



Statewide Emerging Technologies Program (ETP) Third Party Introduction Tactic Process Evaluation Final Report

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Company

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1 Executive Summary

This report presents the findings of the Statewide Emerging Technologies Program (ETP) Third Party Introduction Tactic Process Evaluation conducted for the California investor-owned utilities (IOUs): Southern California Edison Company (SCE), Southern California Gas Company (SCG), San Diego Gas & Electric Company (SDG&E) and Pacific Gas and Electric Company (PG&E). This study assessed the solicitation process used for one of the objectives of the ETP subprogram Technology Introduction Support (TIS), the Technology Resource Innovation Program (TRIP).

1.1 Background

For 2013-2014, the IOUs' ETP included a subprogram, Technology Introduction Support, which focuses on new or underutilized technologies that are ready to be introduced to the marketplace. One of the objectives of the subprogram was to conduct TRIP, which solicits program delivery concepts from implementation contractors (also known as third parties or third party vendors) and transfers winning projects and funding to the IOUs' Third Party (3P) Programs for the remainder of each project's contract. Some IOUs have opted to solicit 3P implementers for their technology introduction projects through an existing 3P program solicitation process known as Innovative Designs for Energy Efficiency Approaches (IDEAA365). While TRIP solicitations are intended to be issued periodically and focus only on emerging technologies, IDEAA365 accepts proposals year round (until funding is exhausted), and focuses more on seeking proposals for innovative program delivery methods for innovative technologies, or widgets. Table 2 compares the substantive differences between the two solicitation vehicles.

The focus of the evaluation was on the effect of the solicitation processes on the quality of the submissions, with objectives to:

- Determine the pros and cons of the two solicitation processes—TRIP and IDEAA365—in meeting ETP's objectives;
- Conduct comparative analysis in regards to each IOU's differing needs and how they choose to fulfill the ETP objectives; and
- Seek opportunities to offer suggestions for improvement.

Note that this is not a process evaluation of IDEAA365 in any way. We only address how well ETP can meet its overall Technology Introduction Support objectives through the two different types of solicitations. The evaluation relied on several analysis methods: program data and documentation analysis, program staff interviews, third-party implementer interviews, and review of submissions.

1.2 Comparing IOU Approaches

The IOUs are using different approaches to fulfill the Technology Introduction Support component of their ETP objectives, largely based on their differing objectives and constraints. The IOUs were given flexibility by the California Public Utilities Commission (CPUC) in how they implement TIS, resulting in varying levels of resources dedicated to the program component.

- SCE has sufficient staff resources and budget to devote to a separate TRIP solicitation.
- PG&E, SCG and SDG&E are resource constrained with a much lower budget and staff time to dedicate to TRIP, and as a result are either using the existing ongoing IDEEA365 solicitation (SDG&E), issuing a one-time “emerging technology-focused” IDEEA365 solicitation (PG&E) or a two-phased TRIP solicitation (SCG).

The major differences across the two solicitation approaches are shown in Table 1. Within each solicitation approach, the IOUs varied its implementation (as shown below by attribute). These attributes are not necessarily inherent to the solicitation type chosen by each IOU and could be varied within a solicitation.

Table 1 –Solicitation Approach Attributes

Attribute	Solicitation Approach	
	TRIP (used by SCE and SCG)	IDEEA365 (Used by PG&E and SDG&E)
Budget	Lower	Higher
Number of stages	1 (SCE) or 2 (SCG)	2
Cost effectiveness	Required in first stage	Required in second stage after passing first stage review
Requirement to use Energy and Environmental Economics (E3) calculator	Yes (SCE), No (SCG)	No
Definition of innovation	Explicitly requires innovative technology, with a specific focus on energy-efficient technologies that are in the commercialization phase	Looks more broadly for innovative program delivery strategies, typically featuring existing technologies with proven measure savings claims

SCE’s approach resulted in the highest number of TRIP-related bids, as well as the most bids from technology vendors that have not previously implemented energy efficiency programs in California. However, the other IOUs all met their stated objectives to solicit new projects and technologies for Technology Introduction Support during the 2013-2014 program cycle, while conserving resources for other ETP objectives.

- SCE received 53 bids (four requests for proposals (RFPs)), and awarded seven programs, including two to new vendors.
- PG&E received 21 bids¹ (one request for abstract (RFA)) and awarded two programs, both to experienced implementers.
- SDG&E did not track how many bids it received through IDEEA365 (ongoing solicitation) that may have been relevant for TRIP, but awarded two programs, both to experienced implementers. One bid resulted in an ETP assessment.
- SCG received four bids (one RFP), and awarded no programs.

In addition to meeting their stated objectives, the solicitations we reviewed also succeeded in bringing new vendors to the IOUs and educating both new and familiar vendors about the goals of the Emerging Technologies Program.

1.3 Findings From Comparison of Solicitation Approaches

There are pros and cons to the various approaches being used by the IOUs, with no one approach that was shown to be superior based on the available data. Our comparisons of approaches and their varying attributes yielded findings that could help improve future solicitations and inform the IOUs' selection of solicitation attributes (e.g., cost-effectiveness requirements). Comparing the different attributes of the solicitation approaches through discussion with program staff, interviews with vendors, and analysis of bids and their scores revealed the following findings.

- New vendors are more enticed by a new solicitation approach and were more likely to be awarded through the new solicitation approach (TRIP).
- A requirement for cost effectiveness is in conflict with the objective of innovation. This inherent conflict can be addressed by using a two-stage solicitation approach and carefully choosing how to review cost-effectiveness.
- Vendors are more inclined to respond to solicitations with higher budgets.
- Implementation experience was a larger factor in bid selection than perceived by vendors.
- Losing bidders lack understanding of the reasons they were rejected, preventing them from improving on future bids.
- If the IOUs continue to seek new vendors / innovative technologies through a similar approach such as TRIP or a special IDEEA365 solicitation, they will likely need to provide more education and information to prospective bidders.

¹ This is the number reported in the program staff interview. Evergreen received a total of 16 bids to review, two of which were the winning bids referenced here.

- IOUs that consider using a TRIP solicitation (separate from IDEEA365) will benefit from including Core/3P program staff in the review stage to ensure effective integration across programs (ETP, Core and 3P). (Note we do not make a recommendation for the IOUs to do this since all are already involving those staff in one way or another.)

1.4 Recommendations

We confirmed during the course of our research that the IOUs were striving to strike an appropriate balance between encouraging a robust market response with new vendors and innovative technologies while achieving cost-effectiveness, moderating risk and ensuring effective implementation in their first year of the Technology Introduction Support subprogram. The IOUs were successful in meeting their stated objectives and awarding funds for the winning projects that they received through their solicitation approaches. They were also able to bring new vendors to the IOUs and educate both new and familiar vendors about the goals of the Emerging Technologies Program. The staff and budget resources dedicated to the subprogram were fairly modest, which is appropriate given that it was the first program cycle in which the concept was tested. Only SCE and SCG really tested the concept fully by devoting separate solicitations. However, if the IOUs attempt to scale up technology introduction efforts and allocate more budget to third-party programs, both approaches may need some improvements.

We offer the following recommendations for IOU consideration to help them strike an appropriate balance going forward, whether they maintain their current efforts or seek to expand or otherwise modify them. Further explanation of the recommendations can be found in the conclusions section of the report.

1. Consider using a two-phased approach that does not have a specific cost-effectiveness threshold.
2. For IOUs that wish to attract new vendors who have not submitted bids in the past, consider using either an explicit TRIP solicitation and/or providing outreach to new vendors via the TRIO program.
3. Give feedback to rejected bidders since they do not have an accurate understanding of why they were rejected.
4. Increase education to prospective bidders on the criteria for innovative and emerging technologies.
5. Avoid releasing bids towards the end of the year.

Finally, we offer a caveat about the small sample sizes associated with this study's research. The samples are adequate to identify the range of issues that vendors experienced with TRIP and IDEEA365; however, they are not robust enough to indicate the prevalence of experiences. For example, our research may indicate that some vendors are likely to bid again under similar context, and others are not likely to do so. We are not able to extrapolate the frequency of likely and unlikely vendors to the population to estimate what percentage of

vendors are likely to bid in the future. Instead, we are able to say that there are mixed opinions, and the IOUs will likely get some repeat vendors, while others may opt out in a future round. We also note that the evaluation was conducted relatively early in the process, and the IOUs issued additional solicitations after our data collection was completed. Where relevant, we offer pertinent information about those solicitations in the report.

This study provides data and information that will be useful for other ETP studies going forward. Moreover, this study was limited in scope to be a process evaluation, so we were precluded from attempting to measure impacts or effectiveness. Even with its limitations, this study should be useful to inform impact evaluations or other measures of ETP effectiveness, providing additional data and information on the merits (including cost-effectiveness, innovativeness and implementation experience) of third-party bids featuring innovative technologies.

2 Introduction

This report presents the findings of the Statewide Emerging Technologies Program (ETP) Third Party (3P) Introduction Tactic Process Evaluation conducted for the California investor-owned utilities (IOUs): Southern California Edison Company (SCE), Southern California Gas Company (SCG), San Diego Gas & Electric Company (SDG&E) and Pacific Gas and Electric Company (PG&E). This study assessed the solicitation process used for one of the objectives of the ETP subprogram Technology Introduction Support, the Technology Resource Innovation Program (TRIP).

2.1 Program Description

For 2013-2014, the IOUs' ETP included three subprograms:

1. Technology Development Support (TDS);
2. Technology Assessment (TA); and
3. Technology Introduction Support (TIS).

These subprograms reflect the various stages in which the program assesses emerging technologies, supports increased market demand and supports supply of emerging technologies. TRIP falls into the third category, Technology Introduction Support, in which technologies are ready to be introduced to the marketplace. ETP's goals and objectives, as stated in the IOUs' ETP implementation plans, are shown below. Each goal maps to one of the three subprograms, with the last ETP objective (3.3) being to "Conduct TRIP":²

ETP Goal #1: Increased Energy Efficiency (EE) technology supply.

ETP Objective 1.1: Support technology development.

ETP Objective 1.2: Conduct technology developer outreach through Technology Resource Innovation Outreach (TRIO).

ETP Goal #2: Increased number of measures offered by energy efficiency programs.

ETP Objective 2.1: Perform technology assessments.

ETP Objective 2.2: Transfer measures into energy efficiency programs.

ETP Goal #3: Support technology introduction and whole-building deep-energy reduction strategies.

ETP Objective 3.1: Conduct field deployments.

² Since the program implementation plans were written, some utilities have opted to reach their Technology Introduction Support objectives using IDEEA365 instead of TRIP.

ETP Objective 3.2: Conduct technology demonstrations.

ETP Objective 3.3: Conduct Technology Resource Innovation Program (TRIP).

TRIP solicits program delivery concepts from implementation contractors (also known as third parties or third-party vendors) through solicitations, and transfers winning projects and funding to the IOUs' 3P Programs for the remainder of each project's contract.

Some IOUs have opted to solicit 3P implementers for their technology introduction projects through an existing 3P program solicitation process known as Innovative Designs for Energy Efficiency Approaches (IDEEA365). While TRIP solicitations are intended to be issued periodically and focus only on emerging technologies, IDEEA365 accepts proposals year round (until funding is exhausted), and focuses more on seeking proposals for innovative program delivery methods than for innovative technologies, or widgets. The IOUs solicit proposals from third parties for innovative energy efficiency programs that penetrate difficult-to-reach markets and drive the greatest energy savings for the long term. The use of emerging technologies in IDEEA365 is not required nor expected.³

The IOUs fulfill their TIS subprogram obligation differently, using either an explicit TRIP solicitation or the existing IDEEA365 solicitation. There are substantive differences in the two solicitation vehicles. The TRIP solicitation vehicle explicitly requires an innovative technology, or widget, with a specific focus on energy-efficient technologies that are in the commercialization phase (that have already been introduced to the market but have not yet reached commercial market maturity). IDEEA365 looks more broadly for innovative program delivery strategies, typically featuring existing technologies with proven measure savings claims (e.g., measure savings based on approved IOU work papers or values found in the California Database for Energy Efficiency Resources (DEER)). PG&E modified the IDEEA365 solicitation to include a request for emerging technologies. Additional detail on their approach can be found in section 3.1.4. The budget for TRIP is also lower than the budget for IDEEA365 (not-to-exceed per program budgets of \$300,000 for SCE TRIP and \$150,000 for SCG TRIP, compared to \$1 million for IDEEA365).

SCE's TRIP solicitation requires bidders to provide a more comprehensive proposal including detailed cost-effectiveness parameters and calculations using the CPUC official spreadsheet tool (known as the E3 calculator), while IDEEA365 and SCG's TRIP solicitation are two-phased solicitations requiring only an abstract for the first phase. For these two-phased solicitations, bidders that are invited to proceed to the second phase must provide data to support cost-effectiveness calculations for resource programs. The IOUs also have chosen to dedicate varying levels of resources (i.e., staff and budget) to implementing TRIP based on

³ This report does not serve as an evaluation of IDEEA365 in any way. We are including IDEEA365 in this study with the approval of the CPUC's Energy Division in order to understand the ways in which ETP can meet its program objectives by using either IDEEA365 or TRIP.

their internal priorities with permission from the CPUC, with staff from ETP and Core/3P⁴ program groups involved in various review and management capacities.

ETP staff involvement varies by IOU, with SCE ETP staff having more involvement during the initial project implementation period than ETP staff at other utilities. SCE ETP staff set up the contract and monitor implementation. If the program is successful, it is shifted to 3P or Core programs (if unsuccessful, SCE cancels the program), SDG&E and PG&E ETP staff more immediately shift the programs over to 3P program staff, who prepare the contracts and oversee project implementation.

2.1.1 SCE

SCE has the greatest amount of resources devoted to TRIP, with a dedicated ETP staff person overseeing an explicit TRIP solicitation with \$2.1 million awarded to third-party TRIP concepts (with a not-to-exceed budget of \$300,000 each). As of August 2014, SCE has issued four TRIP solicitations since the beginning of the 2010-2012 program cycle. Our evaluation focuses on the first three solicitations, the selection process of which had been completed by the time our research commenced. A total of five programs were awarded of the 45 proposals received in response to the first three solicitations. The fourth solicitation generated eight proposals, with two selected for funding.

2.1.2 SCG

SCG issued an explicit TRIP solicitation at the end of 2014, with an allocation of \$300,000 for selected programs (with a not-to-exceed budget of \$150,000 per project). (In 2013, SCG was authorized to allocate its TRIP funding to ETP assessments, so it did not issue a TRIP solicitation in 2013.) The number of TRIP solicitations is shown in Table 2 (IOU Comparison) in Section 2.1.5. ETP staff worked closely with the Core and 3P program staff (who manage the IDEEA365 solicitation) to manage the solicitation process along with SCG's procurement staff. SCG set up its TRIP solicitation as a two-phased process, as IDEEA365 is, in contrast to SCE's single-phase approach to TRIP.

2.1.3 SDG&E

SDG&E's total budget for TRIP was \$200,000, and the ETP staff were authorized by the CPUC to utilize the IDEEA365 solicitation process to fulfill its ETP TRIP objective. SDG&E's Core and 3P program staff review abstracts submitted by 3P vendors to the IDEEA365 solicitation and identify any promising program concepts that are more suited to ETP. During the 2013-2014 program cycle, staff identified four such program concepts for ETP consideration. ETP

⁴ Core programs are typically those administered by the IOUs, while 3P programs are administered by 3P implementers with oversight by the IOUs.

staff negotiated with the vendors and ultimately awarded two contracts for \$100,000 each that were transferred to the 3P portfolio.

2.1.4 PG&E

PG&E received approval from the CPUC to fulfill its TRIP objective with IDEEA365 3P program funds, which means ETP does not have dedicated funding for TRIP. PG&E’s ETP staff provided some limited support to the 3P program staff during the review and selection process for a special IDEEA365 solicitation that specifically asked for emerging technologies. PG&E has awarded contracts to two vendors for programs that met the TRIP criteria, out of 21⁵ that ETP staff reviewed. The 3P program managers are in charge of the programs, though ETP staff will observe and identify any lessons learned that may inform how they approach their technology assessments. For an overall description of how the TIS subprogram obligations are approached by the IOUs, see the program description in Section 2.1.

2.1.5 IOU Comparison

Table 2 below provides a summary of how each IOU approaches TRIP, to illustrate the major differences. As shown, funding differs among the utilities; the number of stages differs as well. SCE has a one-stage RFP, where the vendor is required to submit a complete proposal, which includes filling out the E3 calculator. The other three IOUs use a two-stage approach

Table 2 - Program Comparison Summary, by IOU

	SCE	SCG	SDG&E	PG&E
TRIP solicitation or IDEEA365	TRIP	TRIP	IDEEA365	IDEEA365
Number of stages	1	2	2	2
Maximum budget per program (from RFP/RFA)	\$300,000	\$150,000	None specified in RFA (\$1 million total for IDEEA365)	None specified in RFA (\$1 million total for IDEEA365)
Revised budget per program (during negotiation)	NA	NA	\$100,000 (awarded to two vendors)	Unknown
Sum of ETP budget awarded to 3P vendors for TRIP	\$2,100,000	\$300,000 (allocated for 2015, \$0 awarded)	NA	NA
Cost-effectiveness	Yes	Yes	Yes	Yes

⁵ This is the number reported in a program staff interview. Evergreen received a total of 16 bids to review, two of which were the winning bids referenced here.

	SCE	SCG	SDG&E	PG&E
included as a criteria				
E3 calculations required	Yes	No	No	No
Quantitative scoring process for awards	Yes	Yes	No	Yes
2013-2014 program cycle TRIP solicitation goals stated in program implementation plan (PIP)	3	1	1	1
Number of solicitation rounds as of 2014	4	1	1	1
Number of bids received	53	4	The total number of bids received that met the TRIP criteria is unknown; 4 bids flagged for ETP consideration	21 that met the special innovative solicitation criteria
Number of awards as of 2014	7	0	2	2

How each IOU defines innovation is integral to a review of how participants responded to the solicitations, so it is important to note how each IOU defined innovation. SCE's definition evolved over time; differences are shown in bold text in Table 3 below. The main way that the definition of innovation differs between the TRIP solicitation and the IDEEA365 solicitation is that the TRIP solicitation required innovative *technologies* and the IDEEA365 solicitations also included innovative *approaches*. With IDEEA365 being open to innovative approaches, we found that one of the three bids we reviewed from SDG&E used the term innovative to describe their approach (and not just the technology), and four of the 16 bids we reviewed from PG&E shared an innovative approach (rather than only an innovative technology).

Table 3 – IOU Definition of Innovation

Utility	Definition of Innovation
SCE	<p>SCE and its key stakeholders in the solicitation process define innovation as methods that:</p> <ul style="list-style-type: none"> Deliver increased Customer participation or installation of existing technologies per unit of Program cost through cutting-edge, innovative, techniques. (TRIP 2 and TRIP 3 changed this to read "...through cutting-edge, inventive recruiting techniques.") Proactively seek and develop emerging technologies for the target market via a Program designed to demonstrate the costs and benefits to opinion leaders and decision-makers (i.e., manufacturing and distribution channel members) and increase market penetration

Utility	Definition of Innovation
	<p>in the technology market. (TRIP 2 and TRIP 3 removed the word "target".)</p> <ul style="list-style-type: none"> • Seek out and develop new combinations of existing and new technologies, control systems or software to dramatically increase the anticipated savings from each component of the system due to synergies between components, which may be implemented elsewhere but may not currently be in use in California. (TRIP 2 and TRIP 3 changed this to read "... but are currently not in use in California.") • Conceive and deliver new methods to increase the likelihood of Program spillover effects (i.e., Customers looking for more efficiency opportunities beyond those offered by the Program) to other technologies or sustainability options by providing Customers with increased awareness of Program options and benefits, feedback on savings / performance data, and cross-Program coordination that provides for seamless and ease of use by the Customer. (TRIP 2 and TRIP 3 read "...and ease of use on Customer side.") • Establish untapped relationships, partnerships, and service distribution channels (i.e., upstream such as manufacturing processes) to effectively target and generate support for EE-related change leading to new outlets and greater economies of scale that increase permanent changes in the utilization of energy-efficient products. (TRIP 2 and TRIP 3 read "Establish untapped relationships and channels.....for energy-related change....")
SCG	<p>SCG defines innovative as:</p> <ul style="list-style-type: none"> • Deliver installation of new and emerging technologies through cutting-edge, inventive recruiting techniques; • Proactively implement a program to demonstrate the costs and benefits to decision-makers (e.g. customers , manufacturing and distribution channel members) of either new natural gas technologies or underutilized natural gas technologies that do not have significant market penetration but have the potential for increased penetration through the proposed “innovative” marketing and delivery model. • While implementing this program for new and emerging technologies, explore innovative ways to lower the first cost and installation cost of the natural gas technologies to enable the utility to roll out future energy efficiency programs around the technology in a cost effective manner • Establish untapped relationships and channels (e.g. “upstream” such as manufacturing processes) to effectively target and generate support for new, emerging and underutilized technologies leading to new outlets and greater economies of scale that increase permanent changes in the utilization of energy efficient products.
SDG&E	<p>SDG&E defines innovative as:</p> <ul style="list-style-type: none"> • Delivering increased customer participation or installation of existing technologies per unit of program cost through cutting-edge, inventive recruiting techniques; • Seeking out and developing new combinations of existing and new technologies, control systems or software to increase the anticipated savings from each component of the system due to synergies between components, which may be implemented elsewhere but are currently not in use in California;

Utility	Definition of Innovation
	<ul style="list-style-type: none"> • Conceiving and delivering new methods to increase the likelihood of program Spillover effects (i.e. Customers looking for more efficiency opportunities beyond those offered by the Program) to other technologies or sustainability options by providing Customers with increased awareness of program options and benefits, feedback on savings /performance data, and cross-program coordination that provides for seamless and ease of use on Customer side, or • Establishing untapped relationships and channels (e.g., “upstream” such as manufacturing processes) to effectively target and generate support for energy-related changes leading to new outlets and greater economies of scale that increase permanent changes in the utilization of energy efficient products.
PG&E	<p>Definitions may include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Deliver increased Customer participation or installation of existing technologies per unit of program cost through cutting-edge, inventive recruiting techniques. • Proactively seek and develop emerging technologies for the market via a program designed to demonstrate the costs and benefits to opinion leaders and decision-makers (i.e., manufacturing and distribution channel members) and increase market penetration in the technology market. • Seek out and develop new combinations of existing and new technologies, control systems, or software to dramatically increase the anticipated savings from each component of the system due to synergies between components, which may be implemented elsewhere but are currently not in use in California. • Conceive and deliver new methods to increase the likelihood of program spillover effects (e.g., Customers looking for more efficiency opportunities beyond those offered by the Program) to other technologies or sustainability options by providing Customers with increased awareness of program options and benefits, feedback on savings /performance data, and cross-program coordination that provides for seamless and ease of use on Customer side. • Establish untapped relationships and channels (e.g., “upstream” such as manufacturing processes) to effectively target and generate support for energy-related change leading to new outlets and greater economies of scale that increase permanent changes in the utilization of energy efficient products.

Table 4 shows details of the winning bids at each IOU. Winning bids were likely to serve a specific sector (rather than commercial or residential customers in general) and often used controls to reduce energy usage.

Table 4 – Winning Bid Descriptions

Utility	Description of Winning Bid
SCE	Winning bidders chosen by SCE likely serve a specific sector (rather than general commercial sector) and/or use controls to decrease demand across multiple end uses. The majority of

Utility	Description of Winning Bid
	<p>wining bids were in a partnership between two firms. Some examples of winning bids include:</p> <ul style="list-style-type: none"> • HVAC controls for the industrial/agriculture sector, installation of advanced fan controls used in agricultural dairy farms to cool dairy cows. • EMS for the small medium business sector, wireless energy management systems and software and methodology for determining the real performance of energy savings measures using new statistical analytics and SmartConnect interval data. • Retrocomissioning for commercial sector (large commercial), software that provides a comprehensive solution for energy reductions in complex large commercial office buildings. • HVAC controls for restaurants. • IDSM for medium commercial, program delivers turn-key comprehensive retrofits as well as emerging technologies to mid-market customers (100-300 kW). Focuses on lighting, HVAC, refrigeration, and plug load. Innovative technologies include PACE2 Retrofit Suite, BANFAlite & SIGNlite LED technology, Plug Load Management System, and ProgresShare financing mechanism.
SCG	<ul style="list-style-type: none"> • No winning bids selected.
SDG&E	<p>Both of the bids chosen for further research by SDG&E dealt with plug load management in either the residential or commercial sectors.</p> <ul style="list-style-type: none"> • Residential plug load solution delivered door to door. • Plug load management for commercial sector (large commercial, education, campuses).
PG&E	<p>Both of the bids chosen by PG&E fulfill a need in a specific sector.</p> <ul style="list-style-type: none"> • Laboratory Fume Hoods usage based control system for universities and hospitals including R&D and pharma companies. • Dynamic Gas Scavenging Systems for the healthcare sector.

