



The Board of Governors of the California Community Colleges

PRESENTED TO THE BOARD OF GOVERNORS

DATE: November 13, 2017

SUBJECT: Board of Governors Energy and Sustainability Award Program		Item Number: 4.4	
		Attachment: No	
CATEGORY:	College Finance and Facilities Planning	TYPE OF BOARD CONSIDERATION:	
Recommended By:	 Carlos Montoya, Director	Consent/Routine	
		First Reading	
Approved for Consideration:	 Eloy Ortiz Oakley, Chancellor	Action	
		Information	X

ISSUE: This item announces the Board of Governors Energy and Sustainability Awards for 2017, which recognizes outstanding community college achievements in energy and sustainability.

BACKGROUND: The Board of Governors Energy and Sustainability Awards were established in 2012 to honor leaders and exemplary energy and sustainability efforts at the California Community Colleges. The awards are presented on an annual basis in order to promote the ongoing efforts of community colleges on the path toward sustainability, and to maximize visibility and ensure high-level recognition of the recipients. The 2017 Board of Governors Excellence in Energy and Sustainability Awards are presented in the following categories:

- Excellence in Energy and Sustainability - Proposition 39 Projects
- Excellence in Energy and Sustainability - Faculty/Student Initiatives
- Excellence in Energy and Sustainability - Sustainability Champion

The award winners in the category of Proposition 39 Projects are chosen based upon a point system for comparing cost savings, energy savings, and jobs created by Proposition 39 energy projects. The Faculty/Student Initiatives award is designed to recognize faculty and/or students who have excelled in developing sustainability initiatives for their college. The Sustainability Champion is chosen by the California Community Colleges Chancellor’s Office based upon an individual’s contributions to the community college system in the area of energy and sustainability. **(Background cont.)**

RECOMMENDATION: The Board of Governors recognizes the recipients of the 2017 Board of Governors Energy and Sustainability Awards.

(Background cont.)

The 2017 Board of Governors Energy and Sustainability Awards Recipients

Excellence in Energy and Sustainability – Proposition 39 Projects

The following eleven districts have demonstrated excellence in energy and sustainability through careful project planning, resulting in energy and cost savings.

- **Best Overall District - Large:**

- **Coast Community College District, Orange Coast College – Interior Lighting Retrofit**

Orange Coast College performed an interior lighting retrofit in several campus buildings. The college replaced over 12,500 fluorescent and incandescent fixtures with energy efficient fluorescent and LED fixtures. The total project cost was \$887,000 and included approximately \$722,000 of Proposition 39 funds, \$150,000 of Investor Owned Utility rebates, and \$15,000 of district funds. The project is estimated to save 628,000 kilowatt-hours (kWh) resulting in energy cost savings of \$81,000 annually. Additionally, construction of this project created over 2,500 hours of journeyman employment.

- **Honorable Mention: Rancho Santiago Community College District, Santa Ana College – Campus-wide Interior Lighting Retrofit**

Santa Ana College completed a campus-wide interior lighting retrofit project. The college retrofitted over 4,800 linear fluorescent fixtures with LED retrofit kits. The total project cost was \$893,000 and included approximately \$706,000 of Proposition 39 funds, \$125,000 of Investor Owned Utility rebates, and \$62,000 of district funds. The project is estimated to save 614,000 kilowatt-hours (kWh) resulting in energy cost savings of \$80,000 annually. Additionally, construction of this project created over 2,400 hours of journeyman employment.

- **Best Overall District – Medium:**

- **Palomar Community College District, Palomar College – Retrofit Exterior Lighting with LEDs**

Palomar College implemented an exterior lighting retrofit project at both their San Marcos and Escondido sites. The scope of the project involved installing more efficient LED lighting comprehensively over both campuses. The total project cost was \$1,400,000 and included approximately \$516,000 of Proposition 39 funds, \$29,000 of Investor Owned Utility rebates, and \$850,000 of district funds. The project is estimated to save 463,000 kilowatt-hours (kWh) resulting in energy cost savings of \$74,000 annually. The construction for this project generated 857 hours of journeyman and 582 hours of apprentice employment.

