

80 Plus

1. Projected Program Budget	\$	500,000
2. Projected Program Impacts		
MWh		4,874
MW (Summer Peak)		0.85
3. Program Cost Effectiveness		
TRC		3.72
PAC		3.24

4. Program Descriptors

Market Sector: Non-Residential

Program Classification: Local

Program Status: Components from a prior IDEEA Program

5. Program Statement

80 PLUS is a national upstream buy-down program that enlists utilities and computer manufacturers to integrate more energy-efficient power supplies into desktop computers (PCs) and desktop-derived servers (smaller servers with similar components that are used for managing network traffic, routing e-mail, and centralizing printing and file storage resources). This program offers an immediate opportunity to secure energy and peak savings for about 3 cents per lifetime kWh. The continuation of 80 PLUS is 100% performance based for SCE. All up front initiation fees and costs were paid under the prior IDEEA award, and this future funding is solely to accommodate incentives that are attached to delivery of 80 PLUS product in SCE's territory.

6. Program Rationale

All PCs and desktop-derived servers contain power supplies that convert high-voltage alternating current (ac) to low-voltage direct current (dc) for use by the microprocessor, hard drive and other electronic components. Typical current PC power supplies waste about 30% to 40% of all the electricity that passes through them. Desktop-derived server efficiency ranges from 60% to 70%. These power supplies are sized to provide up to 200 to 600 watts of dc output, but can require up to 300 to 850 watts of maximum ac input, converting the rest to heat.

This program is a unique, short-term opportunity to capture savings that would otherwise be lost, and it does not duplicate any other program. This program includes both customer education and information and hardware/incentives.

7. Program Outcomes

The following factors illustrate the benefits of implementing the 80 PLUS program:

- Achieving savings from an end use that has not been addressed: The opportunity is within plug loads, whereas energy efficiency programs have traditionally focused on lighting and HVAC

- 80 PLUS makes a stricter ENERGY STAR® specification more achievable in the near term, enabling future product promotion and government/corporate procurement opportunities
- Educating customers about the importance of selecting efficient consumer electronics and office equipment, which will impact the success of future program offerings that could include a broader commercial plug-load reduction program
- Reduced heat output and improvements in power quality offer substantial benefits to customers who use 80 PLUS certified power supplies. Together, they can improve the overall computer reliability by up to 40%.
- An increase in power supply efficiency to the 80 PLUS specification which will result in a substantial energy savings opportunity.
- The program addresses the primary market barrier – the higher cost of the premium power supply.

8. Program Strategy

The strategy of the 80 PLUS program is to overcome the price barrier of premium power supplies while educating customers about their benefits to create and maintain market demand. The program will offer a \$5 manufacturer buy-down for each PC and \$10 for each desktop-derived server containing a qualifying power supply that is sold in the SCE territory. Each efficient PC represents 85 kWh savings per year, with a four-year life and a demand reduction of 16 watts per unit. Each efficient desktop-derived server represents 301 kWh savings per year, with a four-year life and a demand reduction of 34 watts per unit.

Most computer manufacturers are continually seeking ways to reduce component costs by pennies or even fractions of pennies. For them, the \$5 or \$10 incremental cost of a better power supply is substantial and potentially untenable barrier, because most competition occurs over purchase price and performance, rather than total cost of ownership. Computer and server manufacturers will be tentative about incorporating more efficient power supplies until such designs offer them a compelling market advantage or the price premium can be overcome through economies of scale. The 80 PLUS program overcomes this barrier by taking away the financial risk and creating a “winwin” situation: PC/server manufacturers

9. Program Objectives

Typical PC power supplies today waste about 30% to 40% of all the electricity that passes through them, consuming about 125 to 150 kWh/year by themselves. In office buildings, much of this usage occurs on or near the commercial peak, increasing demand charges and the need for additional generating capacity. Desktop-derived servers generally run 24 hours a day, seven days a week, with no sleep modes or power management, so energy savings per unit can be significantly higher than in desktop PCs. These power supplies can consume about 450 to 720 kWh/year, so each one represents a savings opportunity of about 300 kWh/year (based on current efficiencies of 60% to 70%). The goal of this program is to save 4,874,056 kWh in energy and produce a demand reduction of 853 kW in SCE’s service territory.

10. Program Implementation

Task 1 - Re-assess Implementation Timeline, Marketing Plan, and Staffing Rates or Unit Pricing with SCE for Inclusion in the Purchase Order

Deliverable	Schedule
Hold kick-off meeting with SCE Program Manager	Late January 2006; specific date TBD
Submit revised implementation timeline, marketing plan	Within two weeks after kick-off meeting

Task 2 - Assemble and Submit SCE Approved Purchase Order Kit

Ecos will modify the Purchase Order Kit as required.

