Innovative Financing for Comprehensive Energy Retrofits

October 14, 2010

Sonoma County - A little history

- 2001 - Joined ICLEI
- 2002 – Made our first climate pledge
- 2004 - All Cities plus the County adopt aggressive GHG goals
- 2006 Climate Action Plan approved - beginning of the Energy Manager era
- Energy Watch began in early 2009
- SCEIP began in March 2009
Strategy for our Climate Goal

- Comprehensive Building Retrofit
- Greening the County Fleet
- Employee commute program

Serve Government, Non-profit and Small Business
- Audits and Evaluations
- Direct Install
- Project Evaluation
- Incentives and Rebates
- Energy Efficiency Consulting
- Retro-commissioning
- Demand Reduction
Comprehensive Energy Project

- $22,000,000 for multiple EE and the fuel cell
- Saves money from Day 1 of installation
- Supports Greenhouse Gas reduction goals
- Increases Collaboration
- Builds Local Economy

Comprehensive Energy Project

- 38 EEMs at 24 buildings
- Lighting retrofits, 20 buildings
- HVAC replace or rebuild in 4 buildings
- HVAC Motors & Controls
- Central Mechanical Plant (CMP) upgrade
- Water retrofit, including MADF and JJC
- 1.4MW Fuel Cell Cogeneration Power Plant
Comprehensive Energy Project

CEP Process
- RFP to select Energy Services Company
- AIRCON Energy
  • Inventoried County Facilities
  • Prepared Investment Grade Audit,
  • 101 Energy Efficiency Measures (EEM) evaluated
- Obtained Private Loan Financing – based on Investment Grade Audit
- Based on equipment lease model in part

Projects Include

Extensive Lighting Retrofits

- Over 1.3 MWh of savings per year projected
- 250 kW Demand reduction
Projects Include

4 new Chiller w/ VFDs

Projects Include

Boiler Upgrades
Projects Include

Water efficiency retrofits saving over:

• Over 20,000,000 gallons/yr
• 16,112 therms reduction/yr
• 13.8 kW demand reduction
• $301,617 in energy savings

1.4 MW Fuel Cell Power Plant

– Generates 10,693,216 kWh/year
– Produces 45 billion BTUs year
– Produces virtually no pollutants
– Reduce GHG emission by 69% versus grid power
– Designated “Ultra-Clean” by CARB
Fuel Cell Costs

A Recap on Our Process

- Hired an Energy Services Company – Aircon – to do an investment grade audit of almost all of our county facilities
- Obtained a private loan
- Began with lighting work
- Moved on to mechanical systems
- Fuel Cell installation
- Set up a revolving fund to capture efficiency dollars
Financing

Directive: “Make Revenue Neutral from Day 1”

Financing Plan

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Project Cost</td>
<td>$22,272,029</td>
</tr>
<tr>
<td>Incentives, Grants, and Rebates</td>
<td>($3,941,226)</td>
</tr>
<tr>
<td>Financed Amount</td>
<td>$18,730,803</td>
</tr>
<tr>
<td>Estimated Interest Rate*</td>
<td>4.98%</td>
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<tr>
<td>Repayment Term</td>
<td>16 years</td>
</tr>
<tr>
<td>Assumed Closing/Funding Date</td>
<td>1/1/09</td>
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<tr>
<td>Assumed Annual Energy Cost Escalation*</td>
<td>5%</td>
</tr>
<tr>
<td>First year of positive cash flow</td>
<td>Year 12</td>
</tr>
<tr>
<td>Total payments</td>
<td>$31,794,615</td>
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<tr>
<td>Total cumulative positive cash flow after 25 years (estimate life of equipment)</td>
<td>$38,404,231</td>
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</tbody>
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* Rates are estimates and are subject to change. 5.4 was max rate.
Cost Savings

CEP Expected Results

Estimated Annual Savings
- GHG reduction 6,135 tons
- Electricity reduction 13,365,226 kWh
- Water savings = 19,138,260 gallons
- Utility savings = $1,689,316
- No General fund
SCEIP

Sonoma County Energy Independence Program
(Our PACE program)

Additional Funding for Projects

- ARRA
- QCEB Bonds
- On Bill Financing
- Revolving Energy Fund
Additional Projects Include

750 kW Solar System with ARRA funds

Additional Projects Include

LED Parking lot retrofit with On Bill Financing
Additional Projects Include

Airhandler upgrades with QECB

Other Projects in Process

• Cities in Sonoma County
• Libraries
• Fire Stations
Thank you

Sam Ruark– Energy & Sustainability Coordinator
sruark@sonoma-county.org
707- 565-2125