- **Honorable Mention: Yosemite Community College District, Modesto Junior College – Interior and Exterior Lighting Retrofit on East Campus**

Yosemite Community College District conducted an extensive interior and exterior lighting upgrade project at its Modesto Junior College East Campus. The project included the retrofit of nearly 1,500 T12 and T8 fluorescent lamps with magnetic ballasts with new low-Wattage T8 linear fluorescent fixtures with electronic ballasts in various interior spaces. In

addition, high-pressure sodium fixtures in parking areas and exterior locations were replaced with energy efficient LED fixtures. Lastly, approximately 275 T12 fluorescent fixtures with magnetic ballasts were replaced with LED fixtures in both exterior and interior locations at the main gym and tennis courts. The total project cost was \$706,000 and included approximately \$690,000 of Proposition 39 funds, \$17,000 of Investor Owned Utility rebates, and \$49,000 of district funds. The project is estimated to save 477,000 kilowatt-hours (kWh) resulting in energy cost savings of \$62,000 annually. In addition, this project's construction generated approximately 1,500 hours of journeyman employment.

- **Best Overall District – Small:**

- **Solano Community College District, Solano Community College – Variable Air Volume Conversion**

Solano Community College converted 20 air-handling units at various buildings from constant airflow systems to more efficient variable airflow systems. In addition, an additional eight air handlers were enhanced with improved efficient controls. The improved operation of these air-handling units will allow for reduced airflow throughout the year while maintaining pre-existing comfort levels. The total project cost was \$1,518,000 and included approximately \$457,000 of Proposition 39 funds, \$252,000 of Investor Owned Utility rebates, and \$809,000 of district funds. The project is estimated to save 2,048,000 kilowatt-hours (kWh) and 90,000 therms of natural gas resulting in energy cost savings of \$191,000 annually. The construction of this project generated over 9,500 hours of journeyman and 3,800 hours of apprentice employment.

- **Honorable Mention: Victor Valley Community College District, Victor Valley College – Constant to Variable Air Volume Air Handler Upgrade**

Victor Valley College completed an air-handler upgrade project at multiple buildings. The campus upgraded the existing air handlers to improve efficiency. The total project cost was \$268,000 and included approximately \$239,000 of Proposition 39 funds and \$29,000 of Investor Owned Utility rebates. The project is estimated to save 120,000 kilowatt-hours (kWh) resulting in energy cost savings of \$15,000 annually. Additionally, construction of this project created over 750 hours of journeyman employment.

- **Retrofit Project Winner:**

- **Butte-Glenn Community College District, Butte College – Skyway Center – EMS Upgrade**

Butte College implemented a campus wide energy management system (EMS) upgrade project. The scope of the project involved a campus wide installation of a new EMS to achieve optimum operating efficiency. The total project cost was \$421,000 and included approximately \$383,000 of Proposition 39 funds and \$38,000 of Investor Owned Utility rebates. The project is estimated to save 130,000 kilowatt-hours (kWh) and 6,530 therms resulting in energy cost savings of \$111,000 annually. The construction for this project generated over 2,900 hours of journeyman employment.

- **Honorable Mention: San Joaquin Delta Community College District, San Joaquin Delta College – Exterior Lighting Retrofit**

San Joaquin Delta College replaced over 1,000 exterior lighting fixtures across the campus parking lots, pathways, and building exterior walls with high-efficiency LED fixtures. The total project cost was \$850,000 and included approximately \$550,000 of Proposition 39 funds, \$135,000 of Investor Owned Utility rebates, and \$165,000 of district funds. The project is estimated to save 570,000 kilowatt-hours (kWh) resulting in energy cost savings of \$45,000 annually. The construction of this project generated 950 hours of journeyman and 950 hours of apprentice employment.

- **Commissioning Project Winner:**

- **Cerritos Community College District, Cerritos College – RCx at Math/Science Building**

Cerritos College implemented a Retro-commissioning (RCx) project at the Science Building on their main campus. The scope of the project involved installing controls that are more reliable and implementing better control sequences on the air handlers making them more energy efficient. The total project cost was \$577,000 and included approximately \$350,000 of Proposition 39 funds, \$46,000 of Investor Owned Utility rebates, and \$181,000 of district funds. The project is estimated to save 62,000 kilowatt-hours (kWh) and 6,900 therms resulting in energy cost savings of \$25,000 annually. The construction of this project generated over 160 hours of journeyman and 41 hours of apprentice employment.

- **Honorable Mention: Los Angeles Community College District, Los Angeles Harbor College – Central Plant RCx**

Los Angeles Harbor College implemented a Retro-commissioning (RCx) project at the central plant serving their campus. The scope of the project involved upgrading central plant controls and optimizing chiller control to better account for variability in campus energy needs. The total project cost was \$316,000 and included approximately \$204,000 of Proposition 39 funds, \$26,000 of LADWP rebates, and \$86,000 of district funds. The project is estimated to save 326,000 kilowatt-hours (kWh) resulting in energy cost savings of \$42,000 annually. The construction for this project generated 807 hours of journeyman and 168 hours of apprentice employment.