2.2 Study Objectives and Approach

The focus of the evaluation was on the solicitation processes and the quality of the submissions, with objectives to:

- Determine the pros and cons of the two solicitation processes—TRIP and IDEEA365—in meeting ETP’s objectives;
- Conduct comparative analysis in regards to each IOU’s differing needs and how they choose to fulfill the ETP objectives; and
- Seek opportunities to offer suggestions for improvement.

Evergreen Economics (Evergreen) conducted several research tasks to assess the study objectives:

- **Program data and documentation analysis.** An early project task was to review existing background materials on the TRIP and IDEEA365 programs, including program implementation plans (PIPs) and current and past solicitation RFPs. This review provided Evergreen with a basic understanding of the program implementation and solicitation processes. It also provided information on the types of projects that have been funded and the persistence of these technologies, all of which provided useful context for the in-depth interviews. We also reviewed the results of a quantitative survey that SCE conducted with vendors that had submitted abstracts under the IDEEA365 solicitation.
- **Program staff interviews.** Evergreen conducted interviews with the IOU program managers who interact with the TRIP and IDEEA365 programs. These interviews included the managers of ETP at each IOU, plus other efficiency program managers who have a significant interaction with either the TRIP or IDEEA365 programs. The program manager interviews covered a range of topics, as described in Section 3.1, that helped the evaluation team understand how the solicitations are implemented. The full interview guide can be found in Section 6.1 of the Appendix.
- **3P vendor interviews.** A key element of this evaluation was to talk with vendors that have submitted proposals to the TRIP and IDEEA365 programs. This included interviews with those vendors that were awarded funding along with those that were not selected for funding. Additionally, for IDEEA365 solicitations, we only targeted those projects that are relevant to ETP. Questions in these interviews emphasized the solicitation process (e.g. the effectiveness of marketing, clarity of solicitation materials, openness of the process) and solicited suggestions for improvement.
- **Review of submissions.** An important element of the evaluation was to understand how submissions have been scored and how winning proposals are selected for funding. To address this, we reviewed proposals submitted in response to TRIP and IDEEA365 solicitation events. As with the interviews, the submission review for IDEEA365 only focused on those proposals that are related to ETP. In addition to reviewing the actual submission proposals that were provided to Evergreen, we also reviewed the scores and interviewed those involved with the scoring to understand how the scoring criteria were applied and how the final award selections were made. Note that it was not the purpose of this task to second guess or redo the scoring, but rather to review the scoring process to see if the current system is being implemented as planned and is appropriately aligned with the stated goals of the TRIP and IDEEA365 programs.

Due to the small sample sizes associated with this study's research, we caution the reader that the results are more illustrative than robust. The samples are adequate to identify the range of issues that vendors experienced with TRIP and IDEEA365; however, they are not robust enough to indicate the prevalence of experiences. For example, our research may

indicate that some vendors are likely to bid again under similar context, and others are not likely to do so. We are not able to extrapolate the frequency of likely and unlikely vendors to the population to estimate what percentage of vendors are likely to bid in the future. Instead, we are able to say that there are mixed opinions, and the IOUs will likely get some repeat vendors, while others may opt out in a future round.

3 Results

This section presents the results associated with each study task.

3.1 Program Staff Interviews

As part of the process evaluation, Evergreen interviewed program staff between July and August of 2014. We completed interviews with ETP staff (and IDEEA365 staff for SDG&E and PG&E) representing all four IOUs. Some of the key objectives of these interviews were to expand our understanding of:

- How each IOU implements IDEEA365 or TRIP solicitations (for IDEEA365, the focus being on proposals that include innovative technologies);
- How the programs interact with ETP and other energy efficiency programs (e.g., 3P programs that ultimately claim savings for ETP's Technology Introduction Support projects);
- Why the IOU is using IDEEA365 or TRIP;
- How IDEEA365/TRIP are marketed to 3P vendors;
- The effectiveness of scoring criteria, scoring and selection process (i.e., is the submission process designed effectively to meet program goals);
- The breadth and relevance of proposals/abstracts compared to expectations; and
- Whether the response from third parties is consistent with meeting each program's goals (e.g., the number of and types of third parties responding, the range of submittals, the types of measures and customer segments covered).

The results of these interviews are presented below, separately for each IOU.

3.1.1 SCE

We interviewed an ETP manager at SCE who oversees TRIP, TRIO and IDEEA365.

3.1.1.1 Rationale of Approach

SCE opted to issue a TRIP solicitation in order to diversify and attract new vendors beyond those that submit abstracts to IDEEA365. TRIP is intended to fill a gap for technologies that are commercialized but not yet proven in energy efficiency programs, providing a venue to test them in the marketplace. By setting a smaller budget (than IDEEA365) per project, it is able to lower the risk in trying new concepts. Staff indicated they opted to require cost-effectiveness calculations in order to ensure that savings are already proven, since by definition the target technologies lack work papers.

3.1.1.2 Benefits of Approach

SCE anticipated getting a broader vendor response with more innovative technologies by conducting an explicit TRIP solicitation (versus using the existing IDEEA365 solicitation). By setting a lower budget than IDEEA365, SCE can better manage the risk associated with testing a technology that lacks a work paper or DEER savings values.

3.1.1.3 Drawbacks of Approach

SCE admitted that requiring vendors to provide cost-effectiveness data on new technologies was a challenge for many vendors. SCE has attempted to address this issue by providing training during the solicitation process.

3.1.1.4 Outreach to Vendors

SCE markets to vendors through the usual IDEEA365 channels (including general outreach through the PEPMA website, www.pepma-ca.com, to all vendors that are registered), and by leveraging the IOUs' TRIO program, which provides training and networking for entrepreneurs and companies that provide energy savings technologies. SCE would like to increase its advertising efforts to attract an even bigger pool of new vendors to increase vendor diversity and opportunities for promising technologies, including marketing to entrepreneurs and universities. Staff, however, expressed a concern that if they attracted too big of a response, they would need to be able to manage interest and have sufficient funds to award.

3.1.1.5 Solicitation Process

SCE worked from its existing IDEEA365 solicitation, tailoring it to meet the unique aspects of TRIP (i.e., requiring cost-effectiveness calculations and focusing on new technologies). Staff felt that the solicitation process improved with each round (there were a total of four rounds as of 2014) as a result of training provided to vendors concerning the right type of technology to promote. Vendor outreach included a mandatory bidder's conference, workshops, training and networking provided through the TRIO program and a formal question and answer period. Staff reported that in general, vendors needed help understanding the E3 calculator and meeting the cost-effectiveness criteria.

After the first solicitation, SCE worked to streamline the RFP and make it more concise. ETP staff worked closely with SCE procurement staff to develop the appropriate language and work within the PEPMA system that is used to administer IDEEA365 solicitations. The PEPMA website tracks solicitations and bids, facilitating internal SCE and external (i.e., CPUC and vendors) tracking of the status of solicitations. However, once bids are submitted and the deadline has passed, program staff indicate that notification of award status is not always prompt and vendors may not always have current and timely information. (This is corroborated by vendor feedback, as reported in Section 3.3.)

SCE developed scoring criteria (which is described in Section 3.2.1), leveraging what is used for IDEEA365. Staff scored and ranked bids, and selected the strongest bids in each round, which the evaluation team verified to be the top ranking bid or bids in each round.

3.1.1.6 Successes

SCE received a broad range of bids, covering many different customer segments, measure types and technologies from a broad pool of vendors. SCE met its program goals, bringing in two new vendors (including one from the fourth solicitation) of the total of seven awarded bids, and penetrating new markets.

One of the programs was cancelled since it did not meet its goals, but in the process, SCE staff indicated that they learned a lot about the target market and how to approach it going forward. The other programs are still operating. SCE feels that by using a TRIP solicitation with a lower per program budget, it has a lower risk approach to test new technologies compared to the higher per program budget of IDEEA365. TRIP complements the TRIO program by providing an additional way to reach out to vendors and encourage the use of emerging technologies, and helps to fulfill the state's Strategic Plan goals related to emerging technologies.

Ultimately, staff envision TRIP adding more innovative measures to the portfolio—promoting more flexibility and transparency among the IOUs and 3P vendors.

3.1.1.7 Areas for Improvement

SCE would like to further streamline the RFP and make it more concise. They would also like to improve communication of bid review progress including notification to vendors of the award status (vendors are only notified if their bid has been accepted). Staff acknowledge they have to work with SCE's procurement department on those efforts, and ETP staff do not have much flexibility to modify companywide procurement procedures. However, there is opportunity for ETP staff to complement the procurement process by communicating with vendors about award status.

SCE would like to attract a wider pool of vendors, as mentioned in Section 3.1.1.4 such as by advertising in magazines such as *Entrepreneur* or *FastCompany*. Staff would also like to train vendors on how to provide the appropriate cost-effectiveness calculations.

SCE touched on the conflict between cost-effectiveness and innovation requirements. SCE staff mentioned that the Third Party Program Peer Review Group⁶ (3P PRG) has questioned why they are requiring cost-effectiveness and weighting it relatively highly, given that they

⁶ An advisory group that includes CPUC staff and others with energy efficiency expertise that serve as peer reviewers.

are seeking innovation. SCE will be discussing this issue with the 3P PRG and is open to revising how it approaches cost-effectiveness in future TRIP solicitations.

3.1.2 SCG

We interviewed two SCG Technology Solutions staff members and a program manager within the Customer Programs group who coordinates with the Technology Solutions group staff members.

3.1.2.1 Rationale of Approach

SCG issued a TRIP solicitation at the end of 2014 but had not yet issued the solicitation at the time of our interview (July 2014). While IDEEA365 is for proven concepts and requires measures that have work papers, TRIP is intended to bring in new measures for mainstream energy efficiency programs. TRIP is designed to fill a gap between emerging technologies that have not been evaluated and lack data to support energy savings claims (which are addressed by other ETP subprograms) and measures that are routinely used in energy efficiency programs. TRIP does focus on measures that have savings potential but where the costs, market acceptance and economies of scale are in question—and on vendors whose experience and capabilities are untested. SCG program staff believe that the lower budget per program is appropriate, since the focus is on untested concepts. SCG did not recall receiving any technology introduction-suitable abstracts submitted through its IDEEA365 solicitations, but it did not explicitly screen for them since they were planning to issue a TRIP solicitation.

3.1.2.2 Outreach to Vendors

SCG is not doing any additional outreach to vendors beyond using the PEPMA website, which sends notifications to all registered vendors.

3.1.2.3 Solicitation Process

SCG opted to split its TRIP solicitation process into two phases, like IDEEA365. This is in contrast to SCE, which is conducting its solicitation process in a single phase, requiring cost-effectiveness calculations as part of each proposal. SCG's first phase is to request an abstract, and those that pass an initial screening will conduct an interview and be required to provide additional documentation.

SCG's rationale for its approach is that it has fewer resources to devote to the process, and it anticipates that the two-stage process will be less labor intensive for staff. SCG planned to dedicate resources to interviews with the most promising teams, enabling the teams to ask questions. Staff also hoped that this approach would attract a more robust vendor response, with less effort required from bidders.

SCG is leveraging SCE's TRIP scoring criteria, scaling it back due to the relatively smaller size of its contracts (expecting two contracts at \$150,000 each for a total of \$300,000 versus SCE's

contracts at \$300,000 each for a total of \$2.1 million). SCG is also providing a list of technologies that are appropriate for TRIP that vendors may opt to feature in their abstracts, but vendors may use additional measures if they choose.

3.1.2.4 Outcomes

SCG issued its TRIP solicitation in December, 2014, so no outcomes had materialized at the time of our interview with program staff.⁷ In Summer 2015, Evergreen reviewed four bids that were submitted as part of SCG's first TRIP solicitation. None of the four bids were awarded by the utility.

3.1.2.5 Areas for Improvement

At the time of our program staff interviews, SCG had not yet issued its TRIP solicitation and had not identified any potential areas for improvement. An in depth analysis of the bids is presented in Section 3.3.3, and pros and cons of the approach can be found in Section 4.4.1.1. Both of these sections were developed after SCG had issued its first solicitation.

3.1.3 SDG&E

We interviewed two ETP managers at SDG&E, along with a Senior Programs Advisor who oversees the IDEEA365 solicitation.

3.1.3.1 Rationale of Approach

SDG&E opted to address its Technology Introduction Support objectives through its IDEEA365 solicitation process (on a trial basis) since it only allocated \$200,000 to this ETP component (\$100,000 per concept for a total of two concepts). It also lacks sufficient staff resources to dedicate to a separate TRIP solicitation, instead relying on staff that are implementing IDEEA365.

3.1.3.2 Benefits of Approach

SDG&E feels that there are benefits to using the existing IDEEA365 solicitation process to solicit TRIP concepts:

- It will reach a wider audience (vendors signed up with PEPMA) with the larger IDEEA365 budget (\$1 million per program).⁸

⁷ Due to key staffing changes, the SCG ETP program managers unfortunately are no longer available for follow up.

⁸ SDG&E would need to later negotiate with vendors to lower their budgets. SDG&E was successful in getting both vendors whose abstracts were flagged for TRIP to lower their budgets.

- Measures are more likely to be commercially viable and more likely to be accepted and successful in a 3P program since IDEEA365 is a Core program⁹ solicitation.
- It will attract more bidders since IDEEA365 is a two-phase process, requiring only an abstract in the first stage.
- SDG&E's Core program managers will have reviewed program concepts before ETP staff see them, which means any concepts that are passed through will more likely be commercially and programmatically viable (the staff members we interviewed feel this process is more efficient).
- This approach is more suited to prescriptive measures (versus the types of measures on which ETP typically focuses), which is the appropriate target for TRIP.
- This approach offers the most value for SDG&E's research dollars, preserving the limited ETP staff resources for administering viable TRIP concepts.

SDG&E feels that if the ETP staff had issued a TRIP solicitation, they may have attracted technologies that are in very early stages of development and are not market-ready.

3.1.3.3 Drawbacks of Approach

SDG&E ETP staff cited one potential drawback of using the existing IDEEA365 solicitation—that they are not marketing this opportunity to a wider pool of vendors. Staff cited a list of trade allies that SDG&E has developed in conjunction with its TRIO program that could have been targeted.

3.1.3.4 Outreach to Vendors

Similar to SCG's approach, SDG&E did not conduct any additional outreach to vendors beyond using the PEPMA website, which sends notifications to all registered vendors.

3.1.3.5 Solicitation Process

SDG&E felt its process for soliciting and screening potential program concepts was effective, with Core program staff sending ETP any promising abstracts that had wide market potential but lacked work papers (or approved DEER values). They felt that the combination of Core program staff screening concepts and bringing in ETP staff to review the validity of potential measures savings claims was an efficient and effective approach.

⁹ As described previously, Core programs are administered by the IOUs (sometimes using outside vendors). Core programs are distinct from the ETP because they rely on measures with established savings values (either in DEER or associated with a work paper).

3.1.3.6 Outcomes

SDG&E successfully identified two program concepts from the IDEEA365 solicitation that were appropriate for technology introduction. The process was effective in identifying prescriptive measures that may be scalable for the Core programs that have a potentially large market opportunity, whereas the other ETP components are focused more on technical assessments that typically are custom measures. PG&E is also focused on measures that would be appropriate for prescriptive rebates. SCE has a broader focus without a priority placed on prescriptive measures. Ultimately, success will be measured by whether a work paper gets developed and the measure or program concept gets moved into the Core program. If that occurs for either or both of the concepts SDG&E is testing, it envisions that the technologies could go into a 3P direct install or midstream program, which would likely go out to bid to 3P implementers.

SDG&E had no trouble negotiating with the selected vendors to lower their budgets, and it felt that \$100,000 per concept was an appropriate budget that allowed for testing of the concepts while managing the risk.

SDG&E mentioned that using a bidding process added competition and leverage, and could possibly speed up the process as compared to staff soliciting vendors one by one for concepts outside a competitive bid process.

3.1.3.7 Areas for Improvement

SDG&E mentioned that Core program staff could more explicitly screen the IDEEA365 abstracts for ETP (TIS), as one area for improvement if the solicitation is offered again. The process used in 2014 was fairly informal and staff identified as an area for improvement that the process could be tightened up going forward to possibly capture more program concepts. (This was not an issue for 2014, since the two concepts identified for TIS collectively met SDG&E's total original TRIP budget.)

3.1.4 PG&E

We interviewed two ETP managers at PG&E, along with a Core program manager who oversees the IDEEA365 solicitation.

3.1.4.1 Rationale of Approach

As mentioned previously, PG&E received permission from the CPUC to allocate its TRIP budget to other ETP components on an experimental basis. Instead, PG&E staff issued a special innovative IDEEA365 solicitation that explicitly asked for proposals that incorporated emerging technologies. The two accepted program concepts are being funded by the Core programs, not ETP. ETP staff were minimally involved in the process and are not managing the selected programs. This approach allowed PG&E to use its TRIP budget for other ETP priorities.

3.1.4.2 Benefits of Approach

PG&E feels that TRIP is intended to identify underutilized technologies that have unrealized promise and provide a platform for testing. A bid process provides a structured forum that is competitive and follows a schedule. Using the IDEEA365 framework is efficient and taps the existing process, which is very robust and tested. Each solicitation process (i.e., for IDEEA365) is very time consuming and requires significant IOU resources. Doing a separate TRIP solicitation would consume too many resources, and the IDEEA365 approach was successful in identifying two promising concepts that are currently being tested. Vendors that are registered on PEPMA and have gone through the IDEEA365 solicitation process are tried and tested, established implementers; PG&E feels this is the appropriate audience for TRIP. PG&E is concerned that if it had conducted a separate TRIP solicitation, it would have attracted unqualified vendors that lack implementation experience, and/or smaller vendors that lack the capacity to implement energy efficiency programs. Staff cited that using IDEEA365 attracts broader innovation—not just in terms of technologies, but also program concepts and delivery strategies.

PG&E staff thought that had they conducted a TRIP solicitation using a single-phase approach, bidders may not have been able to successfully develop the E3 calculations for cost-effectiveness. They also felt that requiring cost-effectiveness calculations and using it as a major criterion was inconsistent with encouraging innovation.

3.1.4.3 Drawbacks of Approach

PG&E staff acknowledge that using the IDEEA365 solicitation rather than doing a separate TRIP solicitation may not attract all the potentially new technologies that a TRIP solicitation would, but through the efficient IDEEA365 process they identified a sufficient number of technologies to meet PG&E's goals. PG&E may be missing innovative ideas from new vendors, but staff are concerned that such new vendors would not be able to deliver energy savings in a timely manner under the constraints in which the IOUs administer their portfolios.

3.1.4.4 Outreach to Vendors

PG&E conducts outreach to vendors for its IDEEA365 solicitations through PEPMA notifications (i.e., to vendors already signed up with PEPMA), outreach events and open forums that coordinate with the Emerging Technologies Coordinating Council.¹⁰

¹⁰ The Council is a collaborative forum partially funded by ratepayers that coordinates the exchange of information related to emerging technologies. Members include the California IOUs and large municipal utilities, in partnership with universities, research organizations and other organizations. (ETCC website)

3.1.4.5 Solicitation Process

PG&E used the scoring process that it used for IDEEA365 for the special innovative solicitation that fulfilled its TRIP obligations. PG&E staff said they applied the criteria flexibly, giving program staff latitude to identify promising concepts for ETP staff review. PG&E Core and ETP staff ranked submittals that were suitable for the TRIP component (i.e., promising concepts that featured technologies that were likely to generate savings but lacked work papers or approved DEER savings values) and interviewed vendors associated with the top abstracts. PG&E ultimately selected two vendors after the second stage interviews. It is PG&E's policy to respond to any bidder requests for feedback on rejected bids.

3.1.4.6 Outcomes

PG&E's approach to soliciting technology introduction projects was successful in identifying two concepts that were accepted for trial (which are currently in progress). PG&E staff felt their approach was efficient and effective, and the bid process would likely be a faster way to get to an approved work paper compared to other avenues taken by ETP staff.

3.1.4.7 Areas for Improvement

PG&E did not offer any areas for improvement.

3.2 Third Party (3P) Proposals

This subsection discusses our review of the RFP/As, bids submitted by vendors and scoring. Note that we lacked complete information for this portion of the evaluation:

- **Request for Proposals/Abstracts:** We received the first three SCE TRIP RFPs, the first SCG TRIP RFP, and the RFAs that PG&E and SDG&E issued for IDEEA365.
- **Bids:** SCG provided a total of four bids. SCE provided a total of 36 bids of 45 that it received for the first three TRIP solicitations (some of which were incomplete, and all of which excluded cost-effectiveness calculations). PG&E provided a total of 16 bids from its special IDEEA365 solicitation along with component scores. SDG&E provided us with both of the bids associated with the two projects it awarded through TRIP.
- **Scoring:** We received summary scoring information on all the bids (45) associated with the first three RFPs for SCE, and component scores (i.e., scores for cost-effectiveness, approach to work, skills and experience and supplier diversity) for the first and the third RFP (26 bids). SCG also submitted scores for each of the four bids that it received. PG&E scored bids based on 10 different categories with varying weights. SDG&E did not formally score their bids.

3.2.1 SCE

SCE issued four TRIP solicitations during the period from 2011 through 2014. Our evaluation covered the first three of those solicitations, which were completed by the time our evaluation commenced. The remainder of this section focuses on TRIP1, TRIP2 and TRIP3.

RFPs and Solicitation Process

SCE required bidders to submit three separate documents for each proposal:

1. Business Proposal and Checklist

- Program Summary
- Approach to Work
- Skill and Experience
- Company Information
- Supplier Responsibility
- SCE's General Terms and Conditions

2. Cost Proposal and Checklist

- Program Budget Overview
- Program Budget Details

3. Technical Proposal and Checklist

- E3 Calculator
- Program Goals
- Technical Documentation and End-Use Forecast Work Paper(s)

SCE evaluated each proposal in two phases: an initial “pass/fail” threshold assessment and a second round weighted assessment. In order to pass the first phase threshold assessment, proposals must have:

1. Included all the required information requested in the RFP, as listed above;
2. Passed cost-effectiveness tests (i.e., the Total Resource Cost (TRC) and Program Administrator Cost (PAC) must be greater than 1)¹¹;
3. Provided financial information as requested in the RFP; and
4. Indicated that they have the required licenses.

¹¹ At the date of final publication, SCE had altered its process so that proposals are evaluated separately, first for innovation and then for cost effectiveness. This allows very innovative projects to still move forward, even if cost effectiveness is not yet attained.

Each proposal was tracked and given a "pass/fail" for this phase. If a proposal included all the information as requested for the Business, Cost and Technical Proposals as listed above, and SCE's General Terms and Conditions were accepted, the proposal would pass the threshold assessment and move on to the weighted assessment evaluation round.

In all three TRIP solicitations that Evergreen reviewed, SCE, at its discretion, allowed bidders with technical deficiencies to resolve those within one to five business days; failure to do so would result in a failing score, preventing progression to the weighted assessment. The TRIP2 and TRIP3 RFPs clarified that the initial pass/fail threshold assessment would include a review of the bidder's provided technical documentation.

The weighted assessment included scores for four categories, which were developed by a qualified team of SCE personnel (including ETP and procurement staff):

1. Approach to the work (35%), which examined the Program Summary and Approach to Work components of the Business Proposal and Checklist;
2. Program cost-effectiveness (30%), which examined the Cost and Technical Proposals and Checklists;
3. Skill and experience (25%), which examined the Skill and Experience and Company Information components of the Business Proposal and Checklist; and
4. Supplier diversity and miscellaneous (10%), which examined the required Supplier Responsibility and Terms and Conditions documents.

SCE evaluated a number of criteria when examining each bid's Approach to Work, which accounted for the largest share of the total weighted score at 35 percent, including individual program design components such as staffing, marketing, and work plans and project timeline; how these components would contribute to potential program implementation success was considered. Each bidder's comprehension of the requirements necessary to accomplish the program's goals and deliverables was assessed, as were the strategies expressed to overcome market barriers and any customer hurdles to installing energy efficiency measures. Finally, the Approach to Work assessment looked at whether the program design incorporated one or more of the five Innovation categories outlined in the RFP, and whether the program design incorporated best practices. The definition of innovative technologies is summarized below:

- Deliver savings through cutting-edge, innovative techniques;
- Demonstrate the costs and benefits of emerging technologies to trade allies and increase market penetration;
- Develop new combinations of existing and new technologies;
- Identify new methods for increasing spillover effects; and
- Establish untapped relationships, partnerships and distribution channels.

The RFP also indicated that SCE is looking for energy-efficient technologies that are in the commercial growth phase, and provided a chart illustrating this concept along with links to resources that could be consulted for additional technology information.

