ENERGY EFFICIENCY IN CALIFORNIA’S SCHOOLS

An Energy Service Provider Perspective
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Lauren Casentini, President
Resource Solutions Group (RSG)

- 10+ years implementing California public school efficiency programs
  - SCSA support, IOU third party implementer, direct to districts
- California Energy Efficiency Industry Council (Efficiency Council)
  - Founding/Sustaining Member, Board Chair - over 75 members
- School Energy Efficiency (SEE) Program
  - Geographic coverage: 20 counties in PG&E service territory
  - Comprehensive approach: Lighting, HVAC, Insulation, Computer Power Management, Water Heating, Pool Measures, Refrigeration/Motors, Compressed Air and more
  - Hands-on assistance to districts from screening through field verification
- Program summary: 2006-2012
  - 200+ public school district upgrades
  - Savings: 21M kWh; 2,554 kW; 1.9M therms
  - $3.6M rebates paid leveraging $12.3M customer investment
SEE Program Services

Screen for need and savings potential - provide on-going support

Conduct post inspections and process incentive payment

Provide application and paperwork support

Conduct engineering analysis, assessments/audits

Work with districts to analyze opportunities, identify funding, secure approval

Project management support:
- bid package development, measure specifications, selection criteria, vendor lists

Engineering and technical support:
- pre/post inspections, calculations for custom measures
Barriers to Energy Efficiency in Schools

- Time limitations - school calendar, staff time constraints
- Lack technical expertise to prioritize, select, manage upgrades
- Constrained budgets - competing funding priorities
- Limited resources for administration, applications
- Lengthy approval and contracting procedures
- Challenging for districts to distinguish among the many organizations offering services
- Project delays common due to funding, contractor schedule, school calendar, product availability
What works!

- Find and support *internal champions*
- **Streamline** and simplify process
- Easy access to *financing*
- *Clear application* process
- *Long-term commitment* - keep coming back
- Provide *training* and back-up when needed to keep things moving
- **Hands-on project support** and technical assistance
- *Document savings* and successes
- Recognition
SEE Program Model - challenges of approach

- Budget/regulatory framework creates silos: renewable energy, retro-commissioning
- Cost-effectiveness framework limits comprehensive offerings
- Budget limitations impact ability to scale and disrupt momentum when cut off
SEE Program Model - benefits of approach

- **Trusted advisors**: program team becomes advocate for all types of energy upgrades, particularly important for smaller districts and those needing extensive support

- **One-Stop-Shop**: Clarity across diverse opportunities

- **Repeated efforts** over years increases savings over time

- **Long-term commitment**
  - Allows schools to achieve comprehensive savings within budget/schedule
  - Fresno Unified School District:
    - 37 projects over 6 years
    - 4.6M kWh, 820 kW, and 37,684 therm savings
  - Kern High School District:
    - 20 projects over 5 years
    - 366,437 kWh, 33 kW, 3,140 therm savings
Fresno USD

- Fourth-largest district in California
  - 73,000 students
  - 8 high schools, 17 middle schools, 65 elementary schools, 9 alternative/special ed schools
- **Upgrades**: large, district-wide lighting retrofits, tankless water heaters, and pool covers
  - Program incentives: $651,303
  - Energy Savings: 4,760,210 kWh; 792.95 kW; 37,684 Therms
- **Funding**: Measure Q (bonds), OBF, and incentives
- **Of Note**: Rebates are reinvested in future EE projects; serve as a revolving pool of funds. District is extremely committed to pursuing all cost effective options.
Oakdale USD

- District serves
  - 5,200 students, 3 high schools, 1 jr. high, 4 elementary schools
- **Upgrades**: Pool pump VFD, lighting retrofits
  - Program incentives: $34,168
  - Energy Savings: 240,732 kWh
- **Funding**: Maintenance budget and incentives, will consider CEC loan and/or OBF in the future
- **Of Note**: District pursued behavioral savings before moving to more efficient measure installation. Replacing HVAC units using upstream manufacturer rebates and doing the labor in-house
Rosedale Union School District (Bakersfield, Kern County)

- Rosedale Union is a K-8 district serving 5,300 students in 2 middle schools and 7 elementary schools

Upgrades: Installed by local contractor, lighting in multiple schools, HVAC tune-up, duct cleaning programs

- Program incentives: $11,596
- Energy Savings: 34,794 kWh

Funding: Program incentive and deferred maintenance budget

Of Note: Priority order of funding: deferred maintenance → Mello-Roos funds → operations budget → general fund