. Energy Measures and Program Activities

Five initiatives house a broad array of measures designed to address the diverse set of customer segments. Table 13.1 summarizes the measure/segment mix.

Table 13.1. Measures by Customer Segment

Measures		Crop Farms	Greenhouses & Nurseries	Animal Farms	Dairy Farms	Agricultural Processing	Refrig. Warehouse & Storage	Water Supply & Irrigation Systems	
Tests & Audits	Pump Test Expansion	●	●	●	●			●	
	Agricultural Facility Audits	●	●	●	●	●	●	●	
Education & Assistance	Design Assistance for Potable Water Systems	●	●					●	
	Design Assistance for Agricultural Processing					●			
	Education on Effic. Farming & EE	●	●	●	●	●			

Financing & Incentives	Full-service Pump Efficiency Improvement	•	•	•	•			•	
	Farm Equipment EE Improvement	•	•	•	•	•			
	Non-specialized Equipment EE Improvement	•	•	•	•	•	•	•	
Load Mgt.	Voluntary Demand Response Bidding	•	•	•	•	•	•	•	
Pilots & Feasibility	Sustainable Fuels								
	Loans for EE Improve.				To Be Determined				
	On-Bill Financing								
	PQ Assurance								
	Mobile AgTAC								

13.1. Measures Information

Measures within each of the five initiatives are described below. Some will start immediately in 2006. Some will be phased in over the three-year period. And others require feasibility assessments to determine their viability, cost-effectiveness, and timing.

Measure Description	Target Segments and Technologies
<u>Tests & Audits</u>	
Pump Test Market Expansion	
<ul style="list-style-type: none"> ▪ Continue testing at current levels plus additions below ▪ Extend testing to additional water users that are currently underserved (e.g., golf courses, cemeteries, entertainment facilities) ▪ Extend testing to sewerage systems (Phase II implementation; need separate equipment for health considerations) ▪ Maintain SCE standards and methods; leverage the success of renowned Pump Test and Hydraulic Services Program 	<p>Segments: water supply and irrigation systems; sewerage systems (test feasibility)</p> <p>Technologies: handheld devices by auditors to provide immediate recommendations to customer</p>
Agricultural Facility Audits	
<ul style="list-style-type: none"> ▪ Audit full facility, not just pumps, for energy efficiency opportunities in building envelope and equipment ▪ Adapt software in handheld devices already used by SCE to perform audits at small/medium customer facilities to also accommodate specialized agricultural equipment and pump testing ▪ Provide customers with recommendations and incentives to implement them ▪ Phase I: leverage existing nonres. audit program; Phase II leverage pump tests for full-facility audits 	<p>Segments: water supply/distribution and irrigation systems</p> <p>Technologies: handheld devices by auditors to provide immediate recommendations to customer</p>

Measure Description	Target Segments and Technologies
<p><u>Education & Assistance</u></p> <p>Design Assistance for Potable Water Systems</p> <ul style="list-style-type: none"> <li>▪ Help customers/contractors/irrigation system designers to design irrigation systems that facilitate pump testing and assessment of how effectively pumped water is being used <li>▪ Incentives to pump vendors/contractors to increase efficiency beyond SCE-set standards (Phase II) <li>▪ Must be practical and within capabilities of available SCE and contract resources—ramp up services over time <li>▪ Address non-energy considerations (e.g., water and air quality, water usage) <li>▪ Expand offerings by AgTAC (e.g., seminars for water system contractors) <li>▪ Identify segment/measure combinations for maximum effect 	<p>Segments: water supply/distribution and irrigation systems, crop farms, nurseries (ramp up)</p> <p>Technologies: on-site application of efficient design</p>
<p>Design Assistance for Agricultural Processing Operations</p> <ul style="list-style-type: none"> <li>▪ Help agricultural processing customers adopt energy-efficient technologies for pumping, refrigeration, water treatment to assess potential for efficiency increase <li>▪ Use of pumping system analysis tool for agricultural processing customers 	<p>Segments: Agricultural processing (non-potable water users)</p> <p>Technologies: pumping system analysis tool</p>
<p>Education on Efficient Farming and Energy-Efficient Technologies and Practices</p> <ul style="list-style-type: none"> <li>▪ Capture interest by disseminating information on how to improve productivity, reduce costs, and address environmental concerns <li>▪ Also supply education focused on energy efficiency (i.e., a packaged offering that addresses their known interests with SCE goal of promoting energy efficiency) <li>▪ Help farmers understand how energy efficiency is part of what really concerns them or, at least, gain trust so they will consider energy efficiency measures <li>▪ Reach more of the agricultural customer market with help of industry associations (e.g., EFA, CCOF, crop coops, dairy farmers association, California State Grange, Agricultural Energy Consumers Association (AECA), Electrical Apparatus Service Association, Inc. (EASA)); some of these already perform education and training <li>▪ Need to determine what to deliver (e.g., workshops, 	<p>Segments: all agricultural production accounts eventually eligible; start with one/few segments and build over time as third-party and trade association relationships evolve</p> <p>Technologies: TBD</p>