For the Program Cost-Effectiveness component, which accounted for 30 percent of the total weighted score, SCE evaluated the first-year costs as proposed, compared to first-year energy savings, levelized cost, TRC and PAC.

In considering Skill and Experience, which accounted for 25 percent of the overall weighted score, bidders were judged on past successful implementation of a program with similar breadth and scope; success was gauged based on actual results vis-à-vis the stated goals and budget. The degree to which the program concept and implementation were successful in the past was also assessed, as well as the bidding team's overall relevant experience. In addition, the assessment team looked at whether the bidding team identified and presented the required licenses, insurance and financial information required to complete the proposed work.

Finally, the assessment team evaluated the Supplier Responsibility information requested in the RFPs; this included Supplier Diversity and Diverse Business Enterprise (DBE) information and a completed supplier responsibility checklist. This component accounted for 10 percent of the total weighted score.

Those proposals that passed the threshold assessment and were then reviewed by the weighted assessment process were ultimately given a total weighted score of up to 4.0 (each of the four categories were scored from 0 to 4, and then weights were applied). SCE ETP staff then selected one or more of the highest ranked proposals for award for each TRIP phase. (There were no fixed criteria for selecting the highest ranked proposals, nor a set number of proposals to be selected in each round. The budget allocated to TRIP served as an upper bound for the total budget of awards.)

Comparison of the SCE TRIP RFP Solicitations

There were several differences between the three SCE TRIP RFPs that we reviewed for this evaluation, though the bulk of those differences were textual changes that presented information requirements in a different way for conciseness and/or clarity. The more substantive differences between RFPs are noted below.

- **Separation of bidders/technology workshops:** For TRIP1, there was a combined mandatory bidders and technical workshop documentation workshop. For TRIP2 and TRIP3, the bidders conference and technical documentation workshop were separate, with the bidders conference optional and the technical workshop mandatory.
- **Added language about cost-effectiveness.** Language was added to the TRIP2 and TRIP3 RFPs' stated program outcomes section about helping customers realize energy savings in a cost effective manner.

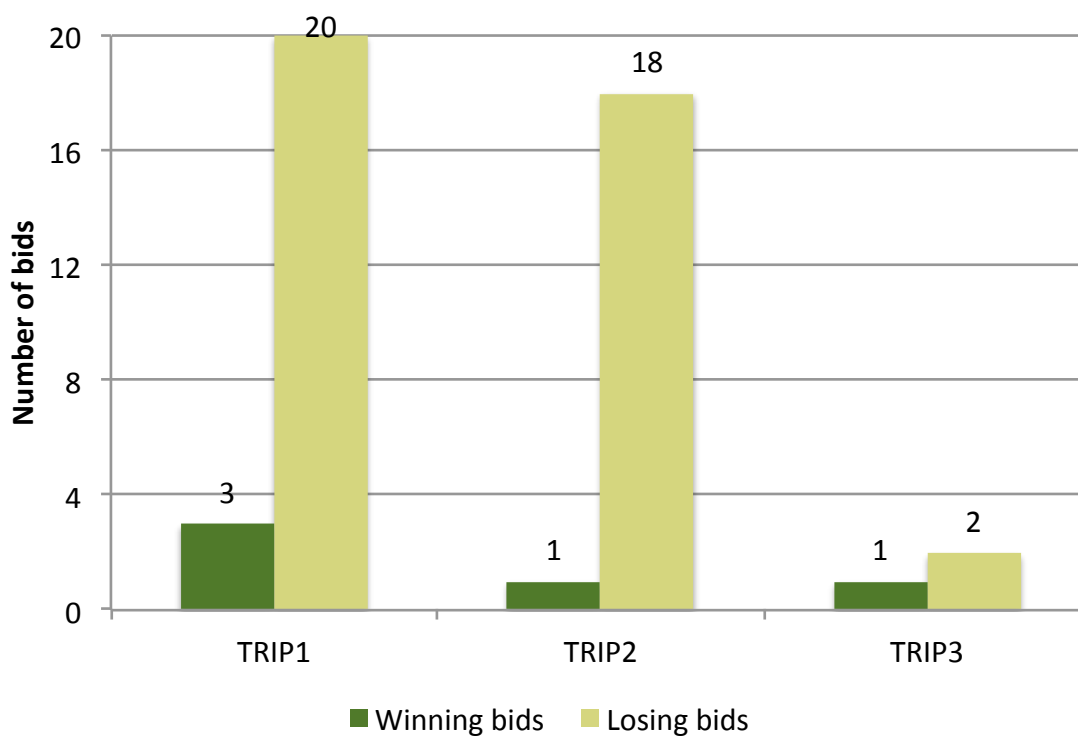
- **Clarifying that vendors do not need direct energy efficiency program implementation experience to bid.** Wording between the TRIP1 and TRIP2 RFPs differs in that TRIP1 asks for a table of bidder's past experience in implementing successful program(s) and/or utility energy efficiency programs with similar breadth, scope, technical skill set or other relevant experience, while subsequent TRIP RFPs clarify that bidders can submit a bid even if direct energy efficiency program implementation experience is lacking. The change in wording makes that distinction more clear, but the gist is the same across all TRIP RFPs that bidders should have knowledge and experience in performing the work they are proposing.
- **Added request for market actor relationships.** The TRIP2 and TRIP3 RFPs add language asking bidders to include manufacturer/distributor relationships when discussing skills.

Bids

SCE received a total of 45 bids across the first three TRIP solicitations from 29 unique vendors, with a total of 5 winning bids (Figure 1).¹² There was a drop in the number of bidders from TRIP2 to TRIP3, with only 3 bids submitted for the third TRIP solicitation. (A fourth and fifth solicitation after this study's research was completed yielded 8 and 5 bids, respectively.) In-depth interviews with bidders revealed that bidders were more likely to submit a bid if there were not solicitations with substantially higher budgets that were released at the same time.

¹² SCE completed the final 2014 TRIP solicitation before this report was drafted, with eight proposals submitted and two awarded. They also completed TRIP 5, which got a total of 5 solicitations. TRIP 4 and 5 are excluded from this evaluation as mentioned previously.

Figure 1 – Number of SCE TRIP Winning and Losing Bids



Bids covered a wide range of market segments and measure categories, as shown in Table 5 and Table 6. Winning bids are described in further detail in section 2.1.5. Winning bidders chosen by SCE were likely to serve a specific subset of a sector (such as large commercial) and/or use controls to decrease demand across multiple end uses. The majority of winning bids consisted of a partnership between two firms.

Table 5 – Market Segment of SCE TRIP Bids by Winning and Losing Bids

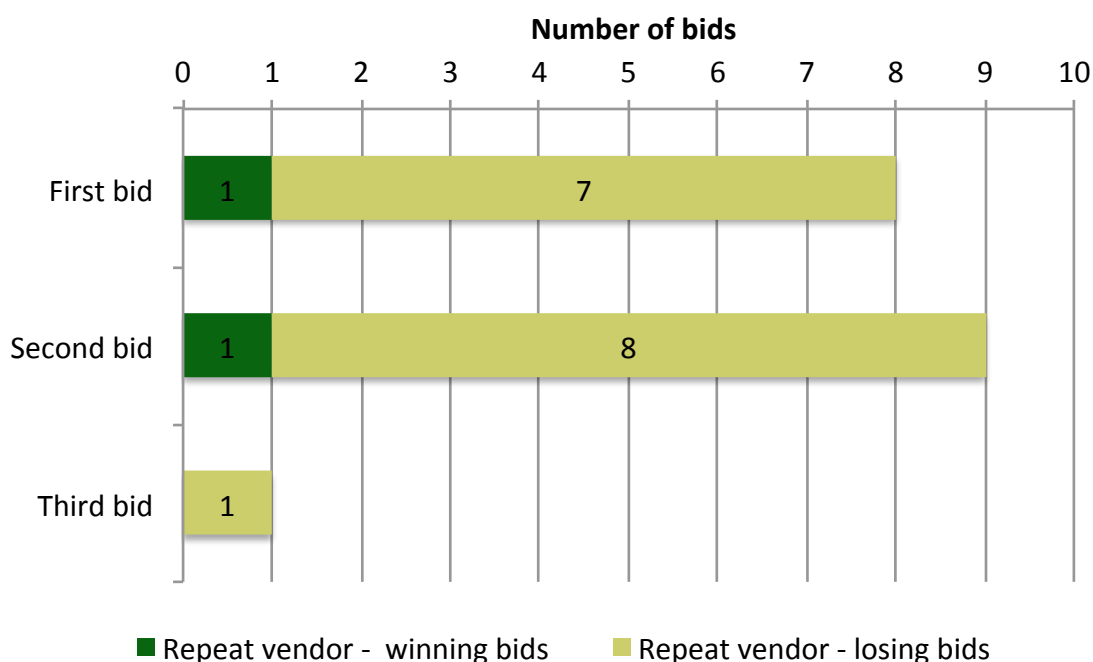
Market Segment	Winning Bids	Losing Bids	Total
Residential		6	6
Small to medium business	1	10	11
All commercial sector or large commercial	3	18	21
Local government		1	1
Industrial/Agricultural	1	5	6
Grand Total	5	40	45

Table 6 – Measure Category of SCE TRIP Bids by Winning and Losing Bids

Measure Category	Winning Bids	Losing Bids	Total
Air compressors		1	1
Auto DR		3	3
Behavior		2	2
Circulation pumps		1	1
Comprehensive measures		3	3
Data centers		2	2
Energy management system	1	1	2
HVAC equipment		7	7
HVAC controls	2	3	5
IDS/M	1	4	5
Lighting equipment		7	7
Lighting controls		1	1
Plug load management		1	1
Refrigeration		2	2
Retro-commissioning	1	2	3
Grand Total	5	40	45

There were five vendors (all experienced implementers) that submitted bids to more than one round (a total of 18 bids, shown in Figure 2), two of which won awards.

Figure 2 – Number of SCE TRIP Bids (and Awards) from Repeat Bidders¹³



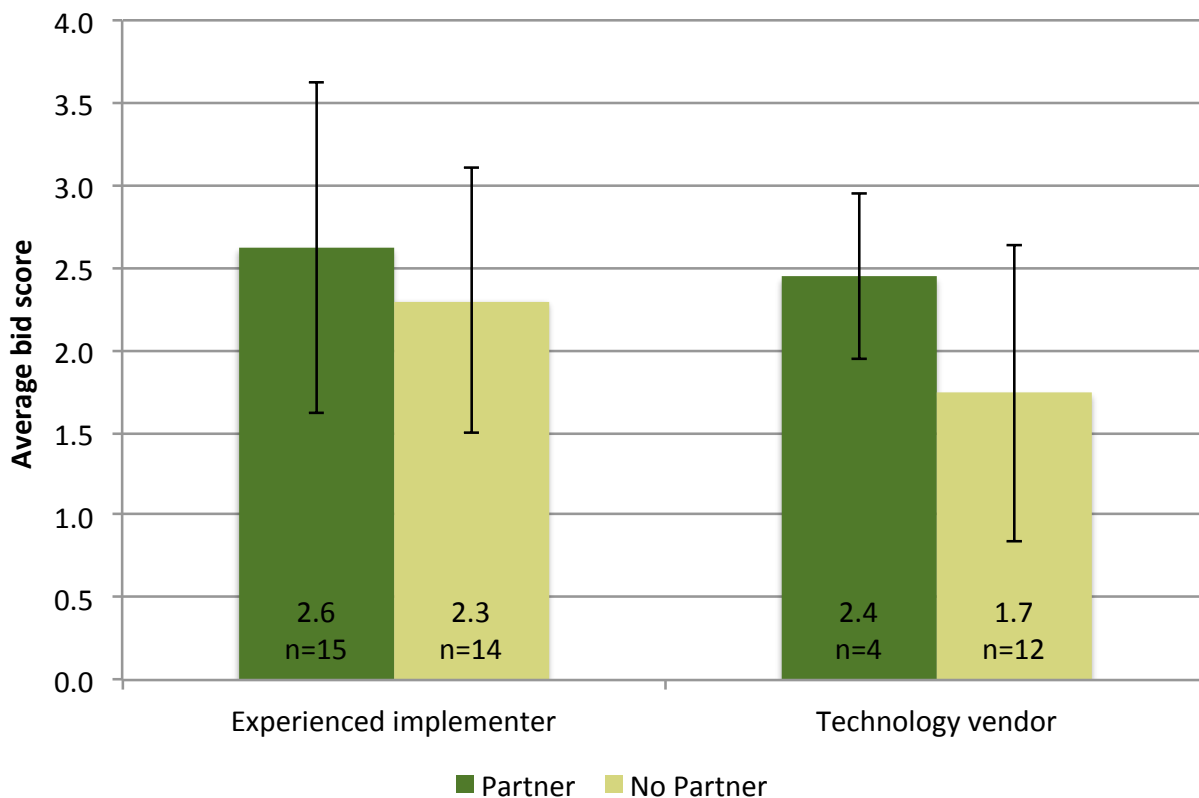
We investigated differences in bid scores based on whether the vendor was an experienced energy efficiency program implementer (which we refer to as *experienced implementers* in the report) or not. Those that have not implemented programs were typically vendors that have developed and are selling technologies (which we refer to as *technology vendors* in this report). Categorization was done after careful review of the submitted bids. We found that experienced implementers and technology vendors differ in their utilization of the ability to work with a partner. A larger proportion of bids led by technology vendors did not partner with other vendors when compared to bids led by an experienced implementer.

Of the five winning bids, all were to vendors that had partners (three experienced implementers that subcontracted to a technology vendor, and one technology vendor that subcontracted to a vendor with energy efficiency measure installation experience) or to a vendor that is an experienced implementer and also develops its own technology products.) All of the bids that lacked the combination of experienced implementer with technology vendor (with either in the prime position) were rejected.

¹³ Bars present standard deviations where n is greater than one.

Figure 3 shows the average score of bids by vendor type and partner. While there are no significant differences shown in the figure below, we see differences between vendor type and partnership type when we look closely at each individual scoring component.

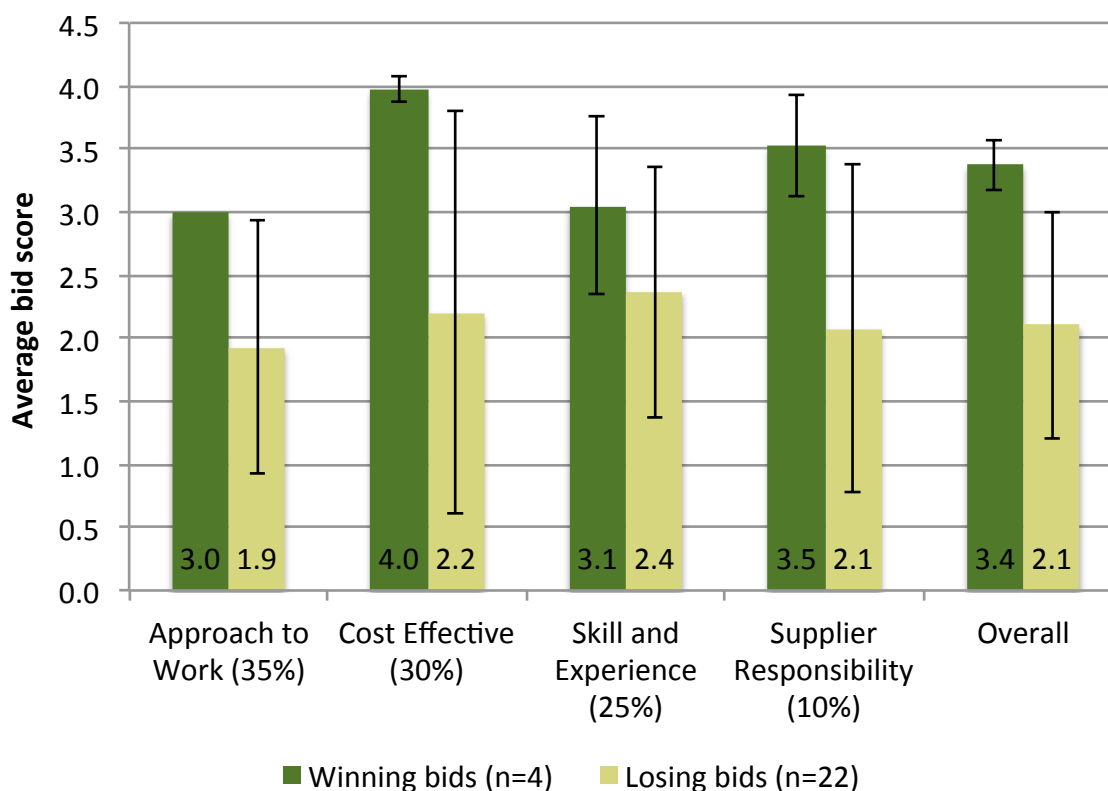
Figure 3 – Average Score of SCE TRIP Bids by Vendor Type and Partner¹⁴



In order to understand what aspect of the partnership was responsible for the greater success rate, we looked at the partnership distinction by each scoring category. Figure 4 shows the average scores for winning and losing bids, broken out by the four scoring components described in the beginning of this section. As shown, the biggest differential between winning and losing bids is for cost-effectiveness (average score of 4.0 versus 2.2) and supplier diversity (average score of 3.5 versus 2.1). Note that this figure and the remaining figures that comprise this subsection exclude bids from TRIP2, for which we did not receive the component scores.

¹⁴ Bars present standard deviations where n is greater than one.

Figure 4 – Average SCE TRIP Component Scores by Winning and Losing Bids^{1, 15}



¹ Excludes TRIP 2 bids.

Additional scoring components are reviewed in Appendix A.

3.2.2 SCG

SCG issued one TRIP solicitation in December of 2014. It received a total of four responses.

RFPs and Solicitation Process

SCG collected bids in two phases; the first phase involved two requirements for the bidders to be able to continue to a second phase where additional documentation was required. The first phase required that the program meet the ET/TRIP definition, and that the bidder scored at least seven points based on its approach to work (six possible points) and their company background (four possible points).

¹⁵ Bars present standard deviations where n is greater than one.

The second phase was scored based on six categories: cost effectiveness, responsiveness, supplier diversity and misc., program implementation and feasibility, skills and experience, and presentation.

Bids

Of the four responses that SCG received, two of the responses were selected to submit a second phase application. Of those two responses, one did not submit a second phase response by the deadline¹⁶, and the other was rejected after the second phase for being too similar to existing IOU programs. Because no bids were awarded, in this section we compare bids that made it to the second phase to those that did not make it to the second phase in order to understand what types of proposals have more success in getting farther through the solicitation process.

The first phase requires bidders to pass with a score of 7 based on approach to work and company background and to also include a technology that met the ET/TRIP definition. All bidders passed with a score of 7 or higher but two were rejected based on a failure to include a technology that met the TRIP definition. The two bidders that did not meet the technology definition criteria also had the two lowest scores based on the combined scoring of approach to work and company background (7 and 8 compared to a score of 9 for both bids that continued to the second phase).

Bids covered a variety of market segments and measure categories, as shown in Table 7 and Table 8. The two bids that were selected to move to the second phase were both in the residential sector.

Table 7 – Market Segment of SCG TRIP Bids

Market Segment	Phase 2	Phase 1 Only	Total
Residential	2	0	2
Industrial	0	1	1
Commercial	0	1	1
Grand Total	2	2	4

¹⁶ The program managers reported that they did not know why the company did not respond.

Table 8 – Measure Category of SCG TRIP Bids

Measure Category	Phase 2	Phase 1 Only	Total
HVAC Controls	1	0	1
Recirculation Pump Controls	1	1	2
Waste Heat Recover	0	1	1
Grand Total	2	2	4

Note that there were two vendors that submitted bids for recirculation pump controls, targeting different sectors. Only one was selected to move forward and the other was rejected due to being an extension of a current program. This may be due to the perceived demand within the different sectors that each application targeted.

We investigated differences based on if the vendor was an experienced energy efficiency program implementer (which we refer to as “experienced implementers” in the report) or not. For the SCG submissions, all four bidders had implemented IOU programs in the past. The two that were selected to move forward to the second phase were established vendors that had a focus on certain technologies, making them more of a hybrid of an experienced implementer and a technology vendor.

We note that SCG is unique from the other utilities in being a gas-only utility. We (the evaluators) posit that the market for energy efficient gas measures is much smaller than that for electricity measures, contributing to the challenges SCG encountered in accepting a successful bid.

3.2.3 SDG&E

SDG&E’s ETP is funding two programs that meet the TIS subprogram objective. Both programs are related to Tier-2 advanced power strips that might be suitable for a direct install program. The companies that were awarded the funding have prior implementation experience.

We did not get information about the other bids featuring ETs that came through the IDEEA365 solicitation that were considered by the 3P/ ETP staff but were not awarded. The screening process was fairly informal, with the 3P staff setting aside promising program concepts that featured ETs that were at the appropriate commercialization stage for ETP consideration.

After bids were set aside, they would be subjected to SDG&E’s two-part evaluation process, during which the evaluation team first evaluates responsiveness and then moves to a more in-depth assessment of those proposals that passed the responsiveness stage. In-depth

review includes scoring on the program implementation plan, cost effectiveness and experience and results. Other unspecified criteria may be evaluated.

3.2.4 PG&E

PG&E awarded two programs, which will be funded by the 3P programs (not ETP).

PG&E used a similar scoring process to the one that SCE used, with an initial “pass/fail” phase based on RFP responsiveness, which was then followed by a second round of scoring. The second round of scoring was comprised of 10 components with various weights. We detail each component in Figure 6.

Since PG&E used a two-stage process, cost-effectiveness was not explicitly reviewed in the first stage. PG&E staff reported that even during the second round, they did not heavily weight cost-effectiveness (10% of total score for non-resource projects), and did not require complete cost-effectiveness data. Instead, they asked the vendors if they had such data and discussed and considered the concepts’ potential for cost-effective energy savings.

We received a total of 16 bids from PG&E for analysis. Of this set of 16, two bids were accepted, and the remaining 14 were rejected. The average overall score of bids reviewed was 2.06 (out of a total score of 4). The average score for winning bids was 2.29, compared to 2.03 for losing bids.

Bids covered a wide range of market segments including Commercial & Industrial (C&I), Municipalities, Universities, Schools and Hospitals (MUSH)¹⁷ and small commercial. Table 9 contains a column for each reviewed bid in order to show the spread of market segments across bidders (allowing for multiple market segments to be represented). The two winning bids are presented in a lighter shade of green and both winning bids served MUSH (columns 13 and 15).

¹⁷ In its RFA, PG&E specifically asked for proposals that target this market segment.

Table 9 – Market Segment of PG&E Bids by Winning and Losing Bids

	Awarded	Not Awarded	Grand Total
C&I		2	2
C&I and MUSH		1	1
Commercial		2	2
Commercial, MUSH		2	2
Fitness Centers		1	1
MUSH	1	5	6
MUSH, R&D and Pharma	1		1
Small Commercial		1	1
Grand Total	2	14	16

Seven of the 16 bids included some type of energy management system (EMS) and two of the 16 bids had a demand response element. Additional measures or measure categories include air compressors, plug load and appliances, analytics, hospital equipment, pool pumps and transformers. One of the winning bids was for hospital equipment and the other winning bid was one of the seven EMS bids. One vendor submitted two bids, both of which were rejected.

We investigated differences in bid scores based on if the vendor was an experienced energy efficiency program implementer (which we refer to as experienced implementers in the report) or not. Those that have not implemented programs were typically vendors that have developed and are selling technologies (which we refer to as technology vendors in this report). There were no significant differences across bidder type (Figure 5). The same was true when we looked at this by each scoring component. The majority of the experienced implementers partnered with a technology vendor. Partnering did not make a difference in the acceptance rate (one partnering bid won and one single vendor bid won) among bidders. There was also not a significant difference in the scores when comparing partnering bids to non-partnering bids.

