

ENERGY EFFICIENCY IN CALIFORNIA'S SCHOOLS



An Energy Service Provider Perspective

February 19, 2013

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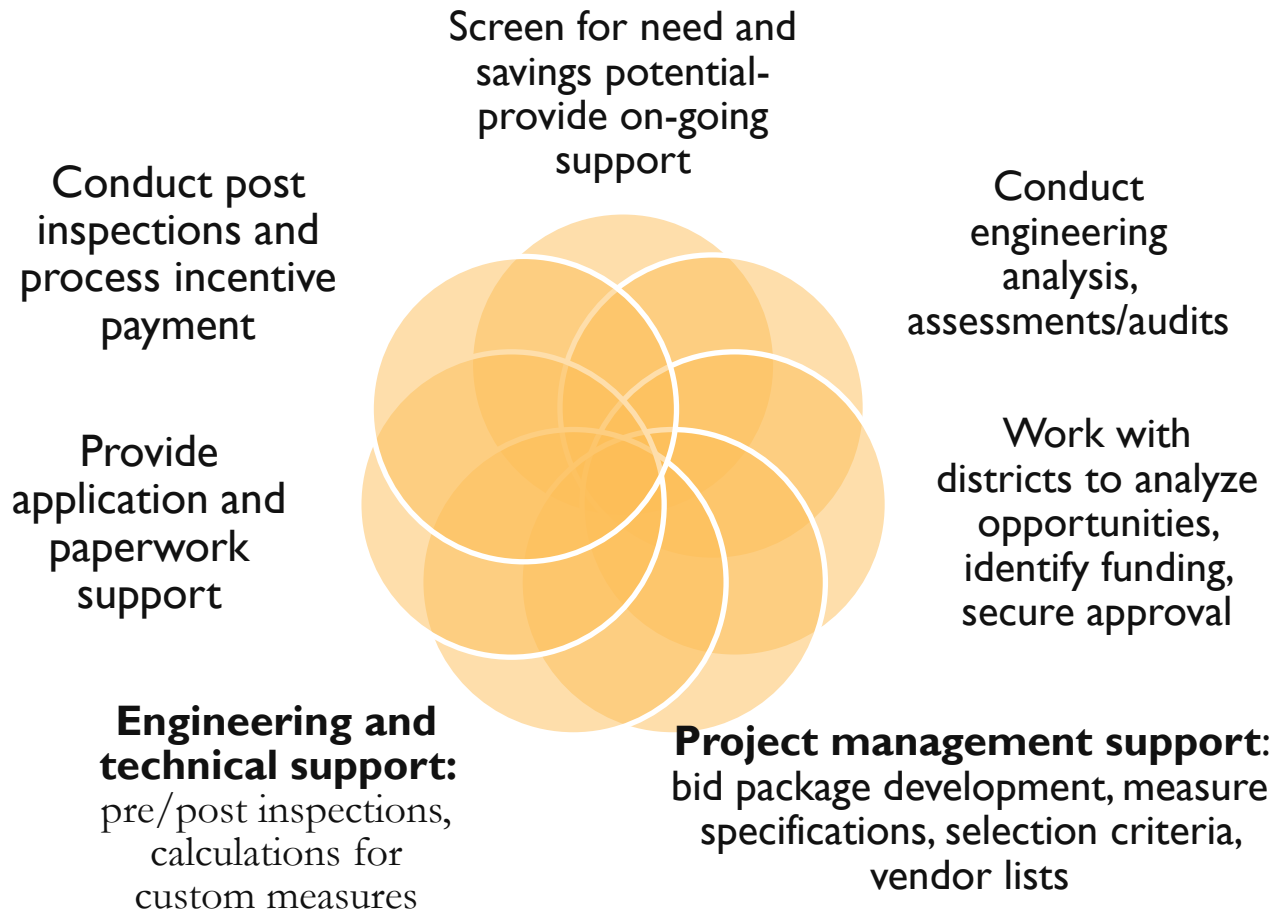


A CLEARRESULT COMPANY

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



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!

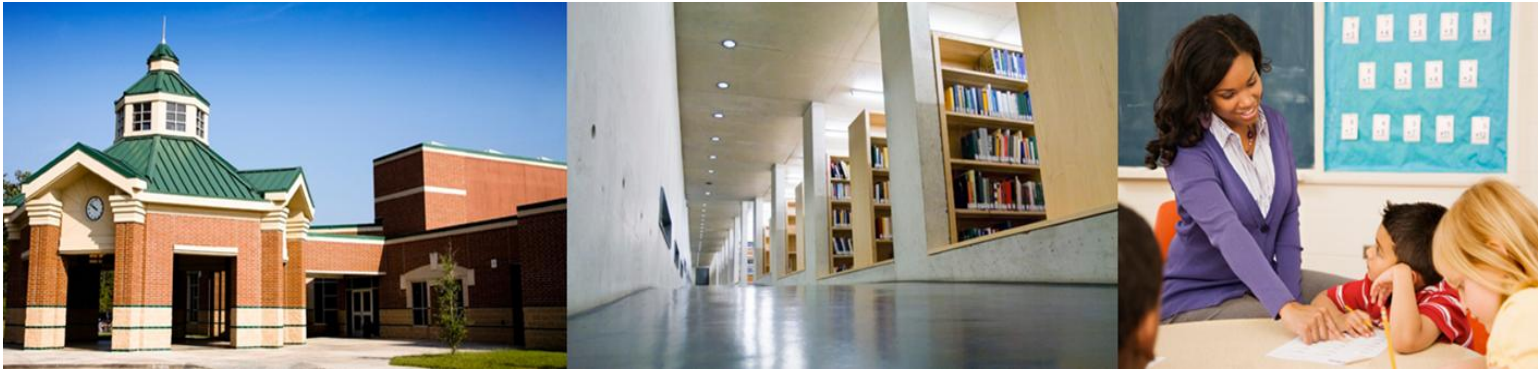
- Find and support **internal champions**
- **Streamline** and simplify process
- Easy access to **financing**
- **Clear application** process
- **Long-term commitment-** keep coming back
- Provide **training** and back-up when needed to keep things moving
- **Hands-on project support** and technical 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



CASE STUDY EXAMPLES

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



- 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