Measure Description	Target Segments and Technologies
<p>handbooks) and how (e.g., via AgTAC, third-party service, farm association meetings or partnership)</p>	
<p><u>Financing & Incentives</u></p>	
<p>Full-service Pump Efficiency Improvement</p>	
<ul style="list-style-type: none"> ▪ Pump component replacement and rewind, repair, and full replacement ▪ Expand repair services and rebates to non-farm pump users (e.g., water districts) beyond the 2004/5 Pumping Efficiency Program ▪ Improves energy efficiency while reducing water use ▪ Opportunities to coordinate Express Efficiency since new pumps and components can be on the measure list ▪ Provide repair and rebate services using third parties procured via competitive bid ▪ Supplement SCE reps with contract specialists to make repairs/improvements ▪ Provide certification to contractors to ensure use of SCE standards for testing and improvements 	<p>Segments: water supply and irrigation systems</p> <p>Technologies: efficient motors for water pumps, low-pressure sprinkler nozzles, moisture monitors, drip irrigation</p>
<p>Farm Equipment Energy Efficiency Improvement</p>	
<ul style="list-style-type: none"> ▪ Address the efficiency of equipment for particular needs on farms beyond irrigation, including: fans, coolers, dairy and product processing motors ▪ Successful parts of the 2004/5 California Dairy Farms Multi-Measure Farm Program and the Agricultural Ventilation Fan Efficiency Program could be incorporated here ▪ Promote proven technologies, including: moisture monitors for crop and nursery irrigation; high-efficiency fans and pumps for crop, livestock, and dairy farms; variable speed drive (VSD) motors for dairy and agricultural processing pumps; anaerobic digesters for waste treatment; compressor heat recovery for dairy and agricultural processing 	<p>Segments: select a few customer segment/technology combinations early and expand each year</p> <p>Technologies: dairy pumps and equipment, processing equipment, hi-efficiency fans, others as appropriate</p>