Figure 5 – Average Score of PG&E Bids by Vendor Type and Partner¹⁸

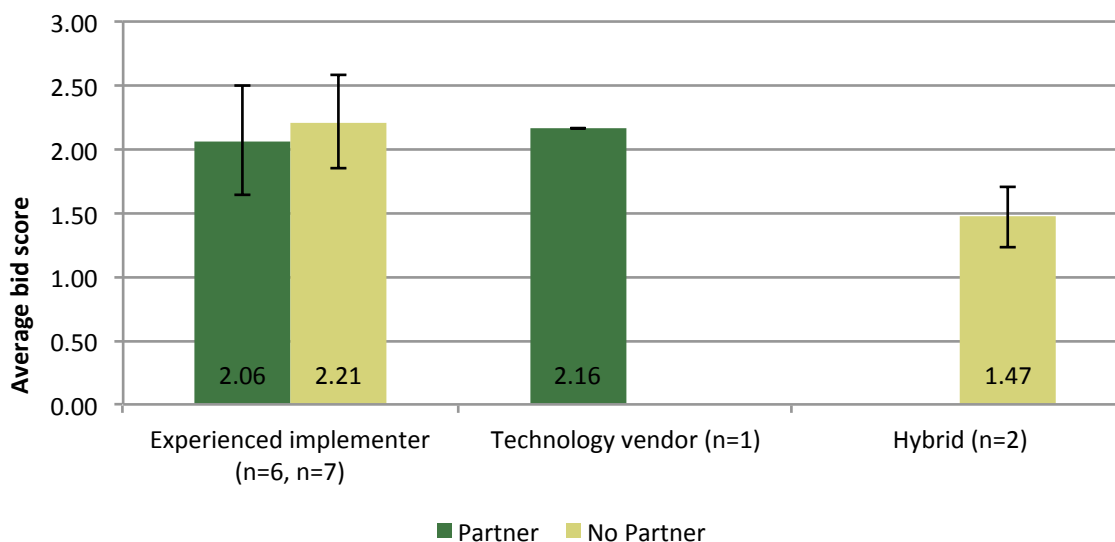
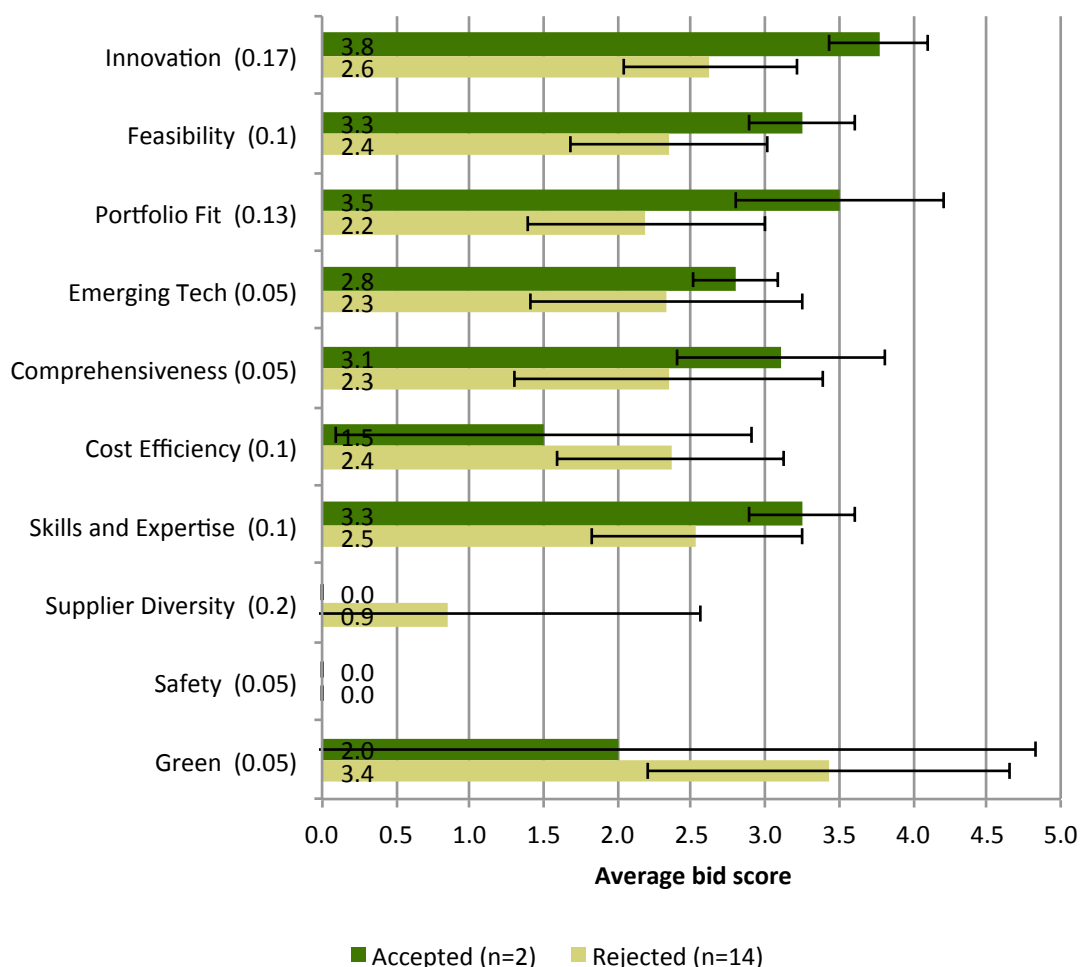


Figure 6 shows the average scores for winning and losing bids, broken out by the ten scoring components used by PG&E. As shown, the only significant difference between winning and losing bids is for the innovative category (average score of 3.8 versus 2.6). Figure 6 also shows the percentage of the overall scoring component that each category attributed to the final score. The innovation category makes up 17 percent of the total score, making it a key factor by design. The high weight placed on innovation helped to assure that the most innovative bids were given high scores and ultimately awarded contracts.

The difference in scores for the innovative category and the emerging technologies category reflects the intent to include novel program delivery approaches in bid responses. The two winning bids ranked among the bids with the top three innovation scores, but came in fourth and fifth when it came to the emerging technologies category. This scoring mechanism reflects PG&E's desire to attract not only innovative technologies, but also innovative approaches to getting the technologies in front of consumers. This desired outcome is well defined in PG&E's RFA.

¹⁸ Bars present standard deviations where n is greater than one.

Figure 6 – Average PG&E Component Scores by Winning and Losing Bids^{19, 20}



3.2.5 IOU RFP/RFA Process Comparison

In this section, we present a comparison of the RFP/RFA processes, as SCE's TRIP solicitation process differs significantly from the IDEEA365 process as followed by PG&E and SDG&E and from SCG's TRIP solicitation process. This section discusses differences in the processes and documentation available for 3P vendors across the utilities in order to gain a better understanding of what is asked of 3P vendors before we discuss the 3P vendor interviews in the following section. Below, we note specific differences in the following:

¹⁹ Scores presented here represent the scores we received from PG&E for non-resource (rather than resource) proposals. Our analysis leads us to believe that all total scores utilized the non-resource weights regardless of the program or technology type.

²⁰ Bars present standard deviations where n is greater than one.

- Number of Stages
- Requirements
- Bidder Conferences
- Technology Source Identification
- Language Surrounding Innovation

The most notable differences between the IOU processes are shown in Table 10.

Table 10: Comparison of IOU RFP/RFA Processes

	SCE	SCG	SDG&E	PG&E
Number of Stages	1	2	2	2
Additional areas of focus identified			Focus on developing sustainable communities	Priority given to certain markets (MUSH and WE&T)
Bidder Conferences	Varies across solicitations	None	Required attendance	None
Language Surrounding Innovation	Technology focused	Technology focused	Focus on technologies and programs	Focus on technologies and programs

Number of Stages

The IOUs differ in regards to the number of stages in the solicitation process. As discussed previously, SCE's TRIP solicitations follow a one-stage process where all materials are due simultaneously. SDG&E and PG&E's IDEEA365 process as well as SCG's TRIP process consist of two stages with separate submissions. Stage One is a Request for Abstract (RFA) that does not require cost-effectiveness calculations from bidders, while Stage Two (the subsequent Request for Proposals (RFP) for those invited to move on from Stage One) consists of a more detailed proposal, which may include cost-effectiveness calculations.

Requirements

SDG&E requires proposals to contain the following: an executive summary, program implementation plan, cost effectiveness information, experience and results information and general company information. PG&E requires the same elements, but adds a Corporate Responsibility component that quizzes bidders on supplier diversity and green and safety policies (SDG&E states that it may institute a minimum DBE subcontracting requirement when issuing an RFP in the Second Stage of the two-part process). SCG requires a program summary, company information, skills and experience, supplier responsibility and agreement

to terms and conditions. SCG does not require detail on the approach to work in the first phase.

Desired outcomes are stated in SCE's RFPs and SDG&E's, PG&E's, and SCG's RFAs. One difference is that PG&E gives priority consideration to proposals that address the following areas of the energy efficiency market: MUSH (Municipal buildings, Universities, Schools and Hospitals) and WE&T (Workforce Education and Training). In addition to targeting MUSH solutions as PG&E also does, SDG&E desires projects that include measures from three or more end-uses and that have deep energy savings (those that have a longer-term payback and are more challenging to secure). Finally, SDG&E also desires projects that target the development of sustainable communities.

Bidder Conferences

While bidder conference and technical documentation workshop attendance varied among the SCE RFP solicitation phases, SDG&E requires bidder conference attendance; technical documentation workshop attendance is optional. No workshop or conference is mentioned in PG&E's or SCG's RFA (but they do allow interested bidders to submit questions, as does SDG&E).

Technology Source Identification

In SCE's TRIP RFPs, links to technology sources are given. In the IDEEA365 RFAs, PG&E provides links to the Database for Energy Efficiency Resources (DEER), while SDG&E links to rebates online and the California Public Utility Commission's Energy Efficiency Groupware Application (EEGA) website. SCE and SCG provide links to DOE's Energy Efficiency and Renewable Energy (EERE) Industrial Technologies Program, the Emerging Technologies Coordinating Council (ETCC) including the CEC's Public Interest Energy Research (PIER) Program, and the Northwest Energy Efficiency Alliance (NEEA)—though these resources may be provided in other IOUs' bidders conferences (which PG&E does not mention having in its RFA, however). All RFPs and RFAs provide a list of unacceptable technologies.

Language Surrounding Innovation

For SDG&E's IDEEA365 RFA, the solicitation process description mentions that the competitive bidding process involves both targeted and innovative programs. While targeted programs skip the initial RFA stage (SDG&E issues only an open RFP to all qualified bidders), innovative programs are subjected to the full two-stage process. The PG&E RFA mentions innovative programs only. In its definition of innovation, PG&E adds language about proactively seeking and developing emerging technology via a program designed to demonstrate cost and benefit to opinion leaders and decision makers and increase market penetration. As mentioned previously, PG&E issued a one-time special IDEEA365 that was focused on emerging technologies to fulfill its TRIP obligations. SCG defines innovative in their RFA and specifies that they are looking for innovative technologies or measures.

3.3 3P Implementer Interviews

As part of the process evaluation, Evergreen staff interviewed vendors that submitted bids to SCE and SDG&E during August of 2014 and to PG&E during March and April 2015. Evergreen also attempted to interview the four SCG vendors in August 2015 and was successful in reaching one vendor. Some of the key interview objectives of these interviews were to:

- Get feedback on the characteristics of bidding vendors (building from what is publicly available), including past experience developing programs with emerging technologies in and possibly outside of California;
- Gain a better understanding of the effectiveness of soliciting 3P proposals featuring innovative technologies;
- Assess vendors’ perceptions of the solicitation process; and
- Distinguish between the effectiveness of TRIP and IDEEA365 in generating proposals featuring innovative technologies.

In this section, we present the results of the interviews along with any relevant insights from program staff interview and bids associated with the interviewed vendors.

3.3.1 Sampling

Our sample includes a total of nine²¹ 3P vendors that submitted bids to SCE (representing 15 bids), 15 3P vendors that submitted bids to PG&E, four 3P vendors that submitted to SCG, and three 3P vendors that submitted a bid to SDG&E. This subsection presents the sample frame followed by a description of the completed sample.

Table 11 shows the total number of unique vendors that comprised our sample frame. The 27 vendors in the SCE sample frame represent 47 bids to SCE.

Table 11 - Vendor Interviews – Sample Frame (Unique Vendors)

Vendor Type	Award Status		Total
	Accepted	Rejected	
Total submitted bids to SCE	3	24	27
Total submitted bids to SCG	0	4	4
Total submitted bids to PG&E	2	13	15
Total submitted bids to SDG&E	2	1	3

²¹ There was a tenth completed interview with an SCE third party vendor (whose single bid was not accepted) but they would not answer the individual questions. They instead provided more general feedback, which we include only in the reporting below where the feedback is relevant (the open ended question).

Table 12 shows the 17 vendors that comprise our interview sample by status of program award.

Within the SCE sample points, close to half of the nine completes are experienced implementers that routinely run programs for the California IOUs. The remaining respondents are technology vendors that either submitted bids on their own or with an implementation partner. These vendors typically have developed and/or are selling a new device or system that leads to energy savings. Within the PG&E sample points, all are experienced implementers, half of which partnered and half of which did not.

In the interviews listed below, some respondents reported submitting to more than one IOU solicitation process. We present each respondent only once in the table below, according to the IOU that gave us their information and utilized their experience in multiple submission processes, within our analysis to compare their experiences.

Table 12 - Vendor Interviews – Completed Sample (Unique Vendors)

Vendor Type	Award Status		Total
	Accepted	Rejected	
SCE	3	6	9
SCG	0	1	1
PG&E	1	5	6
SDG&E	1	0	1
Total	5	12	17

We summarize the responses from the interviews below by IOU. The PG&E analysis draws comparisons to the results presented in the SCE subsection. In some cases, we noted differences in responses between vendors whose bids were accepted versus those that were rejected, which we either illustrate in a separate chart by those categories or note in the text. Sample sizes are small but capture a significant proportion of vendors and bids in the sample frame.

We originally noted differences in responses between experienced implementers and technology vendors after hearing in staff interviews that this distinction may be part of what allows vendors to be successful in the bid process but found that for the most part, vendor interview responses did not vary by this distinction. This may reinforce related findings that bidders' perceptions are not always in line with their bid success and that they sometimes lack information about what it takes to prepare a successful bid. Where we did see differences by this distinction, we present the information below.

3.3.2 SCE

3.3.2.1 Vendor Background with Emerging Technologies

Three of the vendors in our sample reported that their company also submitted abstracts to the IOUs' IDEEA365 solicitation—in many cases, they said they did so to more than one IOU. The three vendors that could definitely recall submitting abstracts to IDEEA365 were all experienced implementers. Technology vendors either did not submit abstracts to IDEEA365 or did not recall doing so.

A small number of technologies featured in the bids submitted by our vendor sample were in use outside of California, while some of the bids featured technologies that had been tested in other states or countries. Only two of the technologies discussed were used slightly more in places outside of California than they were utilized within the state. This was an issue in one case where a bid was rejected in part due to data being limited to outside of the United States. One bid assessment review mentioned that the bid concept would be given to ETP for review, while another bid featured a potentially cost-effective technology but the vendor lacked California experience and installation experience in general (notes on this bid also stated that the bid concept would be given to ETP for further review).

3.3.2.2 Vendor Awareness of Reasons for Technology Rejection and Acceptance

The three vendors that were awarded contracts all said that the technology they featured in their bid was “not at all in use”. The vendors whose bids were rejected gave their impressions about what was either a barrier to the technology or to getting through the bid process. Where possible, we compared their comments with their actual bid scores and notes from SCE below. Figure 7 shows that the bidder perspective is often different from the IOU perspective regarding the barriers to acceptance of the technology. Where text is in a pink cell, the bidder and the utility opinions contradicted each other, and where the cells are green, the bidder and the utility perspective aligned. When they do not match or contradict each other, the cells remain white. In general, the bidders' perspectives matched very few of the utility opinions. Additional substantive feedback may benefit bidders and SCE in future rounds of solicitations. This could be addressed through training and vetting of vendor ideas before all bid components are submitted.

Another interesting note from the analysis below is that two vendors expressed that they were told they could not do both energy efficiency and demand response together. This may be beneficial to clarify in the next solicitation documentation in order to avoid this confusion and save both parties from time spent on preparing ineligible proposals.

Figure 7 – Comparison of SCE Bidder and Utility Perspectives on Barriers to Technology Garnering Interest at IOU Level (n=9)

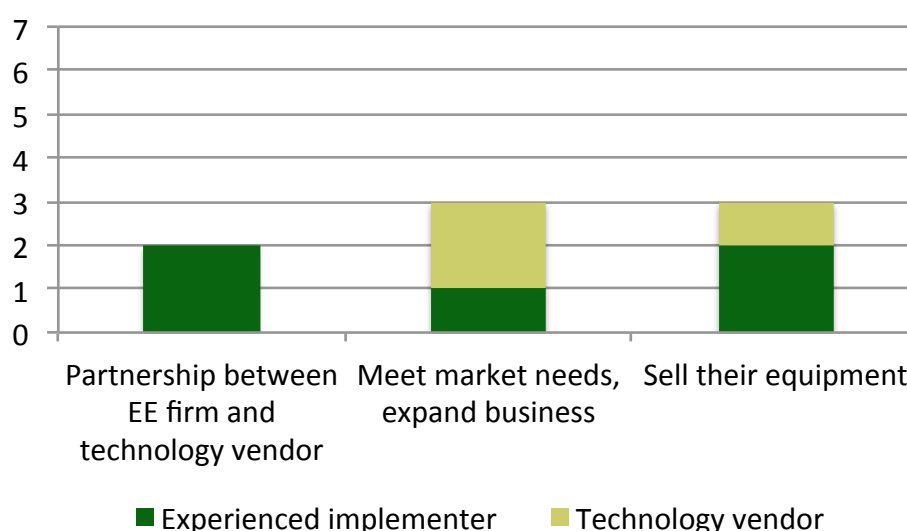
	Bidder Perspective: Barriers to Technology or to Garnering Interest at IOU level	IOU Perspective: IOU Scoring Notes Regarding Barriers to Acceptance
1	<p>Market place status, non-energy price signals</p> <p>Were told they could not do both EE and DR</p>	
2	<p>Lack of adoption convenience</p> <p>IOU risk too high</p>	<p>Approach to work score greater than average</p>
3	<p>Were told they could not do both EE and DR</p> <p>Difficulty in delivering savings methodology to ED</p>	<p>Have had trouble with firm's install services in the past</p> <p>Measure savings need to be verified by a 3P</p>
4	<p>Contractor challenges</p>	<p>Issues with approach</p> <p>Did not establish cost effectiveness (with adjusted baseline)</p>
5	<p>Challenging to understand impact of the technology when it is innovative</p>	<p>Technology already in marketplace</p>
6	<p>Difficult to get technology to customers</p>	
7	<p>Data source issues</p>	<p>Delivery strategy</p>
8	<p>E3 calculator not specific enough to single technologies</p>	<p>Did not establish cost effectiveness (Score for cost effectiveness was lower than the average amongst other losing firms)</p>
9	<p>Incentive cost</p>	<p>Lacking CA and installation experience</p> <p>Extensive customer retrofit needed</p> <p>Cost effectiveness score much higher than average</p>

Some of the rejected bids either featured technologies that were already in use in programs (not emerging), or were not in use and were lacking enough data to sufficiently prove their cost-effectiveness. There were also some technologies that may have been suitable, but the vendor lacked implementation experience or the implementation plan was not effective.

3.3.2.3 Motivations and Barriers to Featuring Emerging Technologies in Programs

Only experienced implementers identified creating a new partnership between an energy efficiency vendor and a technology vendor as a motivation for including emerging technologies in programs (though the sample size is very small, so distinctions between vendor type are not robust). Both technology vendors and experienced implementers were motivated to meet market needs/expand business or to sell their equipment.

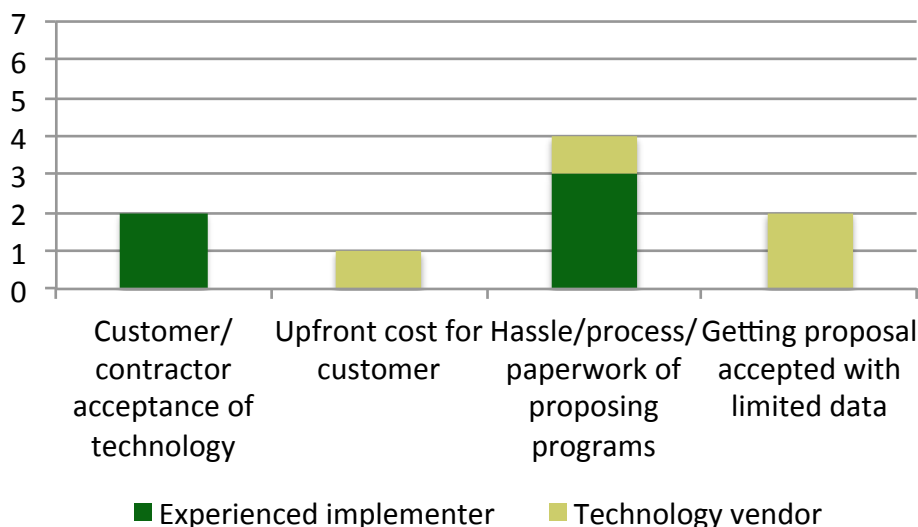
Figure 8 - A7. What is the company's motivation for including innovative technologies in programs? (Unprompted, n=8)¹



¹ Excludes one technology vendor that did not respond to this question.

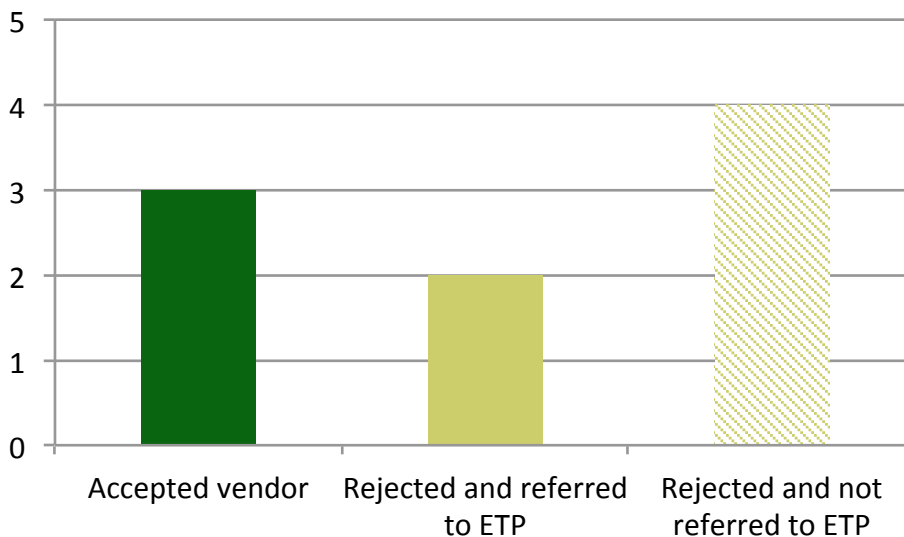
When we asked respondents to identify existing barriers to including innovative technologies in programs, the most commonly cited barrier was the hassle or process of preparing a proposal. Two of the experienced implementers cited getting customers or contractors to accept the technology as a barrier, while two of the technology vendors (that both had bids rejected) cited getting their proposal accepted with limited data as a barrier.

Figure 9 - A7a. What are the barriers to including ETs in programs? (Unprompted, n=9)



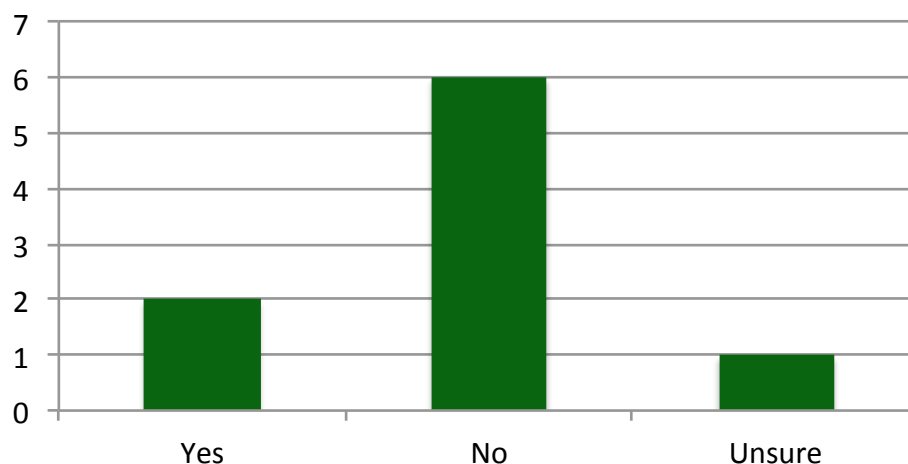
Two of the rejected bids that lacked data but showed promising technologies were noted by SCE to be referred to other staff within ETP—e.g., for the Technology Assessment subprogram, which would provide support to the vendor to test the viability of the technology and develop savings estimates.

Figure 10 – Vendors Referred to ETP (n=9)



Most of the vendors in our sample had not previously submitted a proposal featuring emerging technologies to the IOUs—only one experienced implementer and one technology vendor said they had done so.