Deliverable	Schedule
Submit Draft Purchase Order Kit	Kick-off meeting
Submit Final Purchase Order Kit	Within two weeks after kick-off meeting

Task 3 - Build Tracking System

Ecos has developed a universally applicable system to serve their sponsor program participants. This system is based on tracking by ZIP code (or ZIP+4 if available) which allocates incentives on pre-defined coverage from utilities and facilitates utility incentive tracking/payment/kWh and reporting. Access to the Program Tracking System (PTS) is available via Ecos' custom-designed Web-based dashboard.

The PTS is the primary data-tracking tool for the 80 PLUS program, and all reporting will be accessed through this system. Utility program staff will be able to quickly access "live" incentive and energy efficiency metrics via a standard Web browser. Monthly and biweekly reports will be generated from the PTS in both HTML and Excel file formats, and Ecos will provide a de-normalized "flat file" download facility in the dashboard interface to export relevant data fields.

Deliverable	Schedule
Review of existing tracking system*	Late January 2006; specific date TBD

*Tracking system development is well underway and close to launch now that units are beginning to move in the market and as more product becomes available; a review of the system will be done at the kick-off meeting to ensure SCE's needs are met.

Task 4 - Develop Marketing Materials and Obtain Approval from SCE

The Marketing Tool Kit will include:

- General Marketing Brochure
- Fact Sheets that explain in greater detail the key 80 PLUS benefits, increased reliability benefits and power quality benefits
- Digital Materials that can be downloaded from the Web site or provided on CD:
 - Advertisement template
 - Bill insert template
 - Boilerplate language (for use on SCE's Web site and other collateral, such as newsletters)
 - Newsletter article
 - PowerPoint for account representatives
 - Style guide and logos
 - Digital versions of the brochure and fact sheets

Deliverable	Schedule
Review existing marketing elements and determine any modifications	Kick-off meeting: ~January 20, 2006

Submit final marketing plan	Within two weeks after kick-off meeting
Identify cooperative marketing opportunities specific to SCE territory	Within one-month of the kick-off meeting; re-evaluate on quarterly basis

Task 5 - Implement Marketing Campaign

While the 80 PLUS Program is open to all SCE customers, the target markets is large commercial and institutional customers who purchase substantial volumes of computers and servers. The marketing efforts for this program includes the following:

Marketing Through SIs and OEMs

There are two distinct market channels:

- Large OEMs (Original Equipment Manufacturers)
- System Integrator (SI) – SIs acquire product and sell to organizations, usually near their own physical location. SIs are companies that combine computer components to build complete systems and they frequently work for institutions, governments and corporations.

When Ecos originally began this program, they envisioned it mainly running through large OEMs; however, it was SIs who readily saw the benefits of the program and engaged to participate. SIs compete with the large OEMs (e.g., Dell, HP) for market share. The 80 PLUS program helps SIs differentiate themselves in the marketplace by offering the option to purchase a premium-quality product. Ecos expects that SIs will remain a central market actor, but they are still continuing efforts to engage the larger OEMs.

Marketing Through Utilities and Other Funding Organizations

The program’s principal marketing and sales focus will be directed primarily to the large corporate and institutional customer category, given the size and computer purchasing power of this target market. The utilities’ commercial account executives will work with the program to promote qualifying products to the decision-makers responsible for the volume purchases of desktop computers.

Marketing/Branding

The marketing requirements for SCE include:

- Promotion Support: Ecos will provide the “Run Cool, Run Reliably” Marketing Tool Kit.
- SCE Account Executive Sales Training: Ecos will work with SCE’s Account Executives to identify opportunities to reach their larger commercial and institutional customers. They will provide an 80 PLUS PowerPoint presentation to assist Account Reps in discussing 80 PLUS with commercial, institutional and government customers.
- Manufacturer Support: Ecos will provide content for manufacturers’ communications channels, such as news releases, Web site content and others.

Public Relations

Efforts to publicize the 80 PLUS Program will help customers understand the benefits of energy efficient power supplies and will provide recognition for participating utilities, manufacturers and computer sellers. Ecos will promote the program through:

- Technology publications and Web sites used by IT managers
- Prominent national and regional newspapers
- Business and other popular periodicals
- Industry newsletters

Deliverables: A final marketing plan will be delivered within two weeks after the kick-off meeting.

