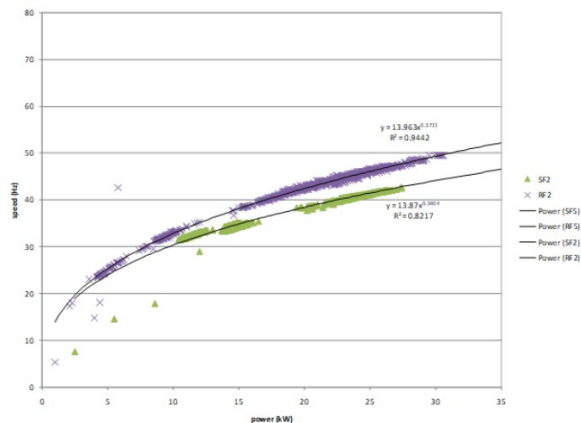


# Program Evaluation: Large Commercial, Industrial, and Agriculture Sector

## California Public Utilities Commission (Commission)

**Challenge:** The California Public Utilities Commission (Commission) is committed to ensuring the long-term success of California’s dynamic energy efficiency portfolios, consisting of integrated programs with clearly defined *ex ante* energy savings measurements, accompanied by *ex post* evaluated measure energy savings resulting from the various program initiatives undertaken by Energy Efficiency Program Administrators (PAs) in California, including the Investor-Owned Utilities (IOUs). The main drivers of the scope and timing of work required for energy savings Estimation, Measurement and Verification

### Group D Custom Project Evaluation – On-Site Metering of Fan Speed as a Function of Ex Ante kW



**Approach:** Tierra’s role across the breadth of Group D evaluation responsibilities focused on the application of gross-, best practice EM&V data collection and analysis methodologies to facilitate the calculation / reporting of statistically significant Gross Realization Rates (GRRs) across measure categories, programs, participants, etc. Tierra’s data collection efforts were adapted to the unique considerations of the COVID-19 pandemic which restricted on-site EM&V prospects, available data sources, and recruitment potential. Similarly, Tierra calibrated the gross-EM&V analysis methods to reflect the scope of supporting project / measure performance data, along with the regulatory reporting requirements. Examples of Tierra’s gross-EM&V responsibilities, included:

- Integrating the unique combination of available data sources to comply with industry best practices in evaluating sampled custom projects / custom measures, including AMI data, Energy Management System (EMS) trend data, participant interviews, on-site inspection findings and building attributes, secondary data sources (e.g., Dodge New Construction, etc.), etc.
- Reviewing, verifying, and updating custom Savings By Design (SBD) EnergyPro models to accurately reflect current, *ex post* operating conditions consistent with International Performance Measurement and Verification Protocol (IPMVP) Option D.

### Project Highlights:

- Led gross Estimation, Measurement and Verification (EM&V) activities for the Group D sector programs, including Customized Project Reviews (CPR) and Strategic Energy Management (SEM)
- Facilitated the development of statewide Project Coordination Groups (PCG) to ensure applicable insights / recommendations from the Group D evaluation are shared with other, concurrent contract groups (A – E).
- Integrated Group D evaluation findings into California’s electronic Technical Reference Manual (eTRM).

(EM&V) activities include state energy efficiency strategic plans, legislative mandates and Commission decisions and legislative mandates. Moreover, the Commission continues to strive to improve the accuracy, speed and cost-effectiveness of the ratepayer funded program evaluation process. For this contract, Tierra was a core member of the broader / cohesive SBW Consulting team selected by the Commission to provide savings EM&V, Program Evaluation, Market Assessment, Policy Planning Support, and Financial and Management Audit Support for the Group D Sectors: Large Commercial, Industrial, and Agriculture Sector Programs, and Customized Project Reviews (CPR) and Strategic Energy Management (SEM).

- Developing data collection protocols and priorities for virtual site audits, an adaptive framework for procuring evaluation-supporting data while simultaneously complying with regional health and safety guidelines in light of the COVID-19 pandemic.

**Outcome:** Tierra successfully developed gross-EM&V data collection and analysis strategies to support the team's broader Group D evaluation framework. Additionally, the team lent a unique perspective to measure-, sector-, program-level, etc. evaluation recommendations to further improve future program lifecycles. The Tierra team also facilitated the development of statewide Project Coordination Groups (PCG) to ensure the cross-cutting application and knowledge-sharing of key recommendations across the other Contract Groups (A – E) included within the 2018-2020 evaluation cycle. Finally, Tierra team members integrated Group D evaluation findings into California's electronic Technical Reference Manual (eTRM); an online application that serves as the repository for all statewide deemed measures for California.



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