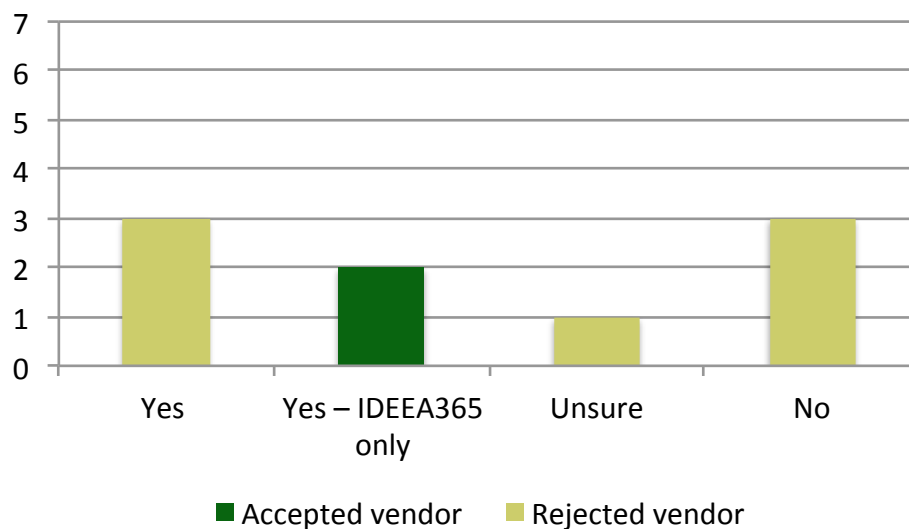
Figure 11 - B1. Was this the first time you submitted a proposal that featured innovative technologies? (n=9)



The two vendors that had not done so said they were not aware of a previous opportunity.

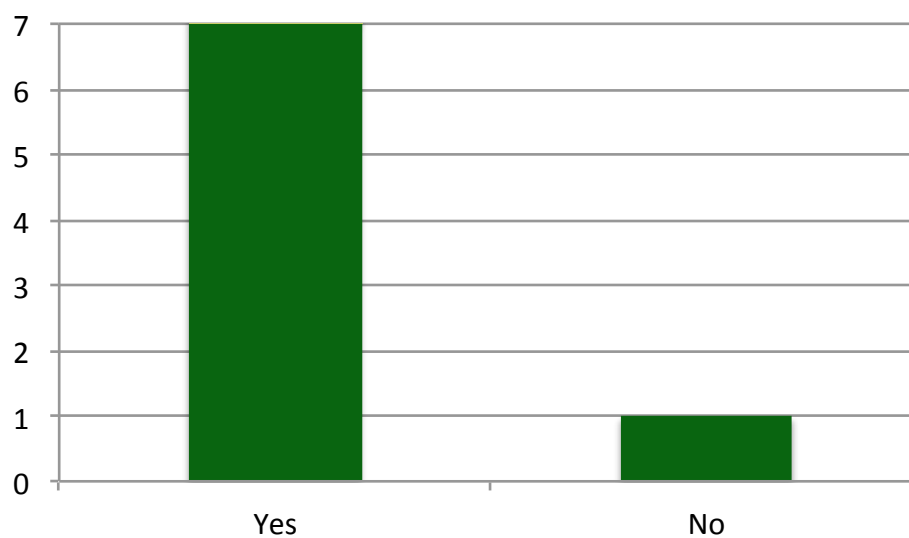
We asked vendors whether they would consider submitting another proposal to the California IOUs, and three of nine said yes, while an additional two said yes to IDEEA365 only (not to TRIP). One of these two vendors said they would only do IDEEA365 (over TRIP) due to the budget differences. Three vendors, all whose bids were rejected, said no and the final vendor (that also had its bid rejected) said it was uncertain. Comments that were provided mostly echoed previous comments related to cost-effectiveness concerns, desire for more information on which specific technologies the IOUs want, and issues with the bid process.

Figure 12 - D6. Would you consider submitting another abstract/proposal to the CA IOUs for an innovative technology or concept? (Unprompted, n=9)



Seven of eight vendors said they would have submitted bids in the absence of a TRIP solicitation process, likely through IDEEA365 (Figure 13). However, some of these vendors likely became aware of IOU bid opportunities such as IDEEA365 through the TIS subprogram, which included the TRIP solicitation (for SCE and SCG) and outreach to vendors.

Figure 13 - B2. If there wasn't a TRIP solicitation process, would you have submitted this proposal to the CA IOUs?¹ (n=8)



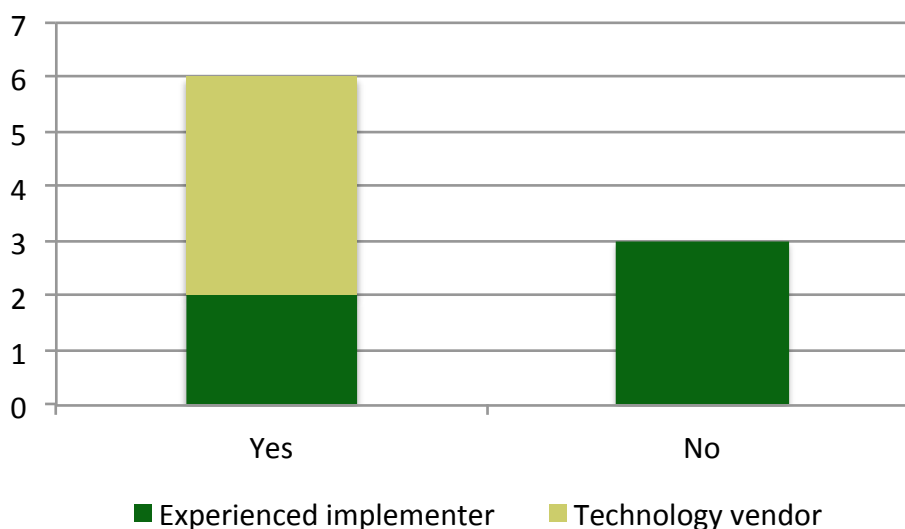
¹ Excludes one technology vendor that did not respond to this question

Of the seven vendors that said they would have submitted proposals through another channel, one said it would have submitted a proposal through the IDEEA365 channel (an experienced implementer) and the remainder said they would have submitted a proposal through some other channel.

The vendor that said it would *not* have submitted the concept in absence of a TRIP solicitation said that it would have submitted its proposal to the IOUs only if there were some appropriate channel/RFP.

More than half the vendors (6 of 9) in our sample said they would like to submit additional innovative concepts to the IOUs using various existing venues (as reported below). (The three experienced implementers whose bids were accepted did not have additional ideas to submit to the IOUs.) We note that the TRIP solicitation vehicle was successful in attracting bids from vendors that have not worked with the IOUs in the past (technology vendors). However, for experienced implementers, the TRIP vehicle may not be needed since most say they would find a way to pitch their concepts including emerging technologies.

Figure 14 - B3. Do you have any additional innovative concepts that you would like to submit, but have not done so in California? (n=9)

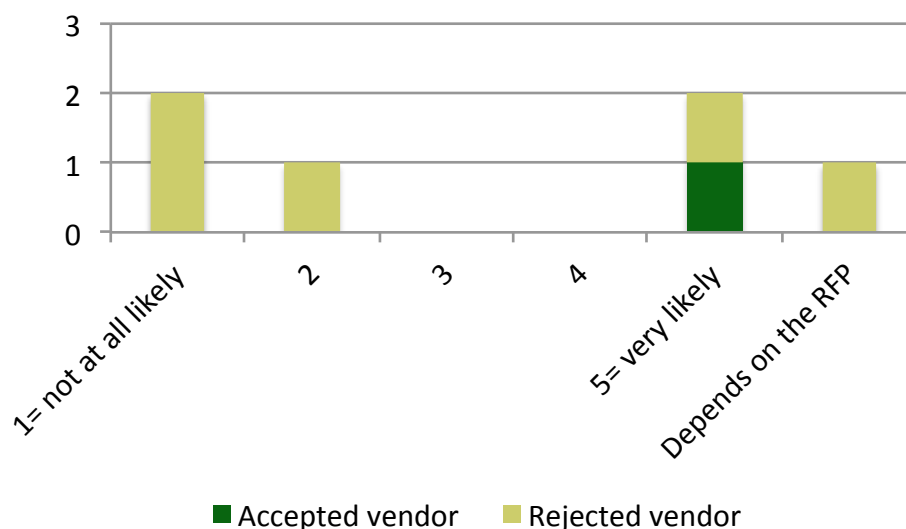


Two of the six vendors that had additional innovative ideas said they would be very likely to submit their ideas to the California IOUs. Two said they were not at all likely to, but would be very likely to submit them outside of California. One vendor said it depended on the RFP requirements, but it was also very likely to submit its concept outside of California. (The next result provides feedback on the barriers perceived with submitting proposals to California IOUs.)

Though there are vendors in our sample that have additional innovative ideas that they might pitch to the IOUs, they may need further training on the TRIP solicitation

requirements, since many of their bids were rejected because the technology they proposed was either not ready for the market or already in use in the market. They failed to identify the appropriate stage of technology commercialization that TRIP is aiming for. Other reasons for rejection included lack of installation experience, which could be remedied by partnering with a vendor with previous energy efficiency program implementation experience, as did the one technology vendor whose bid was accepted.

Figure 15 - B4. On a scale of 1 to 5, where 5 is very likely and 1 is not at all likely, how likely are you to submit a proposal with those concepts to the CA IOUs in the future? (n=6)¹



¹ Excluding vendors that said “no” to B3

The barriers cited by vendors in our sample to submitting innovative proposals with the current California IOU solicitation process were related to the following topics. Note that the sample size is very small and though these issues may warrant attention from program staff, they do not necessarily justify changes to the program on their own.

- Cost-effectiveness** (cited by three experienced implementers) - Vendors mentioned that it was difficult to develop savings claim information and/or that trying to be innovative while adhering to strict cost-effectiveness criteria was incompatible. In more recent iterations of SCE TRIP solicitations, not included in this analysis, SCE has scored bids in two rounds. This has allowed bids to be initially scored based on approach and innovation before reaching a secondary scoring round where cost effectiveness is evaluated. PG&E, which did not provide data and is not represented in this sample, did not use such strict criteria for cost-effectiveness. PG&E and SCG use a two-stage bid approach that does not require data in the first stage, which would also address the issue of lack of robust data.

- The **bid process** (cited by two vendors with rejected bids) - Vendors also mentioned issues with the bid process, citing lack of feedback during the process and after learning about the award status. (SCE mentioned during the program staff interview that it felt this was an area that could be improved, and is working to address a few obstacles to improving the process, since a cross-functional team is involved with certain procurement guidelines that govern when a vendor may be contacted and what type of information may be shared.)
- **Risk** (cited by two vendors) – Vendors complained that they had to bear too much risk even with the IOUs’ emphasis on innovative technologies. For example, SCE set up the contracts such that 20 percent of the budget could be billed as time and materials, with the remainder as fixed fee based on performance. This approach is fairly consistent with other 3P programs, but the two vendors felt that for an innovative solicitation, an approach that would spread the risk more evenly would be more conducive to encouraging a more robust market response.

Other barriers listed by one vendor whose bid was accepted were:

- Too time consuming to prepare a bid;
- One-year contract term too short; and
- Award is too low.

3.3.2.4 Feedback on Request for Proposals and Bid Process

The average score given by the nine sampled vendors on whether the TRIP solicitation had clearly defined innovation (see Section 2.1.5 for a summary) was 3.3 on a scale from 1 to 5, where 1= not at all clear and 5= very clear. Figure 16 shows the distribution of scores.

Notably, one of the vendors (an experienced implementer) that had a bid accepted (and high overall scores) felt that the definition was not very clear.²² This vendor was an experienced implementer that had a technology vendor as a subcontractor, so it may be that the technology vendors had enough of an understanding of the bid requirements to get high scores and ultimately awards.

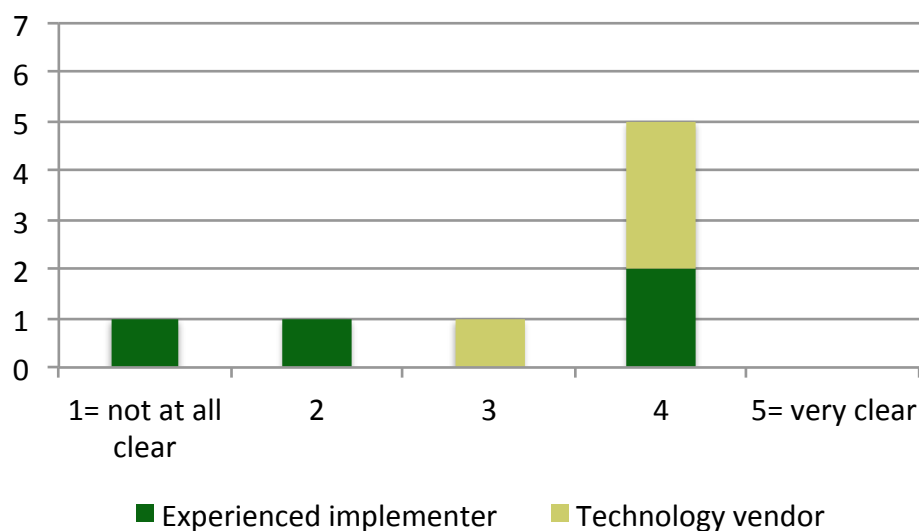
Only one vendor in our sample with no accepted bids rated the clarity less than a 3 (it gave a score of 1), and the technologies associated with their bids included one that was not yet tested and two that were already in the marketplace. Their low rating of clarity was consistent with their lack of understanding that they demonstrated in their bids. Three of the four vendors with rejected bids that rated the clarity highly (a 4) had problems with the technologies they included in their bids from the utility perspective—two were not yet tested and one was already in the marketplace. These vendors’ responses are inconsistent with their bids—they thought the requirements were clear but they included technologies that did

²² One of them was the SDG&E bidder that responded to the IDEEA365 solicitation.

not meet the specifications. Some of these vendors had installation/implementation partners and others did not, so there does not seem to be a relationship with having an installation/implementation partner and correctly interpreting the innovation requirements.

A range of comments was provided in conjunction with the clarity scores, which are shown after the chart, mostly reinforcing the barriers already listed previously.

Figure 16 - C1. On a scale from 1 to 5, where 5 is very clear and 1 is not clear at all, how clear was the RFP/A definition of "innovation" and the directions for submitting an "innovative" proposal? (n=8)



Comments that vendors provided about the clarity of how the RFP defined innovation were:

- Not very clear; during negotiations [the IOU] asked for a broader approach that seemed more in line with IDEEA365 (accepted vendor);
- The way the bids are reviewed and selected is inconsistent with the way the RFP is set up (rejected vendor);
- Vague, inconsistent and misleading, no way to get clarification (accepted vendor);
- Not bad, compared to "awful" RFPs they have seen (accepted vendor); and
- Able to get questions answered at bidder's meeting (rejected vendor).

We asked vendors to summarize what they thought the IOUs were looking for in terms of innovation. A total of four vendors responded. Three of four vendors that responded to this question felt that the IOUs were looking for a combination of innovative technologies and delivery mechanisms (two of the three were aware of IDEEA365 and one had submitted an abstract under IDEEA365—so there could be some confusion between the two types of solicitations.) Their responses are included below:

- Technology or methods for delivering technology, grey area whether they fit into one side or the other (rejected vendor);
- New stuff with new ways of getting it implemented (accepted vendor); and
- Innovative approach or technology to advance energy efficiency effort (rejected vendor).

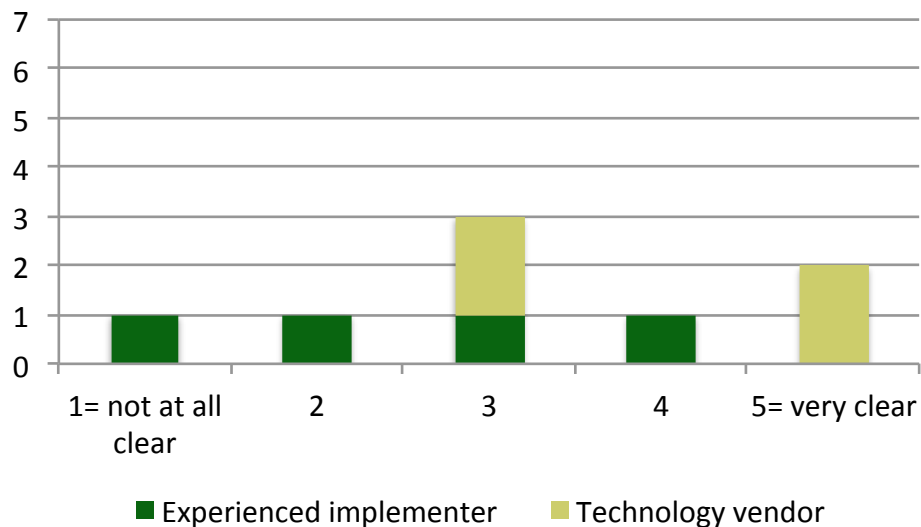
The fourth respondent (a rejected vendor) just said “Look for innovation, E3 calculator is the key but is a bad criteria to grade technologies since they are all so different.”

We asked vendors a similar set of questions related to the clarity of the definition of eligible technologies. SCE staff further educated bidders on the definition of eligible technologies at trainings. The average scores provided by vendors that submitted concepts to TRIP were the same as for the prior question, 3.3. The most frequent value was a 3, given by three vendors (Figure 17). Similarly to the prior question about the clarity of the definition of innovation in the RFP, the same two vendors with accepted bids (both experienced implementers) gave the lowest scores about the clarity of the eligible technology requirements. We also observed that vendors that highly rated the clarity of eligible technologies in the RFP had their bids rejected due to either having a technology that was not sufficiently tested or one that was already in the marketplace, consistent with the disconnect described above.

Comments provided by vendors in conjunction with their clarity scores included confusion around whether demand response could be included, a request by two vendors for more examples of what types of technologies they were looking for,²³ and that the E3 calculator is not an appropriate grading criterion for innovative technologies.

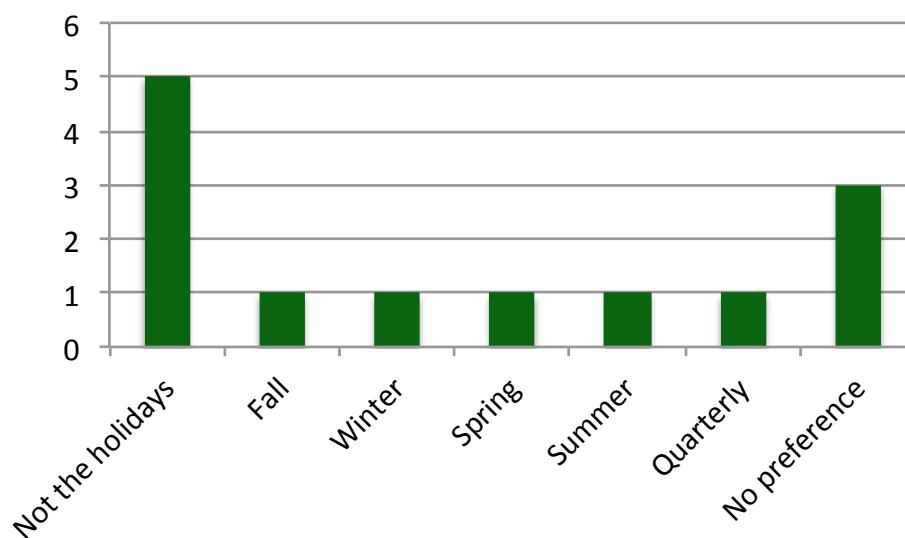
²³ The TRIP RFPs included links to resources that discuss emerging technologies, and included a list of ineligible technologies. However, there was no list of suggested technologies in the RFPs.

Figure 17 - C2. Similarly, on a scale from 1 to 5, where 5 is very clear and 1 is not clear at all, how clear were the RFP/A eligible technology requirements? (n=8)



We asked vendors whether there was a certain time of year that was good or bad to submit a solicitation response for program concepts. As shown below, we received a range of responses spanning the year (i.e., no consensus on a good time of year), but five vendors of six that gave a preference said that the holidays are *not* a good time of year for a solicitation.

Figure 18 - C3. Is there a certain time of year that is good, or bad, for submitting abstracts/proposals like this? Or, how frequently would you like these solicitations to be available? (Unprompted, multiple mentions allowed, n=9)



3.3.2.5 Tradeoffs of SCE TRIP versus IDEEA365

We asked the five vendors that submitted a similar concept under both IDEEA365 and SCE TRIP about their opinions on the two approaches. Four of the five vendors said they preferred the easier/two-stage approach of IDEEA365, based on it requiring less up front work, though one of those four admitted that the extra work would not impact their decision whether to bid on TRIP again. One of the five vendors felt that TRIP was more precise and less confusing than IDEEA365. Open-ended responses to the following questions are listed below by vendor type.

- D 1. *It looks like you submitted similar proposals to [IOU] and [IOU], did you have to modify these to meet the different RFP requirements?*
- D 2. *(IF D 1. = “Yes”) Based on your experience submitting proposals under both types of solicitations, what did you have to modify in your proposals? Why?*

Experienced Implementer, Bid Accepted

- Yes, had to do a lot more work for TRIP—IDEEA365 is much easier at the first stage—much less work, the IOU is more likely to get bids. The additional requirements of TRIP and lower budget will impact the types of proposals. Won't ever submit under TRIP again.
- Two-stage process should be used for TRIP.

Experienced Implementer, Bid Rejected

- TRIP was more precise and less confusing than IDEEA365—the two different types shouldn't impact the types of proposals they may choose to submit in the future.
- Yes, they modified their proposal slightly for TRIP. TRIP E3 calculator requirement was onerous and requires a lot of labor-intensive preparation so early in the process. Though probably won't impact the types of proposals they will submit in the future.

Technology Vendor, Bid Rejected

- Yes, they modified their proposal to fit the additional TRIP requirements. TRIP required a lot more paperwork, had to adjust the budget, develop savings calculations. Preferred IDEEA365. The different solicitations might impact the types of proposals they submit in the future.

We asked vendors that had only submitted a proposal under the TRIP solicitation (n=4) if a budget increase to \$1 million (consistent with the IDEEA365 solicitation) would change how they approached future bids. The purpose of this question was to find out whether the program budget influenced vendor response. Three of four responding vendors said it would

not impact their bid, while the fifth vendor said it would bring in more partners and provide a more robust proposal. The responses are shown below by vendor type.

- D 3. *If the maximum award amount was increased from \$300,000 to \$1 million, would you:*
- A. *Change the market maturity of the technology you proposed to use? IF "YES", Why?*
 - B. *Need to staff up within your company, or form partnerships with other companies, in order to scale up to use the increased budget and still hit your increased goals?*
 - C. *Decide not to submit anything due to concerns about scaling up? IF "YES", Why?*
 - D. *Propose additional concepts? (Describe if willing.)*

Experienced Implementer, Bid Rejected

- Would bring in partners, more robust proposal, add testing and independent validation.

Technology Vendor, Bid Accepted

- No, not unless it was millions of dollars.

Technology Vendor, Bid Rejected

- No, they are a large company.
- No, would have had to a few years ago, but currently have the capacity.

The responses suggest that the size of the budget is not very influential in determining whether vendors will submit bids in the future.

3.3.2.6 Feedback on Future Solicitations

Finally, we asked for any final feedback (open ended) and eight vendors responded, with individual comments summarized by vendor type below. Beyond reiterating concerns already expressed, two vendors (experienced implementers whose bids were accepted) said the bid and award process was very lengthy. One vendor (a technology vendor that was granted an award) expressed that TRIP was addressing a gap in the portfolio and was a solid concept with good execution. One technology vendor with a rejected bid complained that the IOUs said they wanted new vendors, but once the awards were made, it was clear they really wanted implementation experience (as also evidenced by the scoring results). That may be an area to address, or at least improve communication about, such as encouraging technology vendors to partner with implementers. However, at least among our sample, the experienced implementers were not completely convinced that submitting a proposal through TRIP was worth the effort, and it may be difficult to encourage them to submit bids again (as evidenced by a declining number of vendors responding to subsequent TRIP solicitations).

The additional feedback that was provided is shown below by vendor type and award status:

Experienced Implementer, Bid Accepted

- Very lengthy bid and award process, difficult to staff the programs due to low budgets and one year length of contract (for both TRIP and IDEEA365).
- Very lengthy bid and award process, should allow more flexibility in contract to make changes once program is launched.

Experienced Implementer, Bid Rejected

- Never got feedback on their bid; would like to be able to present their cost-effectiveness calculations directly to the CPUC.

Technology Vendor, Bid Accepted

- TRIP is addressing a gap in the portfolio—a mini pilot program.

Technology Vendor, Bid Rejected

- Should involve the CPUC in reviewing cost-effectiveness calculations.
- Make it a more streamlined and straightforward process; provide feedback.
- Simplify the process, the work paper is very difficult especially for first-time bidders; workshop trainings aren't enough.
- IOU seemed interested in their idea, went to a presentation for finalists, but their idea was rejected. Felt that the IOU only accepted the experienced implementer concepts even though they were asking for innovative technologies.