Measure Description	Target Segments and Technologies
<p>Non-Specialized Equipment Energy Efficiency Improvement</p> <ul style="list-style-type: none"> ▪ During facility new construction and remodeling, opportunities abound for incorporation of non-specialized energy-efficient equipment in cooperation with Savings by Design ▪ Opportunities to incorporate lighting, HVAC, and motor equipment efficiencies already offered in other SCE programs (Audits, SPC, Express Efficiency, Upstream Motors, Upstream HVAC) into agricultural facilities ▪ May need to supplement SCE reps to cover these facilities; must be trained to address idiosyncrasies of this customer sector (e.g., reluctance to adopt new technologies, seasonal schedules) 	<p>Segments: all agricultural production accounts and refrigerated storage</p> <p>Technologies: all available in other nonresidential programs</p>
<p><u>Load Management</u></p> <p>Voluntary Demand Response Bidding</p> <ul style="list-style-type: none"> ▪ Customer selects price level (dollars per kWh or dollars per kW) that they are willing to reduce electric use or switch to backup generation if requested by SCE ▪ Customers will be notified by pager if their bid is selected at least 30 minutes before the curtailment period ▪ The customer has the ability to make a real-time decision about whether to curtail their electric use. If they cannot curtail after receiving the page, they are under no obligation to do so. ▪ This should leverage existing DR and Self-Gen activities 	<p>Segments: all agricultural production, water supply, and irrigation accounts that have the flexibility to reduce electric use by at least 50 kW or can switch to backup generation with a capacity of at least 50 kW during peak periods</p>
<p><u>Pilots & Feasibility Assessments</u></p> <p>Sustainable Fuels for Pumping</p> <ul style="list-style-type: none"> ▪ Assess the cost-effectiveness of bio-diesel, PV, and methane digesters for agricultural water pumping ▪ These fuels procure peak load reduction without adverse environmental effects ▪ Customers in other locations are already interested ▪ If cost-effective, use rebates and training to promote <p>Low/No Interest Loans for Energy Efficiency Improvements</p> <ul style="list-style-type: none"> ▪ Partner with Farm Credit Bureau to bring information from credible source and low/no interest financing to farmers ▪ SCE could pay the difference between the market interest rate and reduced rate to efficiency-investing farmers, providing motivation for Credit Bureau to 	<p>Segments: TBD during feasibility assessment</p> <p>Technologies: TBD during feasibility assessment</p> <p>Segments: customers served by Farm Credit Bureau</p> <p>Technologies: TBD during feasibility</p>

Measure Description	Target Segments and Technologies
<p>promote the loans</p> <ul style="list-style-type: none"> ▪ Credit Bureau role is to make loans to farmers and is already a credible source of information ▪ Farmers get shorter payback period and generate measurable savings ▪ Perform feasibility assessment for viability of the partnership with Credit Bureau, interest from their customers, and cost-effectiveness of the buy-down 	assessment
<p>On-Bill Financing</p> <ul style="list-style-type: none"> ▪ If SCE’s Non-Residential On-Bill Financing (NROB) Pilot successful, leverage opportunities and lessons learned to make this service available to agricultural and water customers 	<p>Segments: depends on results of NROB Pilot</p> <p>Technologies: TBD during feasibility assessment</p>
<p>Power Quality Assurance</p> <ul style="list-style-type: none"> ▪ Perform feasibility assessment to determine the extent of the problem, opportunities to address, which customer segments this is applicable to, and cost-effectiveness 	<p>Segments: TBD during feasibility assessment</p> <p>Technologies: TBD during feasibility assessment</p>
<p>Mobile AgTAC</p> <ul style="list-style-type: none"> ▪ Information brought right to customer site or other location where agricultural customers can easily visit ▪ May be used for highly focused assistance, for demonstration and/or education in general ▪ Phase I: perform feasibility of delivery (e.g., direct to customers through reps or via a bus with designated “stops”) and suitable technologies/applications ▪ If assessment suggests opportunities, consider implementation as a pilot and/or statewide initiative 	<p>Segments: TBD during feasibility assessment</p> <p>Technologies: TBD during feasibility assessment</p>

13.2. Energy Savings and Demand Reduction Level Data

First-year energy savings and demand reduction levels are summarized in the supporting tables.

Assumptions Used in Estimation of Energy Savings

These are itemized in Attachment B, “Budget and Savings Detail Worksheets.”

Assumptions Used in Calculation of Cost Effectiveness

Effective Useful Life = 15 years for all measures. This is consistent with the 2004/5 California Farm Energy Efficiency program.⁵ and the *Energy Efficiency Policy Manual*.⁶

Net-to-Gross Ratio = .80 is applied to the gross kWh and kW savings. This value is a kWh considered average that reflects the ratios currently in use for the measures included in this portfolio, including: .83 for agricultural information, tools, design assistance, audits, and energy management services; .75 for agricultural and dairy incentive measures; .96 for Express Efficiency rebate measures; .82 for Savings by Design measures; and .80 for all other nonresidential measures, as indicated in the *Energy Efficiency Policy Manual*.

