



# *CCC/IOU Energy Efficiency Partnership and Campus Budget Challenges*



**Dan Estrada – Chancellor's Office**  
**Robert Brunn – Southern California Edison**  
**Lisa Hannaman – Southern California Edison**

# California Community Colleges Systemwide Detail

- 72 districts encompassing 112 colleges, 71 approved off-campus centers and 22 separately reported district offices
- Includes 23,880 acres of land, 5,052 buildings, and 71 million square feet of space
- 2.76 million students annually
  - ◻ 77% of the state's public undergraduate students
  - ◻ 25% of community college students nationwide



# California Community Colleges Systemwide Facilities Needs

- 10-year Facilities Needs = \$35.8 billion
- Enrollment Growth Needs = 16.9 million new sq ft
- Modernization Needs = 29.9 million existing sq ft
  - q 71% of buildings: over 25 years old
  - q 47% of buildings: over 40 years old



# California Community Colleges Systemwide Energy Priorities

- Meet campus comfort and air quality needs
- Create an “energy” awareness campaign
- Enhance *energy efficiency* & replacement of old equipment
- Alternative Energy Sources



# WHY DO ENERGY EFFICIENCY?

- Opportunity to do the right thing
- Improve instructional environment
- Reduce operating cost
- Redirect Maintenance efforts
- Make the board happy



# Typical Energy Efficiency Projects

## “Rule of Thumb” Benefits

- **T-12 to high efficiency T-8 Fluorescent Retrofit**  
Life cycle – 8 years      Simple payback – 1 year
- **Energy Management Systems (EMS)**  
Life cycle – 10+ years      Simple payback – 5 years
- **HVAC Systems – Chillers, Boilers, Air Handlers**  
Life cycle – 20 years      Simple payback – 10 years



*Life cycle and simple payback are “rule of thumb” estimates only. Actual results based on site and project specifics.*

# CCC/IOU Energy Efficiency Partnership

- Partners include:
  - CCC System: 72 Districts and Chancellor's Office
  - All four Investor Owned Utilities (IOUs):
    - Pacific Gas & Electric
    - San Diego Gas & Electric
    - Southern California Edison
    - Southern California Gas



## Program Incentives for 2010-12

MEASURE	INCENTIVE RATE
<b>Electricity</b>	 <p><b><u>\$0.24 /</u></b> <b><u>kWh</u></b></p>
Packaged HVAC, HVAC Controls, Motors, Drives	
Lighting, Lighting Controls, Daylighting	
Central Plants, Chiller Retrofits, and other major Energy Efficiency Infrastructure Projects	
Monitor Based Commissioning (MBCx)	
IT Projects	
<b>Natural Gas</b>	 <p><b><u>\$1.00 /</u></b> <b><u>therm</u></b></p>
<b><u>ALL</u></b> Gas Measures	

# No Cost Solutions

- **PC Power Management powers down computers when not in use**
  - **Cost: \$15/PC**
  - **Utility Incentive: \$15/PC**
  - **Energy Savings: 200 kWh/PC**

# No Cost Solutions

- **Plug Load Occupancy Sensors** power down entire work stations when not in use
  - **Cost: \$15/Sensor**
  - **Utility Incentive: \$15/Sensor**
  - **Energy Savings: 143 kWh/Sensor**

# Low Cost Solutions

- **Laboratory Ventilation Controls**

**Santa Monica College saves \$127,315/yr**

- **Project Cost: \$392,274**
- **Utility Incentive: \$217,322**
- **Payback: 1.37 years**
- **Energy Savings: 646,418 kWh & 62,182 therms**

# Low Cost Solutions

- **Pool Upgrades with quick paybacks**
  - Pool Covers
  - Pump & Motor VFDs
  - Smart Pump Systems (sensors
  - Solar Thermal Heating



# Financing Options

- **Utility On-Bill Financing**
  - Zero-Interest Loan to fund energy efficiency projects
  - Monthly loan payment set to equal energy cost savings, so bills are “cash neutral”
  - **Loan Cap**
    - PG&E - \$250,000 per meter
    - SCE - \$1 million per campus
    - SCE - \$1 million per campus (program fully subscribed)
    - SCE - \$1 million per campus



# Leveraging Additional Funding Sources

## American Recovery and Reinvestment Act

- **Energy Technology Assistance Program (ETAP)**
- **Energy Efficiency Community Block Grants**

*Bonus: can be used in conjunction with utility incentives!*



# Energy Technology Assistance Program

- American Recovery and Reinvestment Act-funded program for local government agencies
- Provides expert technical support and cash incentives for:
  - Bi-level lighting
  - Wireless lighting controls
  - Wireless HVAC controls
- Administered by Energy Solutions

# San Mateo County CCD

## Cumulative Energy Efficiency Savings Example

- **Ongoing Operational Savings**  
**\$1.7 million annually**
- **Special IOU Rebates**  
**\$1,008,157**
- **CCC/IOU Partnership Incentives**  
**\$195,290**
- **Savings by Design Incentives**  
**\$355,964**



# List of Winners

- **Desert CCD**
  - Annual Operational Savings:  
**\$275,000**
  - Partnership Incentives:  
**\$493,527**
  - Energy Savings:  
**2 mill kWh**  
**13,000 therms**



# List of Winners

- **San Joaquin Delta CCD**

- Annual Operational Savings:  
\$300,000
- Partnership Incentives:  
\$440,201
- Energy Savings:  
1.6 mill kWh  
150,000 therms



# List of Winners

- **San Diego CCD**
  - Annual Operational Savings:  
\$540,000
  - Partnership Incentives:  
\$966,939
  - Energy Savings:  
4.3 mill kWh  
30,000 therms



For more information check Program Web Site at:  
[www.cccutilitypartnership.com](http://www.cccutilitypartnership.com)

<u>Name</u>	<u>Organization</u>	<u>E-mail</u>	<u>Phone</u>
Fred Harris	Chancellor's Office	fharris@cccco.edu	(916) 324-9508
Dan Estrada	Chancellor's Office	destrada@cccco.edu	(916) 324-8901
Lisa Hannaman	SCE	lisa.hannaman@sce.com	(714) 895-0616
Linh-Chi Hua	SDG&E	LHua@semprautilities.com	(858) 654-8704
Carlo Gavina	SCG	cgavina@semprautilities.com	(213) 244-3313
Laura Wetmore	PG&E	llwe@pge.com	(415) 973-8993
Ron Beeler	CCC/IOU	ronbeeler@sbcglobal.net	(714) 267-7209
Matt Sullivan	NAM	Matt_sullivan@newcomb.cc	(415) 896-0300
Carmen King	NAM	carmen_king@newcomb.cc	(415) 896-0300