
DEPARTMENT OF GENERAL SERVICE
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PROPOSED ADDITIONAL SOLAR PV PROGRAMS, DISTRICT-WIDE

Below, for your information, is General Services' proposed plan relating to additional solar panel, District-wide.

Laney College Solar Project

Estimated Cost: \$6.4 Million
Funding Source: Measure A
Energy Savings: \$161,700 in savings annually
Energy Rebates: \$1,133,500 over 5 years

The Department of General Services has anticipates a total of 830 kW worth of solar PV panels over the rooftops and the Athletic Complex parking area, generating between 4,000 and 13,000 kWh each month while eliminating the generation of global warming gas by the equivalent of 7,262,640 lbs of CO₂ annually. As with every solar project done by Peralta, General Services will ensure job-shadowing and curriculum development partnerships with the solar developer.

This system will be completed in multiple phases by August 2011. The initial phase at the Athletic Complex parking is near completion. Solar panels have already been mounted to the carports. The entire system will be tied into the grid at the end of February 2011. The rooftop project is expected to come online at the end of August 2011. General Services is preparing a bid, for a design-build contract, to be issued in February 2011.

The entire system, once completed, will bring enormous operational cost reductions to the District's budget. It is estimated that the total annual production of 1,155,000 kWh will offset Laney's electricity use by 16%. At today's electricity rates, that is an annual savings of \$161,700 in the General Fund. Rebates and Net-metering programs from PG&E could bring an additional \$232,000 in savings for 5 years (totaling \$1.13M).

Berkeley City College Soar Project

Estimated Cost: \$500,000
Funding Source: Measure A
Energy Savings: \$13,000 in savings annually
Energy Rebates: \$80,000 over 5 years

The Department of General Services envisions placing 70 to 80 kW worth of solar PV panels over the parking areas, generating between 46,000 and 150,000 kWh each month while eliminating the generation of global warming gas by the equivalent of 669,125 lbs of CO2 annually. General Services will ensure job-shadowing and curriculum development partnerships with the solar developer.

Because the project is fully funded (and will be bid as bundle with the Laney College rooftop project), the system bring some operational cost reductions to the District's budget. It is estimated that the total annual production of 106,000kWh will offset Berkeley City College's electricity use by 10%. At today's electricity rates, that is an annual savings of \$13,000 in the General Fund. Rebates and Net-metering programs from PG&E could bring an additional \$16,000 in savings for 5 years (totaling \$80,000).

College of Alameda Solar

Estimated Cost: \$4,5 million

Funding Source: Three Options

1) *Measure A Funding (pending investigation if funding is available)*

2) *Future Bond Funding*

3) *PPA Agreement*

Energy Savings: \$118,000 in savings annually

Energy Rebates: \$220,000 in for 5 years

The Department of General Services takes advantage of the extensive amount of ungraded (flat) parking lot space and envisions a Solar Carport covering all of Parking Lot C on the north-side of the campus. It is possible to fit approximately 700kW worth of solar PV panels over the parking areas, generating between 34,000 and 115,000 kWh each month while eliminating the generation of global warming gas by the equivalent of 5,753,130 lbs of CO2 annually. General Services will ensure job-shadowing and curriculum development partnerships with the solar developer.

At an estimated cost of \$4.5M, the project could bring significant operational cost reductions to the District's budget. (Currently, the \$16M Measure A Solar program funds has little capacity for another large solar project. After allocating \$8M for The Merritt College PV system, \$6.4M for Laney's Rooftop and Athletic Complex systems, and a \$500k for Berkeley City College's rooftop system, there is only \$1.1M left in the program. It is just enough to pay for a system design and for infrastructure preparation.) If fully funded, we estimate that the total annual production of 915,000kWh will offset College of Alameda's electricity use by 30%. At today's electricity rates, that is an annual savings of \$118,000 in the General Fund. Rebates and Net-metering programs from Alameda Power & Telecom could bring an additional \$220,000 in savings annually for 5 years, totaling \$1.1M.

The project could be funded through three (3) different mechanisms. One is to wait for a future bond. This method maximizes savings and rebates. The second is to utilize a "no money down" tax-exempt lease structure, where a third-party developer owns and operates the system for 7 years, when the District purchases the system

at a discounted price. A third option is to combine the remaining solar funds with the District's authority to issue cost-neutral Clean Renewable Energy Bonds. In this option, the District retains full ownership of the system, gets full benefits from the rebates, but incurs at least cost-neutral debt-service for 17 years (bullet maturity).

	Future Bond	Tax-Exempt Lease	Measure A + CREBs
Upfront Cost	Full	None	\$1M
System Ownership	District	Solar Developer (7y)	District
Rebates	Maximum	None	Maximum
Electrical Savings	Maximum	None (first 7 years)	None

Merritt College (no additional projects)

System Cost: \$7.99 Million
Funding Source: Measure A
Energy Savings: \$240,000 in savings annually
Energy Rebates: \$1,557,971 over 5 years

Merritt College's 1.2MW Solar farm was completed in December 2010. The solar PV panels mounted on carports and the hillside generate 1,715,177 kWh annually, eliminating the generation of global warming gas by the equivalent of 10,785,032 lbs of CO2 annually. General Services coordinated with Chevron Energy Solutions to place 2 interns with the solar installation company. It will offset Merritt's electricity use by 40%. At today's electricity rates, that is an annual savings of \$240,000 in the General Fund. Rebates and Net-metering programs from PG&E will bring an additional \$311,594 in savings for 5 years (totaling \$1.56M).

SUMMARY

The complete Solar PV program with a fully realized College of Alameda system would total 3.01MW, generating 3.9 million kWh/year, saving the District \$540,000/year on electrical costs, and infusing the General Fund with a \$3.87M in rebates. Furthermore, it would reduce District's utility-related greenhouse gas output by 24.5M lbs annually.

Campus	Merritt	Laney	Berkeley	Alameda	Total
Size (kW)	1,400	830	80	700	3010
Cost	\$7,990,000	\$6,400,000	\$500,000	\$4,500,000	\$19,390,000
kWh/year	1,715,177	1,155,000	106,000	915,000	3,891,177
Savings/year	\$240,100	\$161,700	\$13,000	\$118,000	\$532,700
Total rebates	\$1,557,971	\$1,133,500	\$80,000	\$1,100,000	\$3,871,471
CO2 eliminated	10,785,033	7,262,640	666,528	5,753,520	24,467,721