3.3.3 SCG

As noted in section 3.3.1, our sample frame originally included four vendors that submitted bids through TRIP to SCG. Of those four vendors, we were able to speak with one that did not make it to the second phase of the bidding process.

This vendor had worked with the California IOUs in the past through a bid it had submitted to IDEEA365. This was its first time submitting a bid through the TRIP process, and during the interview, staff discussed the difficulty in presenting innovative technologies to the utilities. The three major difficulties they identified were related to the perception of what an innovative technology is, getting assurance of compensation for administrative and reporting costs of performing the work, and the calculation of savings for more variable/custom measures.

This vendor believed that SCG was looking for something that is commercially available but not in widespread use, and not currently in use at other utilities. It understood its bid to provide a technology that, while in use for a certain type of application, is not meeting its full potential with certain parts of the sector in which it works. In particular, the vendor pointed out that while the technology it bid was available and used in some parts of its sector, its lack

of adoption in other parts of the sector was not a matter of availability; rather, it was due to a lack of awareness. This vendor would like to see innovative bids include a scoring mechanism that values increasing awareness of somewhat new technologies in less aware segments of its sector.

In terms of savings calculations, the vendor noted that it is expensive to get very accurate savings estimates and suggested that it may be best to test and use a conservative number for proposals so that there are not issues with savings calculations after the install. It included a caveat to this suggestion by saying that this may undersell new ideas as conservative estimates do not capture the full potential of a measure. The vendor also expressed its desire for contracts to be set up as a mix of both time and materials and pay for performance in order to cover the cost of reporting and administrative efforts and the risk inherent in innovative technologies.

Despite the difficulties listed above, the vendor said that it would submit a bid through TRIP again if it believed it had a good chance at winning the proposal. This vendor also echoed that it would like more in-depth feedback from the IOUs when its bid is rejected to help them submit a better bid in the future.

3.3.4 SDG&E

As noted in section 3.3.1, our sample frame originally included three vendors that submitted bids through IDEEA365 to SDG&E. Of those three vendors, we were able to speak with one that was awarded a contract.

This vendor was an experienced implementer that partnered with a technology vendor and believed the bid and award process to be a very lengthy and confusing process since the IDEEA365 solicitation asked for proven technologies but also wanted innovative technologies. The vendor suggested that the bid process not occur between late November through early January.

It saw its technology as a good addition to other utility programs and saw its application as an opportunity to get its foot in the door with SDG&E.

3.3.5 PG&E

3.3.5.1 Vendor Background with Emerging Technologies

We spoke with a total of six vendors regarding the bid(s) that they submitted to PG&E's special IDEEA365 solicitation for our PG&E in-depth interviews. Four of the vendors we spoke with reported that they also submitted bid responses to SCE's TRIP solicitation. We were able to confirm this as true for only two of the four vendors. For the PG&E solicitation, one of these two vendors partnered with a vendor that also submitted a solo bid to SCE's TRIP, with the same technology. We spoke to that bidder as part of our analysis of SCE's bids.

All bidders rated how widely the technology or program that they featured in their bid is used on a scale of 1 to 5 (where 5 is a best seller and 1 is not at all in use) within PG&E's service territory. Two bidders rated it a 2 and the remaining four respondents rated it a 1, suggesting that these were relatively unused programs or technologies. Only one of the bids we discussed noted that the technology they presented is more common outside of California than it currently is within California.

3.3.5.2 Vendor Awareness of Reasons for Technology Rejection and Acceptance

We were provided overall and component scores from PG&E and were able to compare these with vendor responses. As noted in section 3.2.4, the only significant difference in component scores was within innovation. We asked respondents how they remember innovation being defined and if the definition was clear to them. On a scale of 1 to 5 with 1 being not clear at all and 5 being very clear, respondents gave an average response of 3.5. The one vendor we spoke with whose bid was accepted rated it a score of 4 and understood innovation to mean a technology that PG&E was not aware of with possibility of good market penetration. Only one vendor included market potential in its perceived definition of innovation.

We also compared the vendor perceived clarity of the definition of innovation to the scores that they received from PG&E for the Innovation component of the total score. There was no relation between the score given by PG&E and the perceived clarity, although the winning vendor did have one of the two highest innovation scores. This suggests vendors are not aware that they are unclear on the definition of innovation.

3.3.5.3 Motivations and Barriers to Featuring Emerging Technologies in Programs

Below, we list the motivations for featuring emerging technologies mentioned by the six respondents and the number of times that each motivation or driver was mentioned. Half of the respondents cited a business-related motivation such as connecting with PG&E or making a profit.

- For business reasons (profit, to connect with PG&E, it's part of their mission statement to work in this arena) – three respondents
- To get technologies in the market that save energy - two respondents
- To bring new items to end users (who are generally their clients) – one respondent

We also asked respondents what barriers they face to featuring emerging technologies in programs. The most commonly reported barriers were:

- Low amount of funding available – three respondents (one respondent added that the pay for performance model does not work well for emerging technologies and that the budget is too small to justify the cost of doing the proposal)

- Title 24 baseline requirements (and their effects on savings estimations) – two respondents
- Reaching/proving cost-effectiveness – two respondents
- Length of time to run program after bid is selected – two respondents

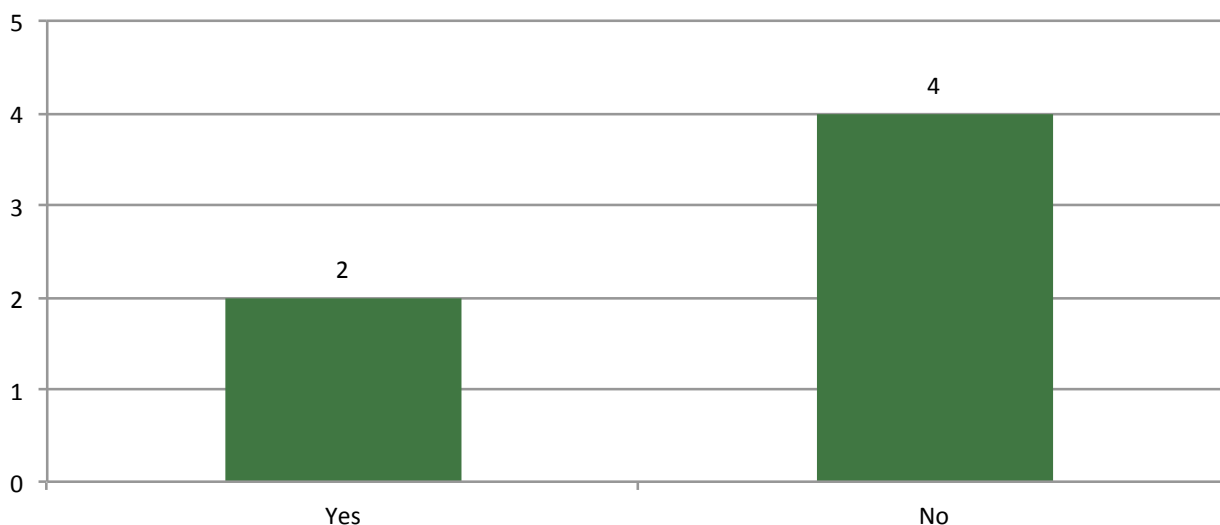
The remaining half of the respondents who listed the low amount of funding available as a barrier was the same half of respondents who partnered with another vendor in their bid. One of the respondents who noted that the length of time was a limiting factor received feedback from PG&E on its unsuccessful bid that being unable to produce results in under a year (after a delayed bid review process) was the reason it would not receive an award. This respondent believed that a more reasonable timeline would be a year to two years for implementation in order to allow time for ramp-up and to produce results.

The following barriers were mentioned by one or more of the six respondents:

- Lack of experience running a program with PG&E previously (the one winner we spoke with did have experience working with PG&E)
- Difficulty of garnering customer interest
- Procedural nature of getting incentive to client
- Need for technology to be stationary (to guarantee that it is being used) rather than moved around the location (as would be preferred by end user)
- Release of other larger RFPs that happen at the same time as the innovative solicitation
- Risk of losing ideas or not getting re-awarded a contract after vetting an idea
- Inability to integrate demand side programs with energy efficiency

Two of the six respondents (neither of which were awarded a contract) had submitted an innovative technology or program bid to PG&E before this solicitation. One of the two respondents noted that they understood previous solicitations (3-4 years ago) through IDEEA365 to include new ideas.

Figure 19 - B1. Was this the first time you submitted a proposal that featured innovative technologies? (n=6)

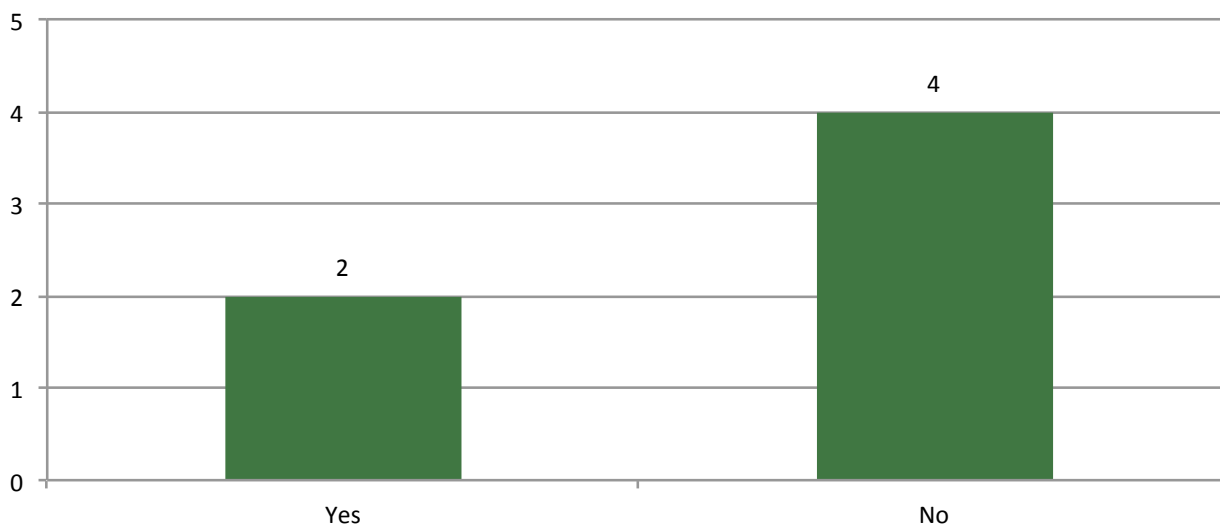


Four of the six respondents claim to have submitted innovative proposals to either SCE (through TRIP) or through SDG&E’s IDEEA365 solicitation. We were only able to confirm that this was true for two of the four respondents. The two that we were unable to confirm claimed to have submitted to SCE’s TRIP solicitation and seemed to have a good understanding of the process, leading us to believe that they may have submitted to the fourth solicitation (which was not included in our review due to the timing of our analysis).

We asked vendors whether they would consider submitting another proposal to the California IOUs, and four bidders (including the awardee) gave either a hard or soft yes. The soft yeses were conditional on whether or not they would be required to conduct a pilot before implementing the program or if there was more money available to be awarded. Three of these same respondents also said that they had additional innovative concepts that they would like to submit but have not done so in California. Two of these three respondents reported being very likely to do so and one reported that it was somewhat likely given its difficulties with the process of administering a program at PG&E.

The two respondents who gave soft no responses mostly echoed previous comments related to work eventually being open to other vendors and lack of openness to new vendors.

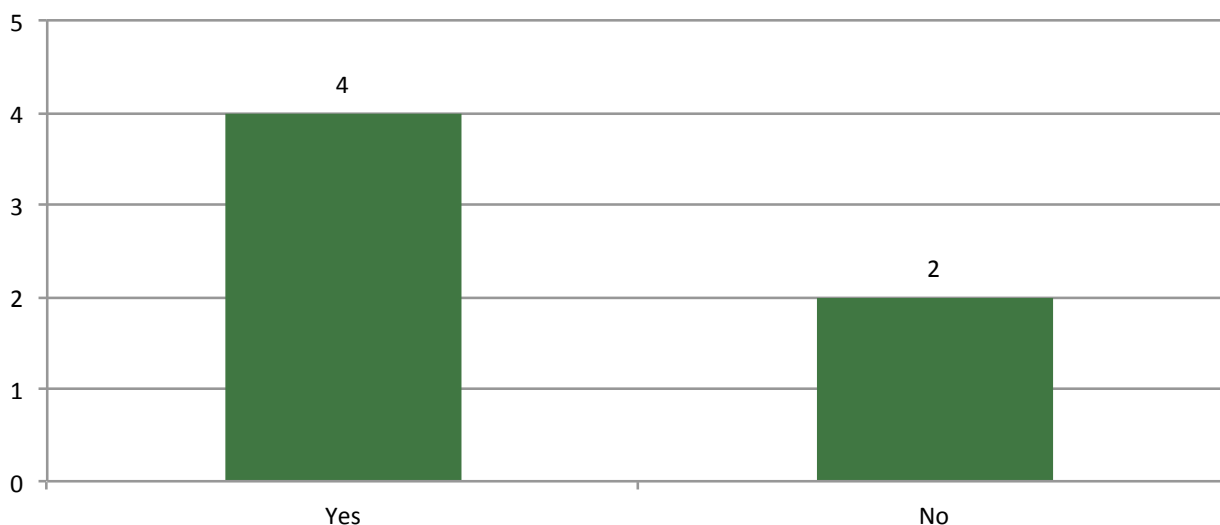
Figure 20 - D6. Would you consider submitting another abstract/proposal to the CA IOUs for an innovative technology or concept? (n=6)



None of the four vendors that reported having experience with both PG&E’s solicitation and SCE’s TRIP solicitation said that they would only apply to one or the other in the future. One of these respondents did express a preference for TRIP due to delays that occurred with the PG&E solicitation, unclear technical requirements and budget limitations.

Similarly to our findings regarding the SCE bid submissions, the majority (4 of 6) of respondents said they would have still submitted the idea without the special solicitation. One person already had submitted this work elsewhere (to a county for its LGP program), and two respondents suggested that they would submit the bid in another solicitation where innovation was not a specific requirement (Figure 21).

Figure 21 - B2. If there wasn't a TRIP solicitation process, would you have submitted this proposal to the CA IOUs? (n=6)



3.3.5.4 Feedback on Request for Proposals and Bid Process

We asked respondents about the clarity of the solicitation regarding eligible technology requirements. The average response was 3.6 on a scale of 1 to 5, where 1=not at all clear and 5=very clear.

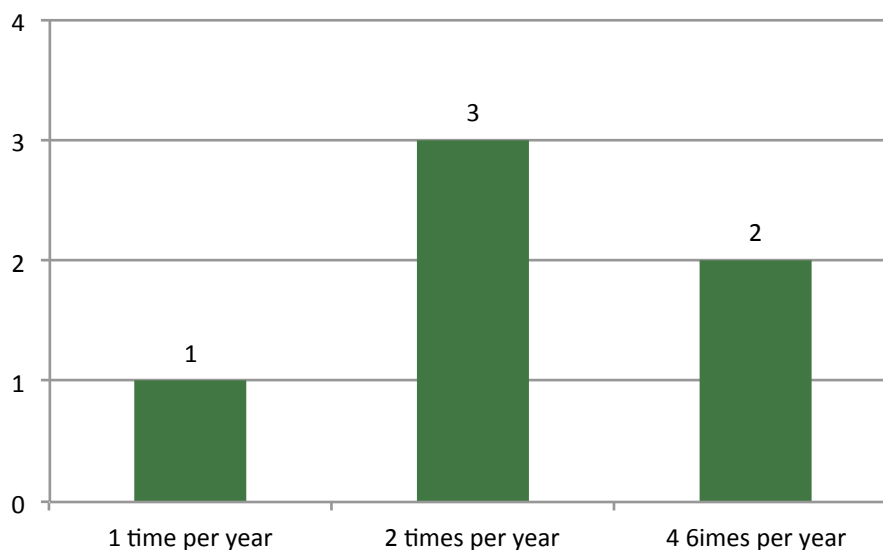
Similarly to our discussion with SCE bidders, the most frequent value was a 3, given by three vendors. One of the respondents who rated it a three said that it was too long, although another respondent who wanted additional detail contradicts this.

We compared emerging technologies scores for the vendors that we spoke with and found that respondent-reported level of clarity closely aligns with the scores they got on the emerging technologies component of the scores. The two highest scores belonged to two of the three vendors that reported the highest clarity ratings.

The person who rated it a 4.5 (the highest score given) thought that the definition was clear but wished that it included demand response and renewable solutions. A respondent we interviewed from the group of vendors that submitted bids to SCE echoed this concern.

We asked vendors whether there was a certain time of year that was good or bad to respond to a solicitation for program concepts. Similar to our SCE interviews, the majority of vendors (4 of 6) said that the holidays are *not* a good time of year for a solicitation. The responses were more split when we asked respondents how many times a year they would like to see a solicitation issued. Figure 22 shows that half of respondents would be satisfied with solicitations twice a year.

Figure 22 - C3. How frequently would you like these solicitations to be available? (Unprompted, multiple mentions allowed, n=6)



3.3.5.5 Tradeoffs of SCE TRIP versus IDEEA365

Four of the six PG&E respondents reportedly submitted a bid response for an innovative project or technology to another California IOU. Three of the respondents reported submitting a bid to TRIP and of those three respondents, we cannot confirm the submission with the records we have for two respondents, and for the third respondent, the bid was for an entirely different program or technology.

We asked the two vendors that reportedly submitted a similar concept under both IDEEA365 and SCE TRIP about their opinions on the two approaches. One of the vendors thought TRIP was more effective because it had more of a track record and more iteration. The other respondent thought that there was not much of a difference other than the budget and cost effectiveness calculations, which required more information for the TRIP solicitation and did not prefer one to the other. Both respondents reported not having to change their bid very much for either solicitation and recognized that the major differences (open ended responses to question D3) were the budget and the cost effectiveness component.

We asked vendors that had submitted a proposal under the IDEEA365 special innovative solicitation and did not report submitting a similar solicitation to TRIP (n=4) if a budget decrease to \$300,000 (consistent with the TRIP solicitation) would change how they approached future bids (D5). The purpose of this question was to find out whether the program budget influenced vendor response.

The lowered budget made submitting a bid at all out of the question for two of the respondents. The remaining two respondents were asked additional questions about what

the budget decrease would change in regards to their solicitation. The two respondents were split regarding any changes they would make to the market maturity of the technology. In regards to staffing down, respondents were split again, with one saying they would staff down and another saying that this is one of the items that would make them hesitant to bid with a lower budget limit. We asked them if concerns about scaling down would stop them from submitting a proposal under the lower budget, and both agreed that this would influence them to not submit the bid.

Overall, within the group of four vendors that submitted a response to IDEEA356 innovative solicitation only, budget seemed to be a major factor in their decision to do so, suggesting that they would not submit bids with smaller budgets. In the case of one of the bidders that would not participate at the \$300,000 level, they did not submit a bid to TRIP, but their subcontractor (the technology vendor) did submit a bid on their own to TRIP for the same technology.

4 Recommendations

This section presents the study conclusions along with suggestions and recommendations for program improvements. In this section, we compare the IOU approaches, examine the pros and cons of the different IOU solicitation approaches, and offer suggestions for improvements.

4.1 Comparing IOU Approaches

The IOUs are using different approaches to fulfilling the TRIP component of their ETP objectives, largely based on different objectives and constraints.

- SCE has sufficient staff resources and budget to devote to a separate TRIP solicitation.
- PG&E, SCG and SDG&E are resource constrained with a much lower budget and staff time to dedicate to TRIP, and as a result are either using the existing ongoing IDEEA365 solicitation (SDG&E), issuing a one-time emerging technology-focused IDEEA365 solicitation (PG&E) or a two-phased TRIP solicitation (SCG).

All IOUs all met their stated objectives to produce a solicitation for TIS during the 2013-2014 program cycle, while conserving resources for other ETP objectives.

- SCE received 53 bids (four RFPs), awarding seven programs, including two to new vendors.
- PG&E received 21 bids (one RFA) and awarded two programs, both to experienced implementers.
- SDG&E did not track how many bids it received through IDEEA365 (ongoing solicitation) that may have been relevant for TIS, but awarded two programs, both to experienced implementers.
- SCG received four bids (one RFP) and awarded no programs.

In addition to meeting their stated objectives, the solicitations we reviewed also succeeded in bringing new vendors to the IOUs and educating both new and familiar vendors about the goals of the Emerging Technologies Program.

4.2 Pros and Cons of Solicitation Approaches

There are pros and cons to the various approaches being used by the IOUs, with no one approach that was shown to be superior based on the available data. Our comparisons of approaches and their varying attributes yielded findings that could help improve future solicitations and inform the IOUs' selection of solicitation attributes (e.g., cost-effectiveness requirements). Comparing the different attributes of the solicitation approaches through discussion with program staff, interviews with vendors, and analysis of bids and their scores revealed the following findings.

New vendors are more enticed by a new solicitation approach and were more likely to be awarded through the new solicitation approach (TRIP).

- New vendors that do not typically submit program concepts to the IOUs are enticed to participate in a new solicitation approach (TRIP).
- No awards from PG&E and SDG&E were given to new vendors.

A requirement for cost effectiveness is in conflict with the objective of innovation. This inherent conflict can be addressed by using a two-stage solicitation approach and carefully choosing how to review cost-effectiveness.

- Risk is lowered to the IOUs (who eventually need to put measures through a work paper process) by applying a higher weight to cost-effectiveness scores and setting a smaller budget.
- Vendors prefer a two-stage approach to a one-stage approach. In a two-stage approach, the vendors risk spending less time on a solicitation that they may not win. Vendors also appreciate being considered without a heavy weight on cost-effectiveness in a first stage before making it to a second stage.
- A two-stage approach may attract a greater number of bids since an abstract requires less vendor effort, and requires less IOU staff time, at least in the initial round.

Vendors are more inclined to respond to solicitations with higher budgets.

- The IDEEA365 solicitation strategy was found to attract vendors that were interested in the large (or a larger) budget, but the larger budget may not be appropriate for untested technologies that are more risky than technologies with work papers and approved savings values.

Implementation experience was a larger factor in bid selection than perceived by vendors.

- Inexperienced vendors may not want to keep submitting proposals if their win rate is very low based on their lack of implementation experience (we noted a relatively lower bid acceptance rate for inexperienced vendors, and a decline in number of bids by technology vendors since the first TRIP solicitation).²⁴

Losing bidders lack understanding of the reasons they were rejected, preventing them from improving on future bids.

- A comparison of bidder impressions on what their weaknesses were in their proposals did not align with reasons reported by the IOU they submitted to. This may reflect a lack of understanding of the IOU request and may also be due to bidders not working to customize their ideas towards the bid requirements (researcher hypothesis).

²⁴ This relates to SCE only as all vendors were experienced implementers in the SCG bidder group. We also received reports that the 4th and 5th SCE solicitation received more submissions than the 3rd

If the IOUs continue to seek new vendors / innovative technologies through a similar approach such as TRIP or a special IDEEA365 solicitation, they will likely need to provide more education and information to prospective bidders.

- Inexperienced vendors require more training on how to respond adequately.
- Inexperienced vendors are less likely to feature a solid implementation plan.
- A separate solicitation setup and implementation requires significant IOU staff resources.
- The possibility of attracting a greater number of bids may create delays in reviewing all incoming bids, which could affect the amount of time remaining for a technology or program to be implemented if start date is delayed and end date is fixed.

IOUs that consider using a TRIP solicitation (separate from IDEEA365) will benefit from including Core/3P program staff in the review stage to ensure effective integration across programs (ETP, Core and 3P). (Note we do not make a recommendation for the IOUs to do this since all are already involving those staff in one way or another.)

- Program concepts flagged for ETP as “TRIP-appropriate” under IDEEA365 may have valid implementation strategies since they were screened by Core/3P program staff.
- SCE’s program manager who implemented the TRIP solicitation also reviews IDEEA365 solicitations.

4.3 Global Recommendations

While the previous section focuses on findings from the varied traits across IOUs and solicitation approaches, we offer recommendations below that span IOUs and should offer a net benefit by improving the quality of bidder responses.

Consider using a two-phased approach that does not have a specific cost-effectiveness threshold. Based on evidence from vendors and their bids and comparing across IOU approaches, we recommend the IOUs use a two-phased approach without an explicit cost-effectiveness threshold in the first stage, to allow for more concepts to get submitted. Since our evaluation data collection, SCE has moved to a two-stage solicitation.

For IOUs that wish to attract new vendors who have not submitted bids in the past, consider using either an explicit TRIP solicitation and/or providing outreach to new vendors via the TRIO program. SCE was successful in reaching new vendors who had not submitted bids in the past likely due to the combination of their bidder outreach through TRIO and their TRIP solicitation.