Task 6 - Enroll Customers

Customers will not be required to enroll in the program – they only need to specify 80 PLUS in their purchase of desktop computers and desktop-derived servers to reap the benefits of the 80 PLUS power supplies. Ecos will work with SCE customer Account Executives to market the program to the IT managers at the large corporate and institutional accounts. Customer requests will encourage manufacturers to incorporate the technology into a broader range of products. Participation in the program will be tied to ZIP codes of the product shipped by OEMs and SIs or by power supply manufacturers into the territory.

Task 7 - Perform Program Services

Recruitment Phase

Goal/Objective: Continue to create momentum for the national program, which will help drive the market to the 80 PLUS standard.

Sales and Outreach Efforts (to attract and involve more utilities, power supply manufacturers, SIs and OEMs, e.g., Dell, HP): Ecos will continue to recruit regional-based SIs to participate in the program. Discussions with OEMs have been ongoing since program inception, and we will continue to target this market segment as well.

Qualification Phase

Goal/Objective: Ensure that only 80 PLUS qualified products are promoted in this program.

Test Products for Qualification: Ecos will conduct testing to confirm that products meet the 80 PLUS standard and can be promoted under this program. Ecos maintains the services of a nationally recognized testing organization, EPRI Solutions, to deliver independent, qualified product testing and results.

Implementation Phase

Goal/Objective: Implement a successful program to meet the unit targets established by SCE within the specified budget.

- **Manage Manufacturer Relationships:** Ecos will maintain relations with participating PC and desktop-derived server manufacturers/SIs, including providing regular reimbursement of \$5/unit incentives for PCs and \$10/unit incentives for desktop-derived servers, and assisting with marketing efforts wherever appropriate.
- **Conduct 80 PLUS Sales Training with SCE Commercial Account Executives:** Ecos will work with SCE to establish training sessions with Commercial Account Executives to support 80 PLUS sales efforts.
- **Conduct Outreach to SCE Commercial Customers:** Ecos will engage collaboratively with SCE Account Executives and participating SIs/OEMs to market the program to commercial/institutional customers. Ecos will also implement other marketing components.
- **Incentive Fulfillment:** Ecos will generate a monthly report for each participating utility detailing – by manufacturer, computer model, and end-use or retailer ZIP code – the number of qualifying computers delivered and the resulting incentive payments due to

manufacturers. In order to maintain a reasonable turnaround time for manufacturers, Ecos has established a 30-day period for payment by utilities following receipt of an acceptable invoice from Ecos. Ecos will provide SCE a monthly compilation of incentive-payment invoices on behalf of manufacturers. Ecos will pay manufacturers within 14 days of receipt of payment from SCE.

- **Support of Evaluation Efforts:** Through complete and accurate recordkeeping, analysis of data and summations of monthly reports, Ecos will support a single overall program evaluation jointly sponsored by all utilities, or individual evaluations by each participating utility/market transformation organization.

Deliverable	Schedule
Sales and Outreach Efforts to Industry	Ongoing – will decline significantly at the end of 2006 (unless need for continued program is identified)
Test Products for Qualification	Ongoing through to completion of program
Manage Manufacturer Relationships	Ongoing through to completion of program
Conduct 80 PLUS Sales Training with SCE Commercial Account Executives	First training conducted under current contract in September 2005; schedule TBD with SCE Program Manager, but hope to schedule bi-monthly or quarterly through 2006
Conduct Outreach to SCE Commercial Customers	Starting now under current contract, but will have full launch in early 2006
Incentive Fulfillment	Monthly
Support of Evaluation Efforts	As needed

Task 8 - Inspect Installed Jobs

For Quality Assurance purposes, Ecos' subcontractor, EPRI Solutions, will verify units shipped during the program that meet 80 PLUS specifications. EPRI Solutions will test a small percentage of power supplies, desktop computers and desktop-derived servers on a random and regular basis to verify compliance by manufacturers. (These will be pulled off the manufacturer line; additionally, we will spot check shipped units to customers.) The efficiency tests will be reviewed on a regular basis and reported to participating sponsors and manufacturers. This audit will be facilitated by the Evaluation Measurement & Verification (EM&V) contractor and may become part of the program sponsor reports.

Deliverable	Schedule
Quality Assurance and Verification	Quarterly starting March 2006 through program's end

Task 9 - Remedy Installation Issues

Customer Complaint Resolution Procedures

Complaint	Proper Procedure	80 PLUS Team Support
Product failure	Consumer follows complaint/warranty process with OEM or SI	SIs and OEMs will be instructed to report product failures; Ecos will facilitate discussions with manufacturer if necessary, and remove qualification if product has continued, excessive failure rates.
Delay in rebate processing	Complaint is filed with the Program Manager	Ecos investigates cause of delay (e.g., insufficient information from OEM/SI on

		invoice), and then identifies next steps to provide timely payment (e.g., paperwork or verification data needed).
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Deliverable	Due date
All complaints will be documented and reported to SCE in monthly reports	Complaints will be addressed immediately as they come in.