- **Renewable Energy Winner:**

- **Cabrillo Community College District, Cabrillo College – Solar Thermal Pool Heater**

Cabrillo Community College District implemented a solar thermal pool heater project at their Cabrillo College campus. The scope of the project involved installing new controls and monitoring systems, a new solar pump station, heat exchanger and storage tank, and 56 new roof mounted solar thermal panels. The total project cost was \$227,000 and included approximately \$137,000 of Proposition 39 funds, \$37,000 of Investor Owned Utility rebates, and \$52,000 of district funds. The project is estimated to save 7,466 therms resulting in energy cost savings of \$3,700 annually. The construction for this project generated 1,045 hours of journeyman employment.

**Excellence in Energy and Sustainability – Faculty/Student Initiative Award:
Dr. Mark Padilla, Professor of Physics, Chaffey College, Chaffey Community College District**

The Board of Governors Faculty/Student Initiative Award winner for 2017 is Dr. Mark Padilla, Professor of Physics at Chaffey College. Dr. Padilla plays an integral role behind the *Physics in the Central Plant* initiative as part of the Living Lab efforts at Chaffey College. His work in conjunction with Ted Younglove, Dean of the School of Math and Science, and Troy Ament, Director of Maintenance and Operations at Chaffey College is part of the experiential learning process of the Living Lab. This project institutionalizes sustainability by integrating the energy efficiency equipment and operations directly into student learning through the Physics curriculum. The Living Lab presentation has been used in three terms of Physics 47 (Fall 2016, Spring 2017, and Fall 2017) with a total of 77 students so far. The curriculum includes student tours during class hours of the Central Plant and the lesson plans were adapted to include the real-world devices to demonstrate the concepts that were previously presented on PowerPoint slides.

This project increases student, faculty, staff, and community knowledge and interest in energy efficiency and sustainability, energy efficient equipment, and operations of campus facilities. This initiative has allowed Chaffey College to increase sustainability efforts and energy efficiency on their campus. Many of the Living Lab initiatives as well as the presentations focus on relating learning to the underlying science behind sustainability improvements. This has proven valuable to increasing awareness and support on campus as well as within the community as the College moves forward with additional sustainability efforts including a large solar project currently underway. Having a campus culture and local community with increasing levels of STEM educated citizens will have long-term benefits to sustainability at the college and the broader community.

**Excellence in Energy and Sustainability – Sustainability Champion:
Joe Fullerton, Energy and Sustainability Manager, San Mateo County Community College District**

Joe Fullerton, the Energy and Sustainability Manager at San Mateo County Community College District, has been selected as the California Community Colleges Sustainability Champion for 2017. Joe set an aggressive pace in sustainability at the district since his arrival over three years ago. He started his tenure by completing Sustainability Plans based on the CCC Sustainability Template at all three district campuses: College of San Mateo, Cañada College, and Skyline College.

Joe has taken the lead at the district for the implementation of Proposition 39, and has developed and installed projects ranging from Solar Photovoltaics, interior and exterior lighting, and Monitoring Based Commissioning. He worked with a local non-profit to develop a project proposal that won \$3.5 million in grant funding from the California Energy Commission to support a solar and energy storage project. Joe is also working to implement a new Facility Management System to help the district save energy and water while improving maintenance and operations for staff efficiency.

Beyond energy projects, Joe led his team to win a \$70,000 grant from the Bay Area Air Quality Management District to help offset the cost of doubling the district's EV charging station infrastructure. Meanwhile, he coordinated upgrades to the district's Water Efficiency and Storm Water Management programs (both used as templates throughout the community college system), and built a waste management RFP to set the district on pace to achieve zero waste by 2020.

Joe has been active helping his peers and colleagues at other community colleges as well. He founded a group of Community College Energy and Sustainability professionals that work to facilitate energy efficiency

and sustainability practices throughout the California Community Colleges. He helped form the local chapter of APPA, Leadership in Educational Facilities, has devoted time to helping the California Community Colleges Foundation formulate a Proposition-39 RFP template for lighting systems, and expanded a program that he piloted at the district known as the Fellowship in Community College Sustainability. This program, fully funded through a partnership with PG&E, took five recent college graduates and placed them in energy and sustainability roles in five Bay Area districts. The cumulative results were enough to convince PG&E to continue funding the program and to work with their non-profit program management partner to expand it in the year ahead.

Joe embodies the concept of a *Sustainability Champion* and his energy, dedication, and efforts combine to help move the Community College system further along the path to a sustainable future.