13.3. Non-energy Activities

Audits, testing, education, and training activities included in this program, which have historically been considered non-energy activities, are included in Section 13.1 above because anecdotal evidence strongly indicates that some actions are taken and savings achieved by customers who are motivated by the information and recommendations and education provided as part of these measures. Under the implementation practices designed for this program, monitoring and verification after customer receipt of these measures will allow measurement of these savings.

These measures include the following:

Tests & Audits

- Pump Test Market Expansion
- Agricultural Facility Audits

Education & Assistance

- Design Assistance for Potable Water Systems
- Design Assistance for Agricultural Processing Operations
- Education on Efficient Farming and Energy-Efficient Technologies and Practices

13.4. Subcontractor Activities

The *Agricultural Energy Efficiency Program* offers considerable opportunities for the inclusion of qualified third-party providers or program implementation. These opportunities will be offered through a competitive bidding procurement process and some might be procured through the IDEEAS program.

Table 13.3 details potential roles subcontractors could fill in the implementation of the program measures.

Table 13.3. Subcontractor Opportunities by Measure

Measure	Subcontractor Opportunity
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⁵ Global Energy Partners, *Revised Program Implementation Plan for California Agri-Food Energy Efficiency Program*. December 2004.

⁶ California Public Utilities Commission, *Energy Efficiency Policy Manual, Version 2*. August 2003. This was the manual also used for the 2004/5 programs.

Measure	Subcontractor Opportunity
Tests & Audits	
Pump Test Market Expansion	Supplement SCE reps with other proven resources to address increase in pumps tested. Subcontractors will be required to demonstrate ability and willingness to maintain the same standards SCE has set for pump testing. Responsibilities will include follow-up testing of pumps to verify improvements
Agricultural Facility Audits	Perform audits and make energy efficiency recommendations
Education & Assistance	
Design Assistance for Potable Water Systems	Specialized consultants to teach about new technologies and practices and to provide on-site design advice
Design Assistance for Agricultural Processing Operations	Specialized consultants to teach about new technologies and practices and to provide on-site design advice
Education on Efficient Farming and Energy-Efficient Technologies and Practices	Specialized consultants to teach about new technologies and practices
Financing & Incentives	
Full-service Pump Efficiency Improvement	Make pump repairs and improvements
Farm Equipment Energy Efficiency Improvement	Services like those provided under 2004/5 third-party programs, including California Dairy Farms Multi-Measure Farm Program and the Agricultural Ventilation Fan Efficiency Program
Non-Specialized Equipment Energy Efficiency Improvement	None identified
Load Management	
Voluntary Demand Response Bidding	None identified
Pilots & Feasibility Assessments	
Sustainable Fuels for Pumping Low/No Interest Loans for Energy Efficiency Improvements On-Bill Financing (leverage pilot) Power Quality Assurance Mobile AgTAC	Consultants with expertise may be engaged to assist with performance of feasibility studies and/or implement pilot programs that the studies suggest will be cost effective

13.5. Quality Assurance and Evaluation Activities

More detailed and complete tracking of non-incentive measures (e.g., information from tests) customers received under this program will allow the program to capture and document customers' actions following participation in pump tests, audits, and education activities.

To the extent that subcontractors implement portions of the program, quality assurance measures will be put in place to ensure that standards of service and claimed savings have been achieved. These measures will be determined on a service-by-service basis.

13.5.1. Expected Number/Percent of Inspections

Historically, SCE has performed post-test inspections on pumps to verify that customer-reported improvements were made. In keeping with this practice, about 10% of water pumps tested (approximately 100 pumps in 2006) will be retested in the same program year. The cost of these retests is included in the pump testing budget.

Ten percent of energy efficiency projects not related to pump tests will also receive post-participation inspections.

