

To: Kellie Smith, Chief Consultant, Senate Energy Comm.
From: Rick Brown, PhD, President
Subject: Energy Efficiency in Schools Hearing: 2/19/13
Date: 2/14/13



Background

TerraVerde Renewable Partners is an energy conservation and solar advisory firm based in the North Bay, serving school districts and municipalities across California. Over the last two years, we have helped over a dozen public agencies develop obtain competitive bids for energy conservation and solar projects, with project costs totaling \$77 Million, and annual projected savings of \$4.2 Million. This includes projects at school districts serving 100,000 students at 129 school sites. Most of the districts we serve have high a concentration of students eligible for free and reduced lunch (the average is 64%) and children of color (the average is 65%). We are currently working with over a dozen other districts on projects under development. We are independent of any ESCo, solar integrator, finance shop or supplier; thus we provide objective analyses and oversight of potential projects for our clients, making sure that they get the highest value from competitive bid processes we spec and run on their behalf.

With the upcoming implementation of Proposition 39, K-12 schools and other public agencies will have the opportunity to access grants and/or low-cost loans to implement energy saving measures through energy efficiency retro-fits, generation/solar or some combination. Expenditure of these funds as wisely as possible is critical to obtaining the highest return on investment, and to fulfilling promises made to voters on how these funds would be used. Historically, where most schools and public agencies have gotten into trouble is in the contracting for energy conservation and solar projects.

In order to support the Legislature's efforts to craft legislation that the funds are utilized "as wisely as possible", this memo outlines a set of best practices in the contracting for energy efficiency projects at schools.

We will be preparing a follow-up memo detailing best practices in the contracting for energy conservation performance contracts ("ESPC").

Best Practices in Contracting Energy Efficiency Projects

1. Start with a Plan – Identify the objectives of conducting an energy efficiency upgrade project and develop a specific plan to meet the objectives including return of investment, energy usage reduction, operational improvements, etc.
2. Conduct Energy Benchmarking – Conduct an energy benchmarking activity to rank each site against sites in each peer group including: facility type, climate zone, utility, etc.
3. Conduct a Targeted Energy Audit – Conduct an energy audit on energy intensive sites and/or sites that require known upgrades. Ensure the energy audit covers the following topics:
 - a. Comfort and operational requirements
 - b. Utility rate analysis
 - c. No cost Energy Efficiency Measures ("EEMs")
 - d. Low cost EEMs
 - e. Investment Grade EEMs
 - f. EEMs that are not recommended
 - g. Demand response strategies

4. Use Cost Breakdown Tables – Obtain project costs to be provided for each EEM. Energy savings produced from energy conservation measures depend on the value of avoided cost of energy as well as the cost of installation and financing. While awarding a contract on multiple EEMs may yield savings due to economies of scale, the owner needs to evaluate each EEM individually in order to make a decision to proceed with implementing each EEM.
5. Specify Equipment – Specify the quality of equipment for each EEM and request equipment from bankable manufacturers with readily available spare parts (if needed) and maintenance support.
6. Perform Targeted M&V – Use the IPMVP framework to create an Monitoring and Verification (“M&V”) plan and checklist. Request necessary installations to undergo thorough measurement and verification activities to prove that installations pass the defined performance criteria. An M&V checklist must be developed by the owner (or owner’s independent advisor) to be completed by the installer. Alternatively, the owner could use the services of an independent advisor or service provider to perform the M&V activities.