Task 10 - Perform Customer Satisfaction Surveys

Ecos is prepared to work with SCE to develop and implement a survey component to the program.

Deliverable: To be determined

Schedule: To be determined

Task 11 - Address Customer Satisfaction Issues

If a survey is conducted, and should there be any customer satisfaction issues, Ecos will first discuss them with the SCE Program Manager and provide recommendations to reconcile them.

Deliverable	Due date
All complaints will be documented and reported to SCE in monthly reports.	As complaints occur

Task 12 - Invoice SCE for Completed Jobs

Deliverable	Due date
Invoice for work completed	Tenth day of month following the period covered, for duration of contract (January 2006 – June 2007)

Task 13 - Perform Program Reporting

Ecos will provide Monthly Workbook Reports and ad-hoc reports as needed. In addition, their tracking system will be made available to SCE, with program activity viewable or downloadable on demand in the form of a de-normalized “flat file.”

Deliverable	Schedule
Monthly Workbook Reports	Due the tenth day of the month following the period covered, for the duration of the contract
Ad-hoc Reports	As requested

Task 14 - Program Ramp Down

All services of the 80 PLUS program, which does not itself include any hardware installation, will likely be performed long before the Dec. 31, 2007, deadline.

Schedule: Based on the current timeline of the ENERGY STAR® specification, Ecos expect s the program to begin ramping down early-mid Q1 2007 (unless incentives are depleted before then). Details will be provided in monthly reports.

Task 15 - Shut Down the Program

The 80 PLUS program includes a process to successfully conclude the program. This begins with the final step of the ramp down: immediate release of a letter upon receipt of final commitments and orders that clearly explains that incentives are no longer available. Follow-up phone calls to participants will immediately follow.

Deliverable	Schedule
Letter to program participants advising of program's end	TBD, but estimated to occur in March 2007
EM&V support	As requested

Task 16 - Respond to Miscellaneous Utility/CPUC Data Requests

As with ad hoc reporting, Ecos agrees to respond to miscellaneous utility and CPUC data requests.

Deliverable	Schedule
Provide data requests	As needed within one week of request

Task 17 - Follow Up with Remaining and New Customer Issues

The program completion process outlined in Task 15 includes follow-up with 80 PLUS customers (i.e., SIs, OEMs, SCE Commercial Account Executives, SCE commercial/Institutional Customers) to ensure any remaining or new issues are resolved.

Deliverable	Schedule
Documentation of client issues with line item of how the issue was resolved	Included in monthly reports

Task 18 - Submit Final Program Report

Ecos has broad experience producing final reports for its various programs. As required by SCE, the 80 PLUS Final Program report will include:

- Program Achievements
- Program Challenges
- Goal Attainment
- Lessons Learned
- Program Improvement Recommendations

Deliverable	Schedule
Draft final report to SCE Program Manager	Within one month of program completion
Final report	Within two weeks of receiving edits from SCE Program Manager

11. Customer Description

80 PLUS is available to all SCE customers, both residential and nonresidential, across the territory. However, the program's principal marketing and sales focus will be directed primarily to the large corporate and institutional customer category, given its size and computer/low-end server purchasing power. The program will work with the utilities' commercial account representatives to promote qualifying products to the decision-makers responsible for volume purchases of desktop computers.

12. Customer Interface: Please see Task 6 (Above)

13. Energy Measures and Program Activities

13.1. Measures Information: Please see Table 1

13.2. Energy Savings and Demand Reduction Level Data: Please see Table 1

Table 1: Net Impacts by Measure

Net Impacts by Measure							
	Net Avg Jul-Sep (kW)	Net Dec-Feb Pk (kW)	Net CEC (kW)	Net User Entered kW	Annual kWh adj for Net to gross	Lifecycle kWh (Annual * Measure Life)	
Total or Average	852.85	852.85	1,057.67	852.85	4,874,056	19,496,224	
80 PLUS Desktop Power Supply	755.88	755.88	871.39	756	4,015,604	16,062,416	
80 PLUS Server Power Supply	96.97	96.97	186.28	97	858,452	3,433,808	

13.3. Non-energy Activities (Audits, Trainings, etc.): Please see Task 4 and 5 (Above)

13.4. Subcontractor Activities & Quality Assurance and Evaluation Activities: Please see Task 8 and 9 (Above)

13.5. Marketing Activities: See Task 5 (Above)