13.6. Marketing Activities

A. Program-wide Marketing

Program-wide marketing is designed to provide program information to all customer segments. Program-wide marketing will utilize all appropriate marketing methods to reach each customer segment. Program-wide marketing will build upon the existing SCE infrastructure of assigned account managers and field representatives, as well as third-party contractors selected to implement portions of the program, to reach the agricultural community. Marketing materials for other SCE programs to which measures in the *Agricultural Energy Efficiency Program* are linked (e.g., low-pressure sprinklers offered under Express Efficiency) will be customized for the agricultural market. In addition, program-wide marketing will also integrate with any state-wide marketing efforts targeted toward the agricultural community. Specific program-wide marketing efforts are described below:

Education on Efficient Farming & EE Technologies and Practices

- Leverage existing SCE program information regarding the benefits of energy efficiency to reduce costs, increase productivity, and address environmental concerns. Customize marketing material with specific agricultural examples.
- Identify existing case studies on efficient farming.
- Develop at least one case study for each customer segment regarding a specific energy efficiency technology or practice.
- Work with trade associations and AgTAC to schedule workshops and seminars to disseminate case studies.
- Expand the agricultural section of the SCE website to include program specific information as well as case studies and relevant industry links.
- Work with trade associations and trade allies to include case studies and program information in industry publications.

Non-specialized Equipment EE Improvement

- Focus Savings by Design program on specific agricultural opportunities like on-site walk-in coolers, irrigations systems, and anaerobic digesters.
- Extract agricultural specific measures from the Express Efficiency program and repackage for each customer segment.
- Identify trade allies that provide motor, HVAC, and refrigeration equipment.
- Develop marketing materials targeted at the identified trade allies.
- Use direct mail and e-campaigns to disseminate program information.

Voluntary Demand Response Bidding

- Identify customers that are most likely to meet the program requirements.
- Develop examples of the economics of the program from the agricultural consumer perspective.
- Develop specific marketing materials that identify the costs and benefits of program participation.
- Use direct mail and e-campaigns to develop list of interested firms.
- Utilize SCE account managers to follow-up on program participation. Since only relatively large agricultural customers will qualify for the program, potential participants already have account managers assigned to them.

B. Targeted Segment Marketing

Targeted segment marketing is designed to provide program information to a focused customer segment. Targeted segment marketing will utilize specialized and customized marketing methods to reach the targeted customer segment. Specific targeted segment marketing efforts are described below:

Pump Test Market Expansion

- Identify underserved markets like golf courses, cemeteries, and other large water pumping users on agricultural pumping rates.
- Develop case studies of successful pump tests including economics from the customer perspective.
- Publish selected case studies in industry publications for underserved markets.
- Use direct mail and e-campaigns to develop list of interested firms in underserved markets.
- Work with trade associations, trade allies, and third-party resources to include case studies and program information in industry publications.
- Identify and contract with third-party resources that provide pump testing on sewerage systems.
- Develop/expand tracking system to collect and prioritize pump test findings. Integrate these with any facility audit results and deliver to customer with recommendations for energy efficiency/productivity improvements and information on program measures available to encourage action.
- Follow-up with direct mail and e-campaign to provide program specific information based on pump test recommendations.

- Develop mechanism to track customer action through any SCE or customer initiative. Offer measures (e.g., rebate, financing), as appropriate.

Agricultural Facility Audits

- Purchase additional handheld audit devices like those used by auditors who perform small/medium facility audits under SCE's Nonresidential Audit program and program them to record information appropriate for farm equipment and pump testing.
- Train agricultural auditors on device usage.
- Train pump testers to perform simple facility audits.
- Develop/expand tracking system to collect and prioritize audit findings. Integrate these with pump test results and deliver to customer with recommendations for energy efficiency/productivity improvements and information on program measures available to encourage action.
- Follow-up after audit with direct mail and e-campaign to provide program specific information based on audit recommendations.
- Develop mechanism to track customer action through any SCE or customer initiative. Offer measures (e.g., rebate, financing), as appropriate.

