California Community Colleges: Meeting the Challenges of a Changing Energy Landscape

June 28, 2017

Moderated by:
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ENERGY CONSERVATION & MODERNIZATION FOR GLENDALE COMMUNITY COLLEGE

Phase I Verification & Results

June 2017
Phase I – Sample Retrofit Photos

Before: Library Multizone AHU

After: Library VAV
Phase I – External Funds Offsetting Total Cost

- External funds leveraged to offset Phase I program cost
- Significant improvement on payback!

<table>
<thead>
<tr>
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<th>Amount</th>
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<tbody>
<tr>
<td>Total Program Cost</td>
<td>$2,838,997</td>
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<tr>
<td>GCC Share of Cost</td>
<td>$911,805</td>
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<tr>
<td>Total Electric Savings</td>
<td>1,416,214</td>
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<tr>
<td>Total Gas Savings</td>
<td>69,327</td>
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<td>Total Bill Savings</td>
<td>$239,737</td>
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<tr>
<td>GCC Simple Payback</td>
<td>3.8 years</td>
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Phase I - Program Results Evaluation

• Success Factors
  • Substantial energy reduction
  • Nearly ¼ million in financial savings
  • Creative use of funding sources
  • Reduced maintenance costs
  • Improved operations and comfort
  • Positive public recognition
  • Active support from Utilities
  • $74,572 additional savings ($239,737) over estimates ($165,165)
MiraCosta Community College District Presidents Sustainability Advisory Committee
Sustainability Interface
Facilities, Students, Staff and Administration

• Sustainability Advisory Committee (cross-functional) established 2011.

• Board approved district BP/AP 3260 on Energy and Sustainability - 2011.

• Strategic Plan Goal #1 (established 2012) - MiraCosta Community College District will become a vanguard educational institution committed to innovation and researched best practices, broad access to higher education, and *environmental sustainability*.

• Board approved award of contract with Cenergistic to implement behavioral based energy conservation program -2014.

• Board approved district BP/AP 3261 on Energy Conservation - 2015.

• Sustainability Advisory Committee provided vison, goals and focused plan for sustainable practices that were incorporated in the 2012/2016 Facilities Master Plans.
Sustainability Interface
Facilities, Students, Staff and Administration

2016 Facilities Master Plan Sustainability Goals

- Long Term: Carbon neutral by 2050
- Short Term: 50% carbon reduction by 2033
- All new buildings Net Zero at time of design starting 2030 (will be code required)

Sustainability Strategies:

- Use renewable sustainable energy sources to meet our carbon neutral goals.
- New buildings to be LEED Platinum or equivalent at the time of design. AGGRESSIVE GOAL
- Major renovations of existing buildings to be LEED Silver or equivalent at the time of design.
Upcoming Measure MM Sustainability Projects

**Energy Efficiency Goals – Measure MM**

- Photovoltaic Panels (Shade Structures) at parking lots
- Sized to provide 30% of power on campus with PVs
- Optimum building orientation
- Enhanced daylighting design
- Operable windows in staff areas
- High-efficiency mechanical systems
- Effective HVAC zoning
- Low power lighting
- Occupancy based controls
- Fumehood occupancy sensors & sash-interlocked
San Mateo County Community College District Sustainability Initiative
Cypress College
Power Purchase Reduction

Year: 2009-2017

- 2009: 10,000,000
- 2010: 8,000,000
- 2011: 6,000,000
- 2012: 4,000,000
- 2013: 3,000,000
- 2014: 2,000,000
- 2015: 1,000,000
- 2016: 500,000
- 2017: 300,000
2017
Annual Savings $1,440,000

$2,500,000.00  Incentives
$2,250,000.00  Prop #39
$7,000,000.00  Scheduled Maintenance
Vision & Plan

- New Vision and Sustainability Standards
  - Strategic Plan Goal E “Establishing a Strong Culture of Sustainability”
  - ZNE District by 2030
  - ZNPW District by 2030
  - Carbon Neutral (Scope 2) by 2030
Vision & Plan

- Use Bond Dollars to hire Sustainability Professionals who can fill an institutional role. Capital Projects, Institutional Planning, Facilities Operations
- Combining Capital Bond Dollars, Prop 39, and Scheduled Maintenance to create new campus level infrastructure, while also improving efficiency of Buildings not being modernized
- Secured $32 million dollars in Board Approved Bond allocated funds for “Going Green to Save Green”. (Challenge don’t spend it all on solar)
- Expected $2 million dollars in annual Cost Savings (new infrastructure expected to last >30 years)
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<tr>
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