Give feedback to rejected bidders since they do not have an accurate understanding of why they were rejected. Comparison of IOU scores and notes to bidder interviews revealed that bidders lack an accurate understanding of their rejection. Because vendors report that they have other ideas for submission to these solicitations, it is a wise investment to give feedback to rejected bidders so that they can submit more robust bids in the future. We understand that there are constraints on the IOU side to sharing this detailed information

with multiple bidders. One possible approach would be to batch feedback across all bidders for distribution to everyone who submitted a response to the solicitation. This will in turn increase the quality of the pool of bids that the IOUs have to review and award.

Increase education to prospective bidders on the criteria for innovative and emerging technologies. The RFPs are complex and confusing to bidders but it is uncertain whether these could be simplified given all of the requirements desired by the IOUs. Since many prospective bids were rejected due to technologies lacking data, already being in the market, or not meeting the given definition, as well as vendors not understanding the type of data required to support savings claims, IOUs would benefit by vendors having continued and increased opportunities for education on innovative and emerging technology criteria, including continuing (or beginning) to require at least new vendors to participate in the technical documentation workshop. Specific clarification should exist regarding rules about technologies where the value lies in both their energy efficiency and demand response traits. This should result in higher quality bids, and fewer difficulties among vendors when crafting proposals.

Avoid releasing bids towards the end of the year. The utilities asked us to include a question regarding vendor preferences on the schedule for releasing bids solicitations. Bidders noted that the end of the year is not a good time to submit bids due to having busy schedules. The utilities generally try to avoid releasing solicitations then, and have not released a TRIP bid RFP or RFA at the end of the year. By the utilities' continuing to avoid this time of the year to release solicitations, more vendors may make the decision to submit their ideas for innovative technologies and/or programs which will give the IOUs a larger pool of vendors and ideas to review.

4.4 IOU-Specific Recommendations

We confirmed during the course of our research that the IOUs were striving to strike an appropriate balance between encouraging a robust market response with new vendors and innovative technologies while achieving cost-effectiveness, moderating risk and ensuring effective implementation in their first year of the Technology Introduction Support subprogram. The IOUs were successful in meeting their stated objectives and awarding funds for the winning projects that they received through their solicitation approaches. They were also able to bring new vendors to the IOUs and educate both new and familiar vendors about the goals of the Emerging Technologies Program. The staff and budget resources dedicated to the subprogram were fairly modest, which is appropriate given that it was the first program cycle in which the concept was tested. Only SCE and SCG really tested the concept fully by devoting separate solicitations. However, if the IOUs attempt to scale up technology introduction efforts and allocate more budget to third-party programs, both approaches may need some improvements.

Below, we offer recommendations along with upsides and downsides for IOU consideration as they plan future solicitations for innovative technologies. We attempt to identify the measurable benefit associated with each action, but the IOUs will need to determine if the action will generate a net benefit based on their resources and goals. These are presented as recommendations to consider, rather than recommendations to take action.

We reiterate the caveat we previously mentioned in Section 2 about the small sample sizes associated with this study's research. The samples are adequate to identify the range of issues that vendors experienced with TRIP and IDEEA365; however, they are not robust enough to indicate the prevalence of experiences. The issues raised in this report should be monitored for future IDEEA365 and TRIP solicitations since the results described here may not adequately reflect vendor experience in a different context.

4.4.1.1 SCE and SCG

In this section, we combine our recommendations to both SCE and SCG due to their somewhat similar approach to TRIP (with the exception of the number of stages used). SCG received four bids for its first TRIP solicitation, which contrasted SCE's approach to TRIP by using two stages instead of one. SCE's two-stage solicitation process was run multiple times and had a robust vendor response.

Based on feedback from our SCE vendor sample, it is unclear if the vendor response may drop off if SCE maintains its current TRIP approach. If goals are expanded (either in terms of the number of programs, budget or the number of new vendors), SCE (and any IOU using its TRIP approach) may need to consider some of the following suggestions in order to encourage vendors to keep responding and to attract new vendors.

We remind the reader that the recommendations are for IOU consideration, since our evaluation relied on limited data. Each recommendation comes with its own potential downside (some of which are highlighted below), with the challenge being to strike the appropriate balance based on available resources and goals. As mentioned previously, SCE's current approach met their stated objective and SCG's approach led to no awarded bids partly on the grounds that they did not fit the definition of ET/TRIP. Our recommendation for SCE and SCG is to consider the pros and cons of the following suggestions to inform plans for the next round of TRIP.

- [For SCE only:] Consider making TRIP a two-stage process, with the first stage requiring less data and less effort, allowing a discussion phase with vendors that could include a debrief on the problems with their approaches that could help them with future bids.
 - Potential upsides: More bidders and more innovative technologies, increased vendor goodwill/reduced vendor difficulties (i.e., rejected bidders will have invested much fewer resources) and less staff time in the first phase.

- Potential downsides: More bids to review that may ultimately lack sufficient data. Increased cost and resources for additional review time.

[For SCE only:] Education could also be conducted in conjunction with discussions with vendors after the submittal of an abstract if SCE considered using a two-staged solicitation process. Many vendors that we spoke with had a different understanding of their product challenges compared to SCE staff understanding, and this would help vendors to improve their proposals in both the current and future round of submissions. Vendors could explain their concept and technology, and SCE could explain the data requirements and any issues with the bid, which might be even more useful than more generic instructions at a bidder's workshop. Vendors specifically asked for suggestions of desired technologies to help guide them in their bids, but we understand why the IOUs would probably prefer not to do that in the RFP. But underlying that request may reflect the difficulty at least some vendors have in understanding what types of technologies and supporting data SCE is seeking.

- Consider creating a website with examples of technologies awarded, webinars that can be downloaded, and frequently asked questions. This could be added to the existing ETCC site or created as a standalone TRIP site.
 - Potential upsides: More information and resources for vendors, increased interest in TRIP and potentially more bids.
 - No anticipated downsides.
- [For SCE only:] Consider encouraging partnerships between new/technology vendors and experienced implementers to ensure valid implementation strategies and increase the acceptance rate for technology vendors so they are more likely to respond in the future (since the most successful bids were from vendors that partnered).
 - Potential upsides: Higher quality bids, fewer difficulties among vendors, more specialization among vendors on their strengths.
 - Potential downsides: May be challenging to encourage such partnerships especially due to potential concerns around vendors not wanting to give away proprietary information (based on vendor feedback), and would likely require IOU effort to make connections and build trust and understanding across vendor types.
- Consider doing more robust outreach to new/technology vendors such as through the TRIO program²⁵ (as SCE suggests it is considering doing). During outreach events, vendors should be made aware that all IOUs have similar solicitations (using different vehicles) so vendors may submit their bids to more than one IOU.

²⁵ Three of the four IOUs (not SCG) implement TRIO.

- Potential upsides: More bids from new vendors, with more innovative technologies and concepts. No new vendors submitted bids to SCG.
- Potential downsides: As SCE already identified, may be challenging to manage the interest level unless the budget is increased if many more vendors submit bids (this was reemphasized by a couple of respondents who submitted bids to PG&E and noted that lowering the maximum bid amount would make them question submitting a bid at all); may be more challenging to train the new vendors on the RFP requirements and manage their expectations. (SCE could consider organizing its solicitations by sector or other category in order to manage the response and vendors' expectations.)
- Consider sharing the risk with vendors by increasing the amount of time and materials budget vendors are allowed in their contracts—especially for experienced implementers and technologies with robust savings calculations. A utility could consider varying its contract budgets based on the risk associated with bids based on data availability and validity of assumptions. As noted earlier, in interviews, respondents reacted negatively to the idea of lowering bid award amounts and said that it would dissuade them from submitting bids in the future.
 - Potential upside: Increased vendor goodwill, more bids in the future and more innovation and risk-taking that could lead to greater energy savings.
 - Potential downside: Increased risk for IOU, complicating contracting process.
- Broadly consider rejected TRIP bids for ETP assessment and Core programs on a systematic basis (which it appears SCE and SCG may be doing on an ad hoc basis at least for some of the more promising bids that did not meet TRIP criteria), when bids suggest technologies that are already used in one application through a Core program but may be beneficial in another, or when bids warrant a second look but are not yet at the stage required by the process.
 - Potential upside: More value from TRIP solicitation, and assuming vendors are notified, higher success rate for vendors that may be rejected for TRIP but be successful with ETP assessment.
 - Potential downside: Could lead to mixed messages for vendors and dilute the message that TRIP is trying to convey to the marketplace about the need for technologies in the commercialization growth phase.
- [SCG only:] Due to small bidder response rate, consider coordination with SCE to do a dual fuel solicitation.
 - Potential upsides: Additional bids submitted due to inclusion of dual fuel measures. Combined marketing effort.
 - Potential downside: Additional need for coordination between utilities during solicitation and possibly after solicitation if a dual fuel measure rather than a gas-only measure.

4.4.1.2 SDG&E and PG&E

PG&E reported receiving 21 relevant bids to its special IDEEA365 solicitation, ultimately awarding two programs. SDG&E did not track how many bids it received via its ongoing IDEEA365 solicitation that were relevant for TRIP, but it ultimately awarded two programs. Both IOUs met their relatively modest TRIP goals for the 2013-2014 program cycle. However, it is unclear whether using IDEEA365 as a solicitation vehicle for TRIP could be used to get more programs if either IOU decided to scale up TRIP. Our data on IDEEA365 was fairly limited, but some concerns based on our review of the RFA, program staff interviews and feedback from a subset of the vendor sample are:

- Vendors may not pay close attention to IDEEA365 solicitation language since it is a known program that has stayed fairly consistent over time. The IOUs may not be able to count on the same approach to find additional programs that meet the TRIP criteria and vendors willing to negotiate and dramatically reduce their budgets.
- The IDEEA365 approach may not be attracting new vendors in the implementation space for this market with innovative technologies spanning customer segments and measure categories. Since no programs were awarded to new implementers, the solicitation approach may not be attracting new implementers, but there are implementers that are working with new technology vendors and their wider range of innovative technologies.

If either IOU is considering using IDEEA365 to meet TRIP objectives going forward, we suggest that they weigh the tradeoffs of placing greater emphasis on innovative technologies, emulating some of the strengths of SCE's approach, such as by:

- [For SDG&E only:] Issuing a special IDEEA365 solicitation like PG&E issued that emphasizes emerging technologies, with a joint scoring and ranking process including 3P and ETP staff.
 - Potential upside: Likely to attract more bids featuring emerging technologies, and a more explicit process to ensure all relevant bids are reviewed for their potential in meeting the TRIP criteria.
 - Potential downside: Additional work to develop a special IDEEA365 solicitation, but could leverage PG&E's RFA and scoring and review process.
- Providing links to resources that vendors may access to obtain information about innovative technologies (SCE provides links to DOE's Energy Efficiency and Renewable Energy (EERE) Industrial Technologies Program, the Emerging Technologies Coordinating Council (ETCC) including the CEC's Public Interest Energy Research (PIER) Program, and the Northwest Energy Efficiency Alliance (NEEA)).
 - Potential upside and downside: Same as prior suggestion.

- Outreaching to new vendors such as through TRIO and the ETCC, making them aware of the special IDEEA365 solicitation (either through ongoing outreach efforts associated with broader ETP initiatives, and/or through a special announcement that coincides with the IDEEA365 solicitation). Vendors should be made aware that all IOUs have similar solicitations (using different vehicles) so vendors may submit their bids to more than one IOU.
 - Potential upside and downside: Same as prior suggestion.
- Publishing the available per program budget to maintain vendor goodwill.
 - Potential upside: Vendors have a more realistic expectation of the actual budget.
 - Potential downside: May reduce the pool of potential vendors with a smaller budget.
- Providing the scoring criteria in the RFP so bidders are clear on scoring priorities.
 - Potential upside: Vendors have a clearer picture of the priorities and may submit bids that better align with those priorities.
 - Potential downside: Less flexibility for the IOU to score and rank bids.

PG&E and SDG&E could also consider taking SCG's and SCE's approach of a separate TRIP solicitation, but that requires greater staff resources and budget. The IOUs would need to weigh the tradeoffs associated with spending greater resources on a TRIP solicitation with the potential for identifying more innovative technologies and possibly finding new vendor partners.

4.5 Next Steps

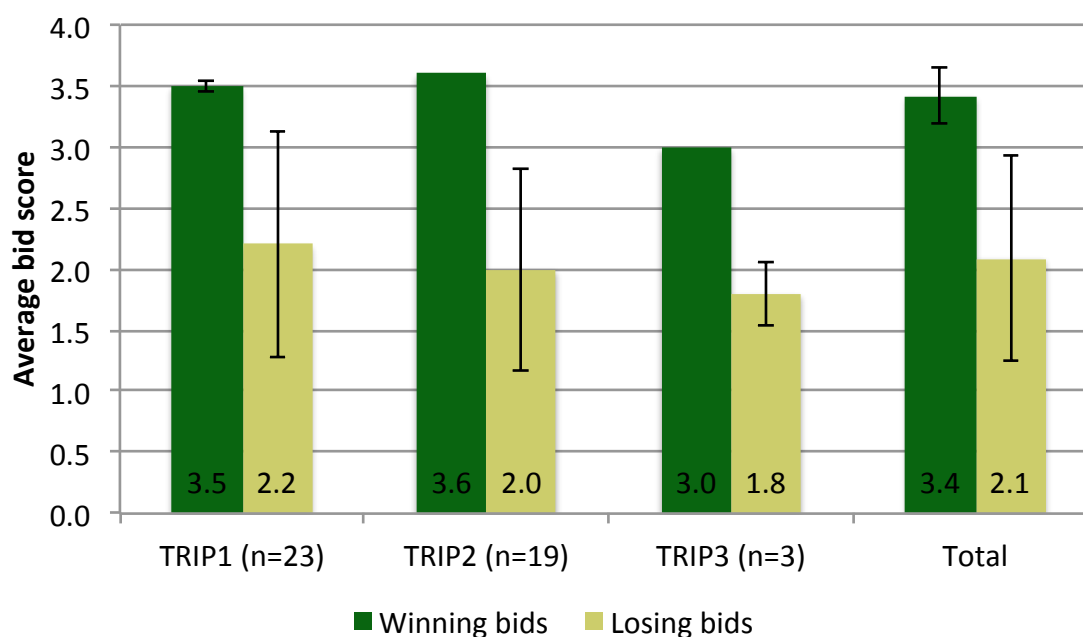
This study provides data and information that will be useful for other ETP studies going forward. As we have noted previously, the data are not robust due to small sample sizes, so there are limitations to extrapolating the results. Moreover, this study was limited in scope to be a process evaluation, so we were precluded from attempting to measure impacts or effectiveness. Even with its limitations, this study should be useful to inform impact evaluations or other measures of ETP effectiveness, providing additional data and information on the merits (including cost-effectiveness, innovativeness and implementation experience) of third-party bids featuring innovative technologies.

5 Appendix A: Extended Analysis

5.1 SCE Scoring

With a weighted average score up to 4.0, the average overall score of bids submitted to the first three SCE TRIP solicitations was 2.2. The average score for winning bids was 3.4, compared to 2.1 for losing bids (Figure 23). Average scores changed only slightly, but not significantly, over the three bid phases.

Figure 23 - Average Score of SCE TRIP Bids by Winning and Losing Bids¹



¹ Bars present standard deviations where n is greater than one.

In the next series of figures, we examine the four scoring components:

- Approach to Work;
- Cost Effectiveness;
- Skill and Experience; and
- Supplier Responsibility.

We only include a figure with a breakout of lead vendor type (experienced implementer or technology vendor) and partnership type (partner or no partner) where there is a significant difference across either category. For each category, we discuss how the winning and losing bids differed in terms of each component.

We place more emphasis on the two scores with the largest differential (cost effectiveness and supplier responsibility) by vendor type and partner. For these two scoring components, the differences become even more pronounced when we look at vendor type and partnerships, as shown below. This analysis aims to understand if the large score differences between winners and losers may be attributable to either the type of lead bidder (experienced implementer or technology vendor) or type of partnership. For the remainder of this subsection, we remove two bids from the analysis that were rejected at the threshold phase and were subsequently given scores of 0 for all scoring components. We are excluding them because their component scores do not necessarily reflect the merits of the bids.

Approach to Work

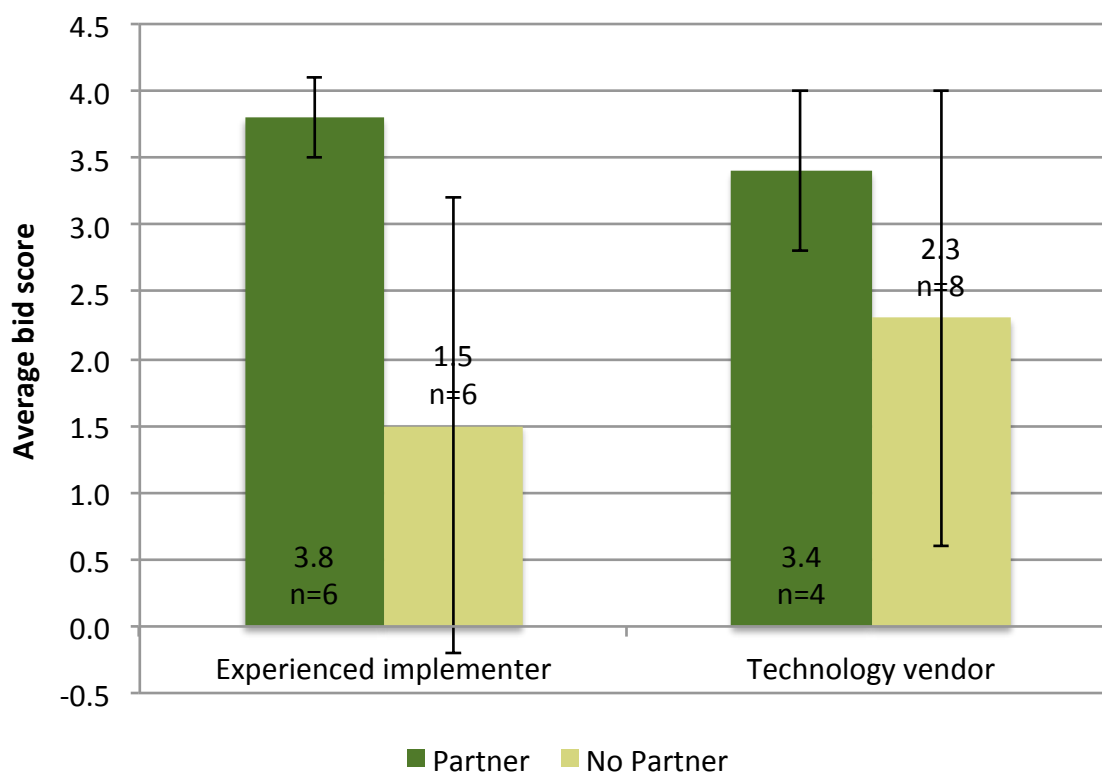
The Approach to Work component encompasses the staffing, marketing and work plans, as well as the extent to which the bidder incorporates one or more of the five innovation categories mentioned in the RFP (see Section 2.1.5 for a summary). Experienced implementers scored the highest, but there was not much difference in average scores by vendor type and partner. For technology vendors, a common reason for receiving a low Approach to Work score was that they lacked installation experience. Some were also rated low due to a problem with customer targeting (e.g., the target market was not appropriate or the delivery mechanism was questionable). For experienced implementers, reasons for low Approach to Work scores included issues with the technology (e.g., the technology was already in use, the market was evolving or the technology would soon become the standard practice).

Cost Effectiveness

As shown in Figure 24, having a partner made a major difference in the cost-effectiveness scores for both vendor types. A bid's cost-effectiveness was scored based primarily on the energy savings it offered,²⁶ since the budget for most bids was at or very near the \$300,000 limit. Note that SCE validated the savings claims and in some cases recalculated savings based on fixing errors it found in the calculations or by updating parameters to match more reasonable assumptions (e.g., adjusting the baseline or the effective useful life). The highest cost-effectiveness scores are mostly attributable to the highest energy savings claims. However, there were a few bids that had lower cost-effectiveness scores even though they had relatively high energy savings—in these cases, SCE had doubts about the market potential or other assumptions. (That is to say, instead of adjusting the savings estimates when the true savings or assumptions were not known, the bid received a lower cost-effectiveness score to reflect the likelihood of lower potential cost-effectiveness).

Many of the bids that received a low cost-effectiveness score that were submitted without a partner (either a technology vendor leading a bid and partnering with an experienced implementer or vice versa) either were lacking sufficient data to support their savings claims or the technology was already being used in a Core program. For future bidders, these findings suggest that for bids led by experienced implementers, having a technology partner may increase the chances that sufficient data are available. For bids led by technology vendors, partnering with an experienced implementer may make it more likely that they prepare a complete bid with valid savings estimates, leveraging experienced implementers' prior IOU bidding experience and their knowledge of valid savings calculations and assumptions.

Figure 24 – Average SCE TRIP “Cost-Effectiveness” Scores by Vendor Type and Partner^{1, 2}



¹ Excludes TRIP 2 bids and two bids that failed the threshold phase.

² Bars present standard deviations where n is greater than one.

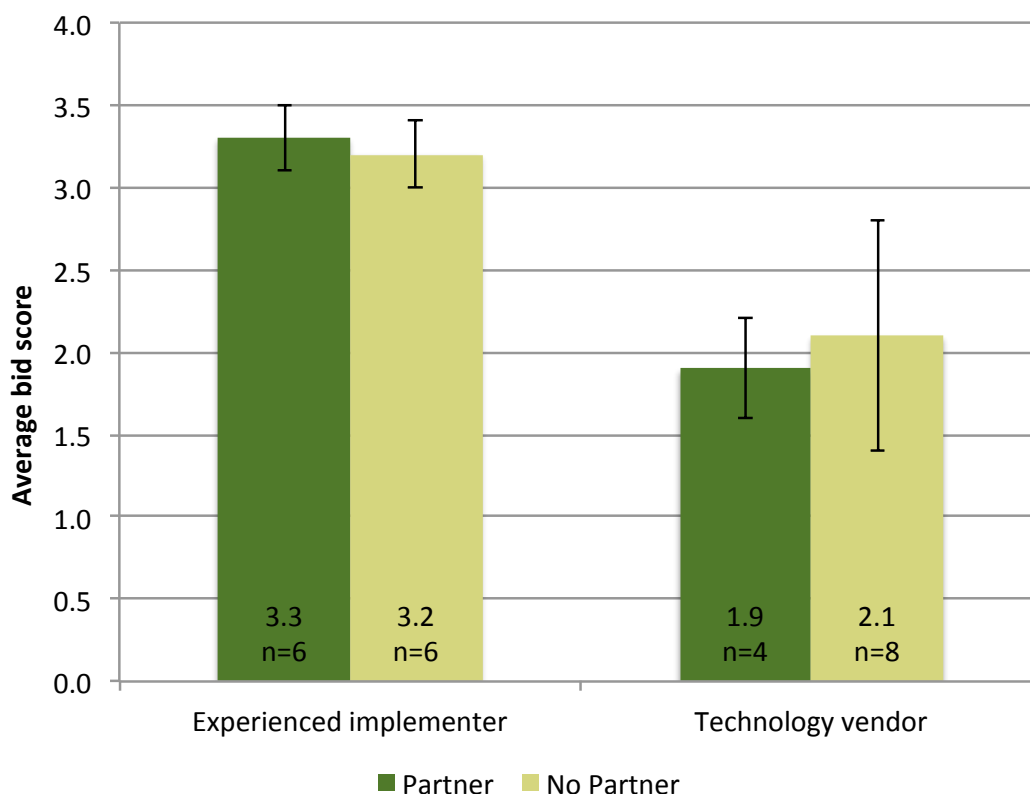
Skill and Experience

For the Skills and Experience component, bidders were not solely scored based on their general implementation experience, but were also scored on the degree of past success with the program concept and implementation. Experienced implementer bids received scores of 3.0 or higher for Skills and Experience. Figure 25 shows the average scores for Skills and Experience where vendor type is the main predictor of a high score. (However, some

experienced implementers had high Skills and Experience scores but low cost-effectiveness scores. These bids did not feature a technology vendor partner.)

Even technology vendors that included a partner still scored low on this component, though as shown above, having a partner improved their overall cost-effectiveness scores. However, one of the technology vendors with a partner that scored relatively low on skills and experience (2.0) received an award as a result of receiving high scores for the other three components. One of the other technology vendors that teamed with an implementer for its bid was lacking experience in California (receiving a skills and experience score of 2.3). The technology vendors that lacked an implementer partner received relatively low skills and experience scores, due to a lack of previous energy efficiency program experience.