Design Assistance for Potable Water Systems

- Develop case studies of successful irrigation system designs including economics from the customer perspective.
- Develop appropriate irrigation system metrics so that irrigation users can determine if their existing systems are candidates for a system re-design.
- Publish selected case studies in industry publications.
- Work with trade associations, equipment vendors, and AgTAC to schedule workshops and seminars to disseminate case studies and provide tools for customers to troubleshoot and design irrigation systems.

Design Assistance for Agricultural Processing Operations

- Work with the California Energy Commission (CEC) and the University of California – Davis (UCD) to identify end-use technologies that should be targeting in the agricultural processing operations.
- Work with CEC and UCD to develop/expand case studies of successful agricultural processing system designs including economics from the customer perspective.
- Publish selected case studies in industry publications.
- Work with the California League of Food Processors to schedule workshops at their Expo & Tradeshow in January each year.
- Incorporate Savings by Design program into design assistance marketing materials.

Full-service Pump Efficiency Improvement

- Identify existing trade allies that provide pump replacement and repair.

- Develop a brochure insert that incorporates Express Efficiency, new repair/rebate services, and pump testing.
- Develop certified contractor list for program participants.
- Use direct mail and e-campaigns to announce expanded program offerings.
- Utilize agricultural representatives to follow-up on program participation.

Farm Equipment EE Improvement

- Develop farm specific brochure inserts addressing new measures. Leverage existing SCE program information regarding the benefits of energy efficiency to reduce costs, increase productivity, and address environmental concerns. Customize marketing material with specific farm examples.
- Identify existing trade allies that provide energy-efficient farm equipment.
- Use direct mail to announce expanded program offerings.
- Work with trade allies, equipment vendors, and AgTAC to schedule workshops and seminars to disseminate information on ways to increase the energy efficiency of the farm.
- Identify the key farm tradeshow held in the service area and staff a booth to provide program information. This should be done in coordination with AgTAC.
- Develop/expand/customize case studies on energy efficient technologies used on farms from existing resources like the CEC, UCD, University of Wisconsin, and other utility agricultural programs.

Pilots & Feasibility Assessments

- Develop case studies of successful pilots and feasibility studies including economics from the customer perspective.
- Identify target market and potential participant qualifications. Identify customers that are most likely to meet the program requirements.
- Use direct mail and e-campaigns to announce expanded program offerings.
- Depending on the technology, work with trade associations, equipment vendors, and AgTAC to schedule workshops and seminars to disseminate pilot and case study information.
- Identify existing trade allies that provide the technology and utilize this channel to distribute program information.

Table 13.4. Marketing Method by Measure

Measures	Direct Mail	Print Articles	Trade Shows	Case Studies, Guides, & Fact Sheets	AgTAC	Workshops & Out-reach	E-campaigns	Trade Ally Program
Pump Test	●	●		●			●	●
Facility Audits	●	●					●	
Design Assist. for Water Sys.		●		●	●	●		●

Measures	Direct Mail	Print Articles	Trade Shows	Case Studies, Guides, & Fact Sheets	AgTAC	Workshops & Out-reach	E-campaigns	Trade Ally Program
Design Assist. for Agricultural Processing		●	●	●		●		
Education on Efficient Farming & EE		●	●	●	●	●		●
Pump Efficiency Improvement	●						●	●
Farm Equipment EE Improvement	●		●	●	●	●		●
Non-specialized equipment EE improvement	●						●	●
Voluntary DR Bidding	●	●		●			●	
Pilots & Feasibility Assessments	●			●	●	●	●	●

14. Conclusions

Target Market

The target market for the *Agricultural Energy Efficiency Program* consists of all customers that engage in farming, agricultural product processing, and water supply and treatment

The target market is segmented into distinct customer segments: Crop Farms, Greenhouses and Nurseries, Animal Farms, Dairy Farms, Agricultural Processing, Refrigerated Warehousing and Storage, Water Supply and Irrigation Systems.

Market Outreach

The target market will be made aware of and encouraged to participate in the program through implementation of a dual-level marketing plan: program-wide marketing and targeted segment marketing. Outreach will include the following components:

- Direct mail: invitation letter and brochure to all customers in target market
- Pump test visits to promote audits, financing and incentives, load management participation while on site with customers; addition of more than 500 pump tests and 350 facility audits provides opportunity for face-to-face contact with upwards of 20% of customers over the 2005 PTHS program.
- Comprehensive reports on pump test and audit results mailed to customers provide recommendations on energy saving improvements and information on program mechanisms available to encourage action
- Expanded set of seminars, training, and demonstrations offered through AgTAC will address segment-specific interests, concerns, and energy efficiency measures
- Partnerships with county Agricultural Commissioners to jointly promote this program with other agency activities

- Relationships with local agricultural trade associations will increase program awareness through established agricultural customer networks
- Information on efficient, as well as energy efficient farming practices through use of AgTAC and competitively contracted resources known to the agricultural community
- On-line information about the *Agricultural Energy Efficiency Program* within SCE's website

Portfolio of Products and Services

The program portfolio consists of five types of initiatives:

- Tests & Audits
- Education & Assistance
- Financing & Incentives
- Load Management
- Pilots & Feasibility Assessments

The initiatives complement one another, integrate with other SCE energy efficiency and demand response program activities, and can be implemented with statewide, regional, and national initiatives. The Pilots and Feasibility initiative provides a mechanism for evaluating and incorporating additional measures over the lifetime of the program.

Within the five initiatives, the portfolio includes more than a dozen products and services. These have been designed to address the diverse needs and interests of the customer segments in the targeted market.

This is the first comprehensive program offered to this target market. It retains successful features of earlier agricultural programs—such as the nationally recognized pump testing service which SCE has been offering since 1911, and innovative measures—such as design assistance for potable water systems and investigation of sustainable fuels for pumping.

Participant Activities

The *Agricultural Energy Efficiency Program* will encourage and facilitate the following customer actions:

- Repair and/or replacement of water pumps to improve water flow and reduce energy use
- Installation of pump system controls and sprinkler improvements
- Improvements to water system design to facilitate more accurate pump testing
- Installation of higher efficiency motors for water pumping, dairy operations, and agricultural product processing
- Installation of more efficient lighting and lighting controls, fans, chillers, and packaged AC units

14. Program Changes

The AEEP program will not address wastewater or the main water treatment plants. Wastewater treatment and water treatment facilities will be served through the Industrial

Energy Efficiency Program. AEEP, with its experienced resources will deliver pump testing, energy analysis, and design assistance to any external distribution component of these operations. In all cases, both programs will work together to facilitate a seamless and coordinated approach to provide energy savings opportunities to customers.

In order to create a unified approach to customer solutions and to minimize customer confusion, as the main part of the program, AEEP will adopt the following incentive structure:

Category	Incentive Rate
Interior Lighting and Daylighting Systems	\$0.05/kWh
HVAC*	\$.014/kWh
Process and Other Systems	\$0.08/kWh

* The HVAC incentive will be offered to all measures not covered by the Comprehensive HVAC program or if a “downstream” incentive is allowed.

In addition to the incentive rates listed above, AEEP may develop special incentive rates and/or packages to enhance specific submarket participation. Incentive rates will be reviewed and may be adjusted to encourage the broadest participation by all customer segments identified by this program. If a customer implements an energy savings measure or measures that were influenced by an audit or design assistance service without the need for an incentive, the program will track and report the resulting kWh and kW energy savings toward the overall program goals.

To further the program’s ability to attract participation by as many interested customers as possible, AEEP will employ a series of targeted offerings. The targeted offerings may provide a focused delivery of program services and may include the targeting of specific technologies to intended customer submarkets. SCE intends to use these approaches to achieve its specific goal and rotate in other opportunities as appropriate.

A minimum of 5% of pumps receiving an incentive for the implementation of pump repair measures will be verified to ensure the modifications have been implemented.