Figure 25 - Average SCE TRIP Skills and Experience Scores by Vendor Type and Partner^{1,2}



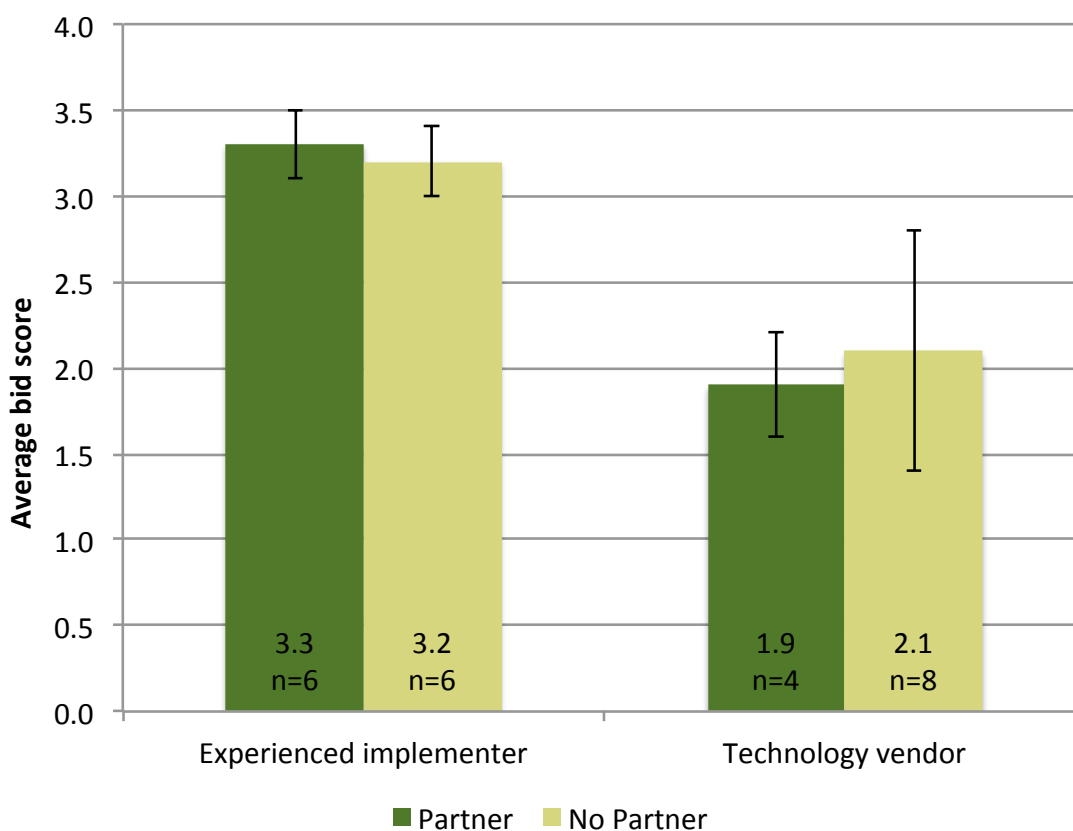
¹ Excludes TRIP 2 bids and two bids that failed the threshold phase.

² Bars present standard deviations where n is greater than one.

Supplier Diversity

Figure 26 shows the Supplier Diversity scores by vendor type and partner. Supplier diversity comprises only 10 percent of the overall score. We assessed (for TRIP1 and TRIP3) whether low scores for this component made a difference in award status (i.e., recomputed the overall score with a 4.0 supplier diversity score to see if the score exceeded the scores of accepted bids) and found that they did not, even for bids with the lowest supplier diversity scores. The differential in supplier diversity scores for experienced implementers with partners and without may reflect higher scores for teams versus single vendor bids. Supplier diversity is also scored based on history of subcontracting to diverse businesses, and bids that included a subcontractor may be more likely to have such a history and receive a higher score.

Figure 26 –Average SCE TRIP “Supplier Diversity” Scores by Vendor Type and Partner^{1, 2}



¹ Excludes TRIP 2 bids and two bids that failed the threshold phase.

² Bars present standard deviations where n is greater than one.

6 Appendix B: Data Collection Instruments

6.1 Program Staff Interview Topic List

PROGRAM STAFF INTERVIEW TOPICS

Emerging Technology Program Process Evaluation: Program Staff Interview Guide

June 25, 2014

Note that we use IDEEA365/TRIP and “solicitation” somewhat interchangeably. Throughout the interview we intend to explicitly indicate we are not focusing on the broader IDEEA365 or ETP programs, but specifically the TRIP programs (for SCE and SoCalGas) and only emerging technology related responses to IDEEA365 for PG&E and SDG&E.

We plan to customize the guide for each IOU once we finalize the list of topics. We will pre-fill in information about how each IOU implements its IDEEA365/TRIP sub-program and what we believe is the current status. We will use the interviews to confirm our current understanding and that we have the latest data and information on solicitations.

Introduction

Explanation of Evergreen’s role in this evaluation, and the high-level objectives of these interviews. Disclaimer if we receive permission to record the interview. Note that we will keep responses confidential and will only report on responses in the aggregate, without attributing any to a specific individual. Though we are likely to attribute responses to a specific IOU.

1. Overview of roles of IOU program staff as they relate to IDEEA365/TRIP and the ETP program
2. Identification of additional IOU program staff we may want to interview at a later time (name, role)

IDEEA365/TRIP Sub-Program Overview

3. High-level overview of how the IDEEA365/TRIP solicitations are implemented and supports the ETP program (reminder that we have reviewed the IOU program implementation plans)
 - a. Confirm our understanding of which program(s) the IOU is implementing IDEEA365 and/or TRIP (and if using TRIP, what happens if they get an

- emerging technology related abstract in response to an IDEEA365 solicitation?)
- b. Confirm how is it situated within the ETP
- c. Confirm how it interacts with other EE programs, including where savings are claimed for accepted programs
- 4. Rationale for using IDEEA365 only v. TRIP (or vice versa)
 - a. Why does your IOU implement IDEEA365 only v. TRIP? (or why does it use TRIP instead of relying only on IDEEA365?)
 - b. What are the benefits of this approach? Are there any drawbacks or lost opportunities associated with this approach?

Marketing and Education of Solicitations

- 5. Overview of how the solicitations are marketed to third party implementers
 - a. Confirm our understanding of how the IOU markets the solicitations
 - b. How do you think most third parties become aware of the solicitations?
- 6. Overall success of efforts in raising awareness of the solicitation and getting expected market response
 - a. Did you get the market response you expected from the solicitation(s)? In terms of:
 - a. Number of and types of firms responding
 - b. Size of budgets and energy savings impacts
 - c. Range of measures/end-uses offered
 - d. New technologies introduced
 - e. New delivery mechanisms introduced
 - f. Combination of measures, including IDSM
 - g. Comprehensiveness of measures
 - h. Stage of technology
 - i. Customer segments covered
 - b. What could be improved going forward to increase interest and expand the market response? (e.g., timing of solicitations, requirements on bidders, budgets available)
- 7. Overall success of efforts in providing clear information about the solicitation requirements and generating quality responses
 - a. Were solicitation requirements communicated well to third parties? Via the RFP/A, Q&A and the bidder's conference. (Based on third party feedback and the quality of their proposals/abstracts.) (For IDEEA365 only: clarify that we have reviewed the IDEEA365 satisfaction survey, ask for insights on the survey

results) (clarify that we've reviewed scoring sheets/proposals and discuss specifics per each IOU)

- b. What could be improved going forward to better communicate the solicitation requirements? (For IDEEA365 only: build from the survey results)
- c. Describe the quality of the proposals – did most of them meet your expectations? Describe any significant deficiencies that you noted. What could be done, if anything, to improve the quality?

Proposal Solicitation and Selection

(Confirm the documents we have received and reference specific documents and results during this discussion [we will send any very relevant documents in advance so the interviewees have them handy for reference, if applicable] – for SoCalGas, tailor the questions to their planning efforts since they may not have issued a solicitation yet)

8. Solicitation Process and Tracking

- a. What factors determine the timing and number of solicitations?
- b. How could the process of issuing solicitations be improved? (e.g., timing, spacing of multiple RFPs/As, issuing targeted v. general, etc.)
- c. How effective has the two staged process worked for IDEEA365? (For IDEEA365-only IOUs) What are the pros and cons of this approach?
- d. How effective has the RFP process worked for TRIP, compared to the two-staged process worked for IDEEA365? What are the pros and cons of this approach?
- e. How do you track ETP/TRIP solicitations and responses? Is tracking effective? Could it be improved? If yes, how?
- f. Did you communicate the progress of the review process to bidders? Do you feel they were adequately informed?

9. Scoring Criteria

- a. How were the criteria developed? (e.g., what were they based on? What IOU collaboration was needed? Did all IOUs collaborate? What were the main objectives of setting up the criteria?)
- b. Do you feel the criteria are aligned with the overall goal of the solicitation? With the ETP that it is designed to support?
- c. (for IOUs that have received abstracts/proposals) When applying the criteria, what has worked well? How so? What has not worked well or presented challenges? Why?
- d. Are the weights applied to the criteria appropriate?
- e. How could the scoring criteria be improved?

10. Scoring Process

- a. Confirm our understanding of the process used to score and rank the proposals/abstracts (e.g., how many and which staff are involved, if the process is iterative)
- b. How well did the process work? (reference IOU specific scoring results) What worked well? How so? What has not worked well or presented challenges? Why?
- c. How could the scoring process be improved?

11. Selection Process

- a. Confirm our understanding of the process used to select proposals/abstracts (e.g., how many and which staff are involved, if the process is iterative)
- b. How well did the process work? (reference IOU specific scoring results) what worked well? How so? What has not worked well or presented challenges? Why?
- c. If not covered, are other stakeholders/CPUC/PRG involved in the process? What types of oversight, if any, are provided to the selection process? Has that helped or hindered the process?
- d. How could the selection process be improved?

IDEEA365/TRIP Program Outcomes

12. Program objectives and expected outcomes

- a. Confirm what we understand to be the objectives of using TRIP? For IOUs that don't use TRIP, confirm the objectives and outcomes of how they solicit ideas from third parties for emerging technologies (which could include abstracts that may come in from IDEEA365) (reminder that we have reviewed the program implementation plans, we are just looking for a high-level perspective from each IOU)
- b. What gap does the solicitation fill?
- c. Confirm our understanding of the expected outcomes and impacts
- d. How are those measured?
- e. If not covered, how are contributions to the ETP/Third Party (depending on the IOU) program measured?

13. IDEEA365/TRIP performance

- a. What are the major IDEEA365/TRIP accomplishments to-date in terms of soliciting emerging technology related proposals? (For IOUs early in the implementation stage, what accomplishments are expected in the near future?) (reminder that we have data on the solicitations and responses, confirm what we think to be the number of accepted proposals, and that we are looking for a high level perspective of accomplishments)

- b. How do you define success for using IDEEA365 to generate emerging technology related proposals/TRIP? Is it considered successful yet? Has it helped to introduce new technologies (for ETP/3P programs) (probe for the range and breadth of coverage of end uses, technologies, customer segments, addressing high priority or targeted segments/measures) If yes, how so? If not, why not?
- c. How, if at all, has the solicitation helped the ETP meet its goals? Have expectations been met? If not, why not?
- d. For programs that have launched from IDEEA365 (emerging technologies only)/TRIP, have they been successful? (Describe) Any lessons to be learned yet that could improve TRIP? And for IOUs that do not use TRIP, any lessons learned that could improve the processes used to generate emerging technologies from third parties?
- e. FOR SCE: What were the pros and cons of targeting HVAC in the most recent RFP?
- f. FOR SDG&E: What are/were (depending on whether the RFP has been released yet) the pros and cons of targeting the MUSH market?
- g. FOR other IOUs: Are there plans or have there been efforts to target specific customer segments or end-uses/measures? Describe, discuss the objectives of those efforts

14. Areas for improvement

- a. What are the main ways in which the emerging technology solicitation (TRIP or IDEEA365 or any new solicitation vehicle) could be improved going forward? What impacts are those changes likely to have, if implemented?
- b. What are the barriers, if any, to improving the emerging technology solicitation? How could those be addressed?

Wrap Up Input on Remaining Evaluation Tasks

Thank you for your time and candid responses. Next, we are going to be talking with third parties who responded to the solicitations (both those that were accepted and rejected) to get their input.

15. Priority areas for third party interviews

- a. Any topics you would like us to cover? (For IDEEA365, reminder that we have the satisfaction survey results and will build from them)

16. Additional third parties to interview

- a. Are there any third parties who had promising ETP introduction ideas, who did not respond, but you would have liked to see a response from that we should try to contact?

6.2 Third Party Implementer Interview Guide

3P IMPLEMENTER INTERVIEW TOPICS

Emerging Technology Program Process Evaluation: Third Party Program Implementer Interview Guide

July 23, 2014

A. Introduction and Company Background

Explanation of the evaluation objective, and the high-level objectives of these interviews. [IF IDEEA365 participant: “This is not an evaluation of IDEEA365 in any way. We are including IDEEA365 with the approval of the CPUC’s Energy Division in order to understand the ways in which ETP can meet its program objectives by using either IDEEA365 or TRIP.”]

Disclaimer if we receive permission to record the interview. Note that we will keep responses confidential and will only report on responses in the aggregate, without attributing any to a specific individual or company.

A 1. Overview of the company and individual(s) to whom we are speaking (e.g., role at company, confirm what we know to be the company background and involvement with the IOUs).

A 2. Confirmation of the status of proposals for TRIP or ET-related abstracts for IDEEA365. [This matrix will determine whether the respondent gets TRIP or IDEEA365 only or combined interview guide]

List proposals and status that we know about in each cell for each 3P – add or refine based on respondent input. Include whether they are aware of each type of solicitation, even if they did not submit a proposal.

Awareness / Proposal Matrix

IOU	TRIP	IDEEA365
PG&E		
SDG&E		
SCE		
SCG		

TRIP-only questions are highlighted **blue**. IDEEA365 questions are highlighted **green**. 3Ps that submitted proposals for both are highlighted **yellow**. Generic questions for all respondents are not highlighted.

A 3. Identify if the company has been involved with energy efficiency programs that involve emerging technologies – both in California and elsewhere – and describe. Approximately what % of total EE program implementation includes emerging technologies (for CA and elsewhere).

A 4. (IDEEA365) Please explain the innovative aspects of the technology for me? (TRIP) Please explain why this technology should be considered “emerging”?

A 5. On a scale of 1 to 5, where 5 is a best-seller and 1 is not at all in use, within [IOU]’s service territory, please rate how widely used the technology is.

A 6. Similarly, please rate how widely used the technology is outside of [IOU]’s territory.

A 7. What is the company’s motivation for including innovative technologies in programs, what are the drivers and barriers of doing so. (E.g., they develop new technologies, or they partner with a vendor that does so, or they focus on a particular sector and respond to that sector’s needs, etc.)

B. Effectiveness of Soliciting 3P Proposals Featuring Innovative Technologies

B 1. Was this the first time you submitted a proposal that featured innovative technologies to [fill in IOU]?

1	Yes
2	No
3	Don’t know

B 1. A. IF B 1. = 1: Why didn’t you submit any to CA IOUs previously? (distinguishing between – had ideas and didn’t submit, v. didn’t have ideas/concepts ready)

B 2. If there wasn’t a TRIP solicitation process, would you have submitted this proposal to the CA IOUs?

1	Yes
2	No
99	Don’t know

B 2. A. IF B 2. = 1: Describe how or through what process it would have been submitted or suggested to the IOUs.

B 2. B. IF B 2. = 2: Why not?

B 3. Do you have any additional innovative concepts that you would like to submit, but have not done so in California?

1	Yes
2	No
3	Don't know

B 3. A. IF B 3. = 1: What are these additional concepts (if they are willing to describe)? Why haven't you submitted these ideas in California? Have you submitted them elsewhere? Probe for barriers, constraints with the current CA IOU solicitation process.

B 4. On a scale of 1 to 5, where 5 is very likely and 1 is not at all likely, how likely are you to submit a proposal with those concepts to the CA IOUs in the future? [Describe to which IOUs and under what type of process.] Outside of CA (if they have not yet already)? [Describe.]

B 5. Are there any barriers to getting innovative proposals with the current CA IOU solicitation process? Describe. [May not be needed if already described above – ask this only if needed.]

C. Solicitation Innovation and Technology Requirements

C 1. On a scale from 1 to 5, where 5 is very clear and 1 is not clear at all, how clear was the RFP/A definition of “innovation” and the directions for submitting an “innovative” proposal? (See if they will tell us a high level summary of what they think the IOUs were looking for, without having to go look at the RFP.) Probe: Why? How could it be improved going forward?

C 2. Similarly, on a scale from 1 to 5, where 5 is very clear and 1 is not clear at all, how clear were the RFP/A eligible technology requirements? (See if they will tell us a high level summary of what they think the IOUs were looking for, without having to go look at the RFP.) Probe: Why? How could it be improved going forward?

C 3. Is there a certain time of year that is good, or bad, for submitting abstracts/proposals like this? Or, how frequently would you like these solicitations to be available? (Probe for timing issues in general)

D. Distinctions Between the Effectiveness of TRIP and IDEEA365 in Generating Proposals Featuring Innovative Technologies.

COMPANIES THAT SUBMITTED PROPOSALS WITH ETs THROUGH BOTH SOLICITATION TYPES (PROPOSAL TYPE = “TRIP & IDEEA365”), CONTINUE. ELSE, SKIP TO D 4.

- D 1. It looks like you submitted similar proposals to [IOU] and [IOU], did you have to modify these to meet the different RFP requirements?
- D 2. (IF D 1. = “Yes”) Based on your experience submitting proposals under both types of solicitations, what did you have to modify in your proposals? [Probe with budget, types of technology, sectors addressed, etc.] Why?
- D 3. Do you have any opinions on the effectiveness of the two different approaches in soliciting innovative concepts or technologies? Probe: what are the main differences between the two approaches (if not already discussed, from their perspective only – we know the differences, just want to hear from them what is materially different for them)? (E.g., budgetary limits, abstract v. proposal, more detail required for TRIP.) Do those differences impact the types of proposals that you chose or would choose to submit in the future?

IF PROPOSAL TYPE = “TRIP”, CONTINUE. ELSE, SKIP TO D 5. For companies that are aware of IDEEA365 including those that may have submitted concepts that did not feature ETs, adapt how it is asked by prompting with “like IDEEA365”.]

- D 4. If the maximum award amount was increased from \$300,000 to \$1M, would you:
- A. Change the market maturity of the technology you proposed to use? IF “YES”, Why?
 - B. Need to staff up within your company, or form partnerships with other companies, in order to scale up to use the increased budget and still hit your increased goals?
 - C. Decide not to submit anything due to concerns about scaling up? IF “YES”, Why?
 - D. Propose additional concepts? (Describe if willing.)

IF PROPOSAL TYPE = "IDEEA365", CONTINUE. ELSE, SKIP TO D 6. [For companies that are aware of TRIP, adapt how it is asked by prompting with "like TRIP".]

D 5. If the maximum award amount was decreased from \$1M to \$300,000, would you:

A. Change the market maturity of the technology you proposed to use? IF "YES", Why?

B. Still submit a proposal which required more technical details (similar to what would be required within Stage 2 of the RFA)?

C. Decrease the number of staff assigned to this project, or reduce partnerships, in order to scale down to the decreased budget and hit your decreased goals?

D. Decide not to submit anything due to concerns about scaling down? IF "YES", Why?

E. Propose fewer or no concepts?

ASK TO ALL PARTICIPANTS TO FINISH THE INTERVIEW

D 6. Would you consider submitting another abstract/proposal to the CA IOUs for an innovative technology or concept?

1	Yes
2	No
3	Don't know

D 6. A. IF D 6. = 1: [If aware of TRIP and IDEEA365] Under which solicitation or both? [If they prefer one over the other] Why?

D 6. B. IF D 6. = 2: Why not?

Goodbye

READ – Those are all my questions. Thank you for taking the time to talk with me today. Have a great day/evening!

	Process Evaluation	Statewide Emerging Technologies Program (ETP) Third Party Introduction Tactic Process Evaluation Final Report	SCE
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Recommendation	Program or Database	Summary of Findings	Additional Supporting Information	Recommendation	Recommendation Recipient	Affected Workpaper or DEER
1	ETP	New vendors are more enticed by a new solicitation approach and were more likely to be awarded through the new solicitation approach (TRIP).	New vendors that do not typically submit program concepts to the IOUs are enticed to participate in a new solicitation approach (TRIP). No awards from PG&E and SDG&E were given to new vendors.	For IOUs that wish to attract new vendors who have not submitted bids in the past, consider using either an explicit TRIP solicitation and/or providing outreach to new vendors via the TRIO program. SCE was successful in reaching new vendors who had not submitted bids in the past likely due to the combination of their bidder outreach through TRIO and their TRIP solicitation.	IOUs	
2	ETP	A requirement for cost effectiveness is in conflict with the objective of innovation. This inherent conflict can be addressed by using a two-stage solicitation approach and carefully choosing how to review cost-effectiveness.	Risk is lowered to the IOUs (who eventually need to put measures through a work paper process) by applying a higher weight to cost-effectiveness scores and setting a smaller budget. Vendors prefer a two-stage approach to a one-stage approach. In a two-stage approach, the vendors risk spending less time on a solicitation that they may not win. Vendors also appreciate being considered without a heavy weight on cost-effectiveness in a first stage before making it to a second stage.	Consider using a two-phased approach that does not have a specific cost-effectiveness threshold. Based on evidence from vendors and their bids and comparing across IOU approaches, we recommend the IOUs use a two-phased approach without an explicit cost-effectiveness threshold in the first stage, to allow for more concepts to get submitted. Since our evaluation data collection, SCE has moved to a two-stage solicitation.	IOUs	
3	ETP	Losing bidders lack understanding of the reasons they were rejected, preventing them from improving on future bids.	A comparison of bidder impressions on what their weaknesses were in their proposals did not align with reasons reported by the IOU they submitted to. This may reflect a lack of understanding of the IOU request and may also be due to bidders not working to customize their ideas towards the bid requirements (researcher hypothesis).	Give feedback to rejected bidders since they do not have an accurate understanding of why they were rejected. Comparison of IOU scores and notes to bidder interviews revealed that bidders lack an accurate understanding of their rejection. Because vendors report that they have other ideas for submission to these solicitations, it is a wise investment to give feedback to rejected bidders so that they can submit more robust bids in the future. We understand that there are constraints on the IOU side to sharing this detailed information with multiple bidders. One possible approach would be to batch feedback across all bidders for distribution to everyone who submitted a response to the solicitation. This will in turn increase the quality of the pool of bids that the IOUs have to review and award.	IOUs	
4	ETP	If the IOUs continue to seek new vendors / innovative technologies through a similar approach such as TRIP or a special IDEEA365 solicitation, they will likely need to provide more education and information to prospective bidders.	Inexperienced vendors require more training on how to respond adequately. A separate solicitation setup and implementation requires significant IOU staff resources. Inexperienced vendors are less likely to feature a solid implementation plan. The possibility of attracting a greater number of bids may create delays in reviewing all incoming bids, which could affect the amount of time remaining for a technology or program to be implemented if start date is delayed and end date is fixed.	Increase education to prospective bidders on the criteria for innovative and emerging technologies. The RFPs are complex and confusing to bidders but it is uncertain whether these could be simplified given all of the requirements desired by the IOUs. Since many prospective bids were rejected due to technologies lacking data, already being in the market, or not meeting the given definition, as well as vendors not understanding the type of data required to support savings claims, IOUs would benefit by vendors having continued and increased opportunities for education on innovative and emerging technology criteria, including continuing (or beginning) to require at least new vendors to participate in the technical documentation workshop. Specific clarification should exist regarding rules about technologies where the value lies in both their energy efficiency and demand response traits. This should result in higher quality bids, and fewer difficulties among vendors when crafting proposals. Consider creating a website with examples of technologies awarded, webinars that can be downloaded, and frequently asked questions. This could be added to the existing ETCC site or created as a standalone TRIP site.	IOUs	
5	ETP	Most successful bids were from vendors that partnered		Consider encouraging partnerships between new/technology vendors and experienced implementers to ensure valid implementation strategies and increase the acceptance rate for technology vendors so they are more likely to respond in the future.	SCE	
6	ETP	In interviews, respondents reacted negatively to the idea of lowering bid award amounts and said that it would dissuade them from submitting bids in the future.		Consider sharing the risk with vendors by increasing the amount of time and materials budget vendors are allowed in their contracts—especially for experienced implementers and technologies with robust savings calculations. A utility could consider varying its contract budgets based on the risk associated with bids based on data availability and validity of assumptions.	SCE, SCG	
7	ETP	Low response rate for SCG		Due to small bidder response rate, consider coordination with SCE to do a dual fuel solicitation.	SCG	
8	ETP	If vendors have a clearer picture of the priorities they may submit bids that better align with those priorities.		Providing the scoring criteria in the RFP so bidders are clear on scoring priorities.	PG